

# Remark Office OMR Tutorials

## Tutorial Overview

We want you to be immediately successful with your new software. To that end, we highly recommend that you walk through the tutorials provided here before you do anything else with your new software. The following sections contain the tutorials, which are designed to give you an overview of the Remark Office OMR software and allow you to quickly learn the basic functions of the software. Two of the most common uses for Remark Office OMR are surveys and tests; therefore we have covered both form types in these tutorials. Completing these lessons will help position you for mastering the software. Please keep in mind that even though you may only currently do one or the other (surveys or tests), completing both tutorials will still help you understand basic software premises. We recommend starting with Tutorial I and then continuing with Tutorial II to get the broadest knowledgebase (the first tutorial provides more detailed instructions and explanations than the second tutorial).

- **Tutorial I – Test (Generic Test Answer Sheet):** The first tutorial outlines how to create a form template for a test and includes coverage of both basic and advanced options. The first tutorial also covers reading tests and grading the test data.
- **Tutorial II – Survey (Hospital Stay Evaluation):** The second tutorial outlines how to create a form template for a basic survey as well as read forms, correct the output and run reports.

**Important Note:** The tutorials provided with the software work with image Files that are included when you install Remark Office OMR. In reality, the software can read Pages directly from a scanner, or read scanned image Files from other sources, such as a multi-function printer (MFP). Even though you are reading pre-scanned image Files, the steps you are taking are very similar to scanning directly in the software. If you process your own forms directly with a scanner, you choose the options to scan instead of read from images within the software. The tutorials still give you a good overview of how the software works in order to prepare you for using your own forms and scanner.

Please note that we have included copies of the tutorial forms in Microsoft Word format for your reference. Each document installs to its corresponding tutorial folder, typically in your My Documents folder under Remark Office OMR. These forms are not meant to be scanned in order to perform the tutorials; images of pre-scanned forms are supplied for this purpose. However, you may find it useful to view or print the forms before you do the tutorials as reference.

The following information details what is accomplished in each tutorial:

### **Tutorial 1 – Test**

- Creating the test answer sheet form template
  - Creating a barcode region
  - Creating an OCR region
  - Creating OMR regions
- Processing completed tests
- Reviewing and correcting data output with Review Exceptions
- Saving the test data
- Grading tests, including the use of bonus and subjective points
- Saving a grade report

### **Tutorial II – Survey**

- Creating the hospital stay evaluation form template
  - Creating an OCR region
  - Creating OMR regions
  - Creating linked OMR regions
- Processing completed course evaluation forms
- Reviewing and correcting data output with Review Exceptions
- Saving the hospital stay evaluation data
- Analyzing the hospital stay evaluation data
  - Using Report Batches

There are some basic concepts to review before you get started with the tutorials. Please note that there are several ways to access basic software functions. Three of the most common methods include:

- **Task Pane:** The task pane on the left side of each Remark Office OMR window can be used to access the most common functions in the software. The Task Pane automatically updates based on the functions you perform. You can show or hide the task pane by selecting the **View** menu and then clicking **Task Pane**.
- **Toolbar:** The toolbar is the series of icons across the top of each Remark Office OMR window. These icons represent shortcuts for common functions within the software.
- **Menus:** The pull-down menus have all of the functions available within the software. Many of these functions can also be found in the toolbar and task pane.

It is up to you to decide how you wish to access software functions. We will work with all three methods to allow you an understanding of each method.

Before we begin, we need to touch briefly on some important concepts that may be new to you. Just take in the big picture for now; details will be built as these concepts are used in the lessons.

# Form Template Overview

The following concepts are explained in greater detail in the Remark Office OMR user's guide, but are important to understand in performing these tutorials. Here is a quick overview to help you get started:

## What is a Form Template File?

The first thing you do in Remark Office OMR (after you have a form created outside the software) is create form templates for the forms you wish to process in the software. A form template File contains the information needed to instruct Remark Office OMR about each form. The form template conveys the location of the information on the Pages (e.g. the bubbles the respondents darken) and the specifics of the data you require. The form template defines the backend database you use for storage of the processed data. You create a form template for each form that you wish to process using the software.

## How are Form Templates Created?

Form templates are created by scanning an unmarked copy of the form (or importing a scanned image of the blank form) to create an equivalent image in the Remark Office OMR Template Editor. You then use the mouse to drag boxes (called regions) around the marks (e.g. bubbles) and other areas you want to have recognized on your form. These regions tell the software where each piece of information you want to capture is located on the Page and other pertinent information about the form. They also tell the software what type of data you need the software to output from each area.

You are now ready to get started with the tutorials.

# Tutorial I – The Test Answer Sheet

The Test Answer Sheet tutorial is designed to provide you with experience in the basic and a few advanced functions of creating a form template and processing forms. The following procedures describe how to set up a form template for the sample Test Answer Sheet form included with the software. Subsequent sections of this tutorial detail how to process forms and export or analyze the data.

The form template creation process consists of:

- Scanning an unmarked copy of the form (or importing an image of a previously scanned copy of the form)
- Dragging boxes around the areas to be recognized
- Providing Remark Office OMR with information about the data you need to collect

**Important Note:** As stated previously in the tutorial overview, the tutorials provided with the software work with image Files that are included when you install Remark Office OMR. Even though you will be reading pre-scanned image Files, the steps you are taking are very similar to scanning directly in the software. The tutorials still give you a good overview of how the software works in order to prepare you for using your own forms and scanner.

## Creating the Form Template

The first step in this process is to create a form template outlining the areas on the form that you want the software to recognize.

### To begin the Test Answer Sheet form template

1. If not already running, start **Remark Office OMR** (Start|Programs|Remark Office OMR|Remark Office OMR Data Center).
2. Begin a new form template. Select the **File** menu and then click **New Form Template**. Alternatively, in the left-hand panel, known as the **Task Pane**, select **New** from the **Templates** tab. Any of these actions will open a second window containing the **Remark Office OMR Template Editor**.

**Tip:** If you use **File|New Form Template** or the **New** link in the Task Pane, the Template Editor opens with the new form template window already opened for you.

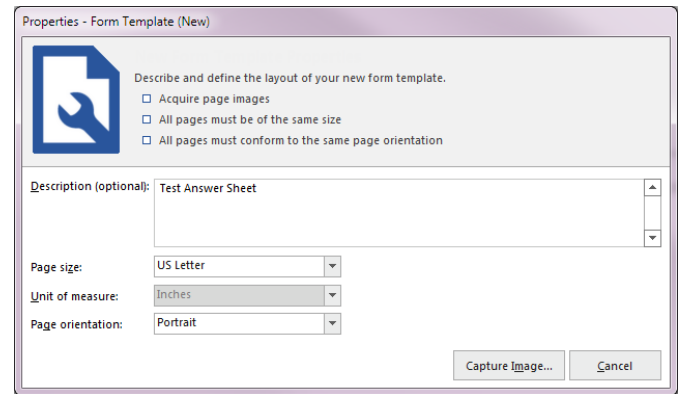
3. [Optional] If the Template Editor opens but you do not see the **Properties - Form Template (New)** window, select the **File** menu and then click **New Form Template**.

The **Properties - Form Template (New)** window opens. This window is where you describe your form to Remark Office OMR. You do this by entering basic information about your form, including the form template description, Page size and Page orientation.

4. Enter **Test Answer Sheet** in the **Description** box.

5. Locate the **Page size** area where you can tell the software the size paper your form uses. If not already selected, select **US Letter** in the **Size** drop-down list.
6. Locate the **Page orientation** area and select **Portrait**.
7. Click the **Capture Image** button to continue.

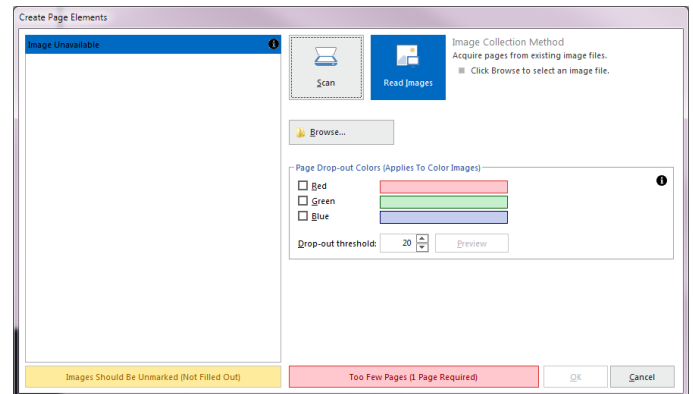
The **Create Page Elements** window appears. The Create Page Elements window allows you to either acquire an image of your form from your scanner, or acquire an image of your form from an existing image File. Each Page in a form template is created using an image of the appropriate Page in your form. The image allows you to see the form so that you can easily teach Remark Office OMR how to read it.



### To obtain a form template image

As previously mentioned, there are two ways to acquire an image for a form template Page. Images can be acquired by scanning to create a new image File or by opening an existing image File. We will be acquiring our image from a pre-scanned image File stored on your computer.

1. Click the button for **Read Images** in the **Image Collection Method** area.
2. Click the **Browse** button. The **Select Image File** window opens.
3. Select the **Tutorial 1 – Test Answer Sheet.tif** File from the Tutorial 1 folder of your Remark Office OMR installation directory (e.g. Documents\Remark Office OMR\Tutorials\Tutorial 1) and then click the **Open** button.



Once an image is acquired by opening an existing image File, the Template Editor displays a thumbnail of the image for your approval.

4. When a thumbnail image of your form appears, click the **OK** button to accept the image.

Once the thumbnail image is accepted, the Template Editor opens the new form template where you can begin to define the regions. You see a tree view (item list) on the left and an image representation of your form on the right.

### To define form template regions

The purpose behind making a form template is to tell the software where to locate the information on your specific form and how to understand your specific data requirements. The following table lists the six regions on the Test Answer Sheet form and their corresponding region types:

Area on Form	Corresponding Region Type
Student Name	OCR
Teacher Name	Barcode
Questions 1-50 (2 regions)	OMR (Multiple)
Bonus Question	OMR (Multiple)
Official Use Only (used as subjective region)	OMR (Grid)

### To define the Student Name as an OCR region

The first area of the form to define is the Student Name, which is defined as an OCR (optical character recognition) region. OCR involves reading computer-generated text (not handwriting). In this case, the test answer sheets were printed with each student's name on them before they were distributed. Using OCR allows you to quickly collect each student's name and then use this information on subsequent grade reports.

1. Highlight the **Page 1** node on the left side of your screen, if it is not already highlighted.
2. Select the **Page** menu, click **Insert** and then click **OCR Region After Selected Page**, or click the OCR toolbar button to insert an OCR region. Alternatively, select the **Define regions** link in the task pane and then select **Insert OCR region**.

The mouse changes to a crosshair.

3. To create the OCR region, place the cursor just beyond the top left of the text, then press and hold the left mouse button while dragging the rectangle beyond the bottom right corner of the text, making sure you have selected the entire allotted space. For OCR areas, capture a little extra space at the end of the text to accommodate the largest amount of text you might process (student names will vary in length).



4. After positioning the box, release the mouse button and the **Properties** window appears to allow you to define the region's properties. This window allows you to provide pertinent information about the text.

**Tip:** You can use your cursor to drag/slide the **Properties** box on your screen if you need to see anything on your form. Do not worry if the region is not drawn perfectly at this point because you can easily adjust it by dragging the borders as needed after the region's properties are defined and the **Properties** window closes.

5. Type **Student Name** in the **Region name** box. The Region name provides a brief description of the region and becomes the name for this column in your data set.
6. Set the **OCR type** to **Primary**. Primary OCR works well in most cases and is the default setting. (Microsoft Office Document Imaging is a second OCR option available if you have Microsoft Office 2007 or later installed on your computer. Legacy OCR refers to an older OCR engine that

was used in the software previously. Microsoft Vision requires a Microsoft Azure Cloud Vision account.)

7. The following options should be set to their default settings:
  - **Data Type** is **Textual**. We are collecting student names, which are textual. If we were to export our data once it is collected, the data type would be flagged as textual in the output File. When creating your own form templates, the data type you select can be textual or numeric, depending on the type of data you require.
  - **Language** is **English, Middle**.
  - **Orientation** to **Left to Right**. The text on our form is oriented from left to right
  - **OCR Image Pre-Process Options** are all unchecked.
8. Mark the checkbox for **Region contains more than one word**. This region contains both a first and last name for each student.
9. Click the **Advanced Region Properties** link in the Task Pane to the left.
10. Click the **Analysis** button.
11. Mark the checkbox for **Designate as a respondent ID during analysis**. When you run reports in Remark Quick Stats, any regions marked as Analysis Respondent IDs appear on select reports to identify each respondent. This way you can run student grade reports with the students' names on them to hand back to the students or parents.
12. Click the **OK** button.
13. Click the **OK** button to return to the main Template Editor window.

Properties - OCR Region [Student Name]

OCR Region Properties

Region Definition

Region name: Student Name

OCR type: Primary

Data type: Textual

Text orientation: Left to Right

Language: English

Image Pre-process Options

☐ Invert region image

☐ Deskew region image

☐ Despeckle Region Image

Maximum speckle size: 1

☒ Region contains more than one word

☐ Region contains multiple lines of text

Don't see your language? Try the Extended Language Pack

Limit Character Set

☐ Numbers

☐ Lowercase text

☐ Uppercase text

☐ Symbols

Custom Character Set

Accuracy can be improved by limiting the set of expected characters.

☒ Include region in read operation

Analysis... Input Mask... OK Cancel

### To define the Teacher Name as a Barcode region

The Teacher Name is defined as a barcode region. Using a barcode allows you to quickly collect each teacher's name and then use this information on subsequent grade reports. In our case, we will filter our data by teacher to evaluate teacher performance.

1. Highlight the **Student Name** node on the left side of your screen if it is not already highlighted.
2. Select the **Region** menu, click **Insert** and then click **Barcode Region After Selected Region**, or click the barcode toolbar button to insert a Barcode region. Alternatively, select the **Define regions** link in the task pane and then select **Insert Barcode region**.

The mouse changes to a crosshair.

3. To create the Barcode region, place the cursor just beyond the top left of the barcode, then press and hold the left mouse button while dragging the rectangle beyond the bottom right corner of the barcode, making sure you have selected the entire allotted space. For barcodes, capture a

little extra space at the end of the barcode to accommodate the largest possible barcode you might process. It is okay to encapsulate the text beneath the barcode since it is small.



4. After positioning the box, release the mouse button and the **Properties - Barcode Region** window appears, allowing you to define the region's properties. This window allows you to provide pertinent information about the barcode.
5. Type **Teacher Name** in the **Region name** box. The Region name provides a brief description of the region and becomes the name for this column in your data set.
6. Set the **Barcode type** to **Code 39** and the **Barcode orientation** to **Horizontal**. These settings allow you to specify the barcode type to be recognized and/or positioning of the barcode on your form.
7. Set the **Data Type** to **Textual**. We are collecting teacher names, which are textual. If we were to export our data once it is collected, the data type would be flagged as textual in the output File.
8. Click the **OK** button to return to the main Template Editor window.

You now see an orange box around the barcode in the image area, identifying it as a Barcode region, and a new node in the tree view titled **Teacher Name**.

### To define the test questions as OMR regions

The 50 test questions are broken into two sections, each containing 25 questions. You create an OMR region for the first 25 questions and then copy and paste that region to the other set of 25 questions.

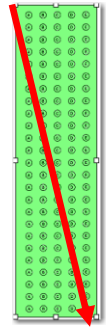
**Tip:** When creating similar regions, using copy and paste can save time. Once you paste a region, you can access its properties to make any changes. However, by copying similar regions, you save time in entering all of the region information.

1. Highlight the **Teacher Name** node in the left side of your screen if it is not already highlighted.



- Click the OMR toolbar button to insert an OMR region, and use the crosshair to draw a box around the first set of 25 questions, beginning at the top left with the first "A" bubble (question 1) and ending at the bottom right for the last "E" bubble (question 25).

**Tip:** When defining an OMR region, include only the actual marks; never include the nearby labels, text, etc. Also, create approximately a 1/8 inch buffer space between the marks and the edge of the defined region. This buffer allows Remark Office OMR to accommodate minor shifting or skewing during form processing and decrease the number of data exceptions you need to clean in the resulting data.



After positioning the box, release the mouse button. The **Properties – OMR Region** window appears, allowing you to enter information that will define the OMR region and the data it produces, including:

- **Region Definition** (the area containing **Region name**, the type of OMR region or **OMR type** and the **Data type**).
  - **Region Layout** (the area detailing how many **Rows** and **Columns** of marks are contained in the region and their orientation).
  - **Possible Responses** (the Labels you want to see as your data).
- Enter **Question** in the **Region name** box. We call the two regions containing the 50 questions "Question." Your region names then become Question1 through Question50.
  - Select **Multiple** as the **OMR type**. The Multiple region designation is used for typical multiple choice style questions.

**Note:** There are other types of OMR regions that can be seen if you click the down arrow to the right of **Multiple**. These additional region types offer differing types of data output. The additional OMR region types are explained in your Remark Office OMR user's guide.

- Select **Textual** for the **Data type**. This region contains the answer choices A-E, so textual data is appropriate.
- In the **Region Layout** area, select **Row** for the **Region orientation** because each question occupies one row.
- Ensure that **5** was entered in the **Columns in the region** box and **25** in the **Rows in the region** box. The 5 columns represent our answer choices (A-E) and the 25 rows represent our 25 different questions.

- Use the **Possible label scales** drop-down list to select **A-E**. These labels automatically fill the **Labels** grid. Your choice of Labels in the form template determines what you see in the data set when your filled in forms are processed. The Labels represent the response choices for each bubble, moving from top to bottom. Notice that each Label automatically has a value in the **Values** column to the right. While the Labels represent the data you see returned from the processed forms, the Values represent the information Remark Office OMR uses to perform any statistical analysis (these values are not grading point assignments).

- Click the **OK** button to return to the main Template Editor window.

You now see a green box around questions 1-25 in the image area, identifying them as an OMR region, and a new node in the tree view titled **Question**.

### To copy and paste the Question OMR region

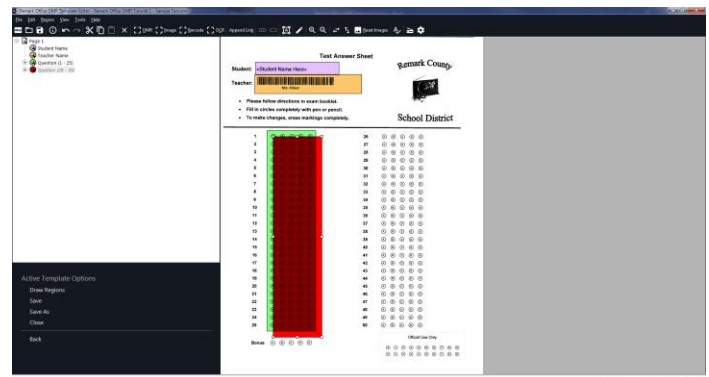
Next, copy the region you just created and paste it over the remaining 25 questions. Copying similar questions saves time in the template creation process.

1. With the **Question** node highlighted in the tree view, select the **Edit** menu and then click **Copy**.
2. Select the **Edit** menu and then click **Paste**.

**Tip:** You can use the keyboard shortcut keys for **Copy (Ctrl + C)** and **Paste (Ctrl + V)** for quick copying and pasting.

A red region is drawn near questions 1-25.

3. Place the mouse directly over the red region until it becomes two double arrows and then drag the new region to questions 26-50, positioning it directly over the 25 questions.
4. Release the mouse. Check your positioning; if the solid red color disappears, this is an indication that you have moved the box successfully. If the region is still red, hover your mouse over it to see text describing where the problem lies.



You should now have two OMR regions, one covering each of the groups of 25 questions, and two nodes in the tree view titled **Question (1-25)**, **Question (26-50)**.

### To create the bonus question OMR region

The question at the bottom of the exam answer sheet that reads Bonus is used to add extra credit points to the overall test score.

1. Highlight the **Question (26-50)** node in the tree view, if it is not already highlighted.
2. Click the OMR toolbar button to insert an OMR region, and use the crosshair to draw a box around the bonus question's bubbles (A-E).
3. When the **Properties – OMR Region** box opens, enter **Bonus** in the **Region name** box.
4. Select **Multiple** as the **OMR type**. This is a multiple-choice question.
5. Select **Textual** for the **Data type**. This region contains the answer choices A-E, so textual data is appropriate.

Labels	Values
A	1
B	2
C	3
D	4
E	5

6. In the **Region Layout** area, select **Row** for the **Region orientation** because the question is oriented in one row.
7. Enter **5** in the **Columns in the region** box and **1** in the **Rows in the region** box. The 5 columns represent our answer choices (A-E) and the 1 row represents our single bonus questions.
8. Use the **Possible label scales** drop-down list to select **A-E**. These labels automatically fill the **Labels** grid. The Labels represent the data output you see when you process forms. Corresponding values are automatically entered in the **Values** grid. These Values are used for statistical analysis (these values are not grading point assignments).
9. Click the **Analysis** button.
10. In the area called **Testing Point System**, mark the checkbox for **Treat points as extra credit**. When grading, whether using Quick Grade or Advanced Grade, this question is considered extra credit.
11. Change the number set for **Correct points** to 5. When the tests are graded, if the student gets the bonus question right, they will be rewarded 5 extra credit points.
12. Click the **OK** button.
13. Click the **OK** button to return to the main Template Editor window.

Analysis Options

**Test Settings**

☐ Do not grade this item  
☒ Grade this item  
☐ Designate as test version ID

**Survey Settings**

☐ Do not tabulate this item  
☒ Tabulate this item

**Testing Point System**

Item test type: Objective

☒ Treat points as extra credit

Correct points: 5.000  
 Incorrect points: 0.000  
 No response points: 0.000

What is an objective item?  
 Objective items are typically multiple choice questions.

☐ Designate as a respondent ID during analysis

OK Cancel

You now see a green box around the **Bonus** question in the image area, identifying it as an OMR region, and a new node in the tree view titled **Bonus**.

### To create the Official Use Only OMR region

The Official Use Only area allows a teacher to bubble in points awarded for a subjective question on the test. Subjective questions could be essays, short answer questions, etc. This type of question has to be graded by a person, but you can add the points earned to the total test score by designating it as a subjective question.

1. Highlight the **Bonus** node in the tree view, if it is not already highlighted.
2. Click the OMR toolbar button to insert an OMR region, and use the crosshair to draw a box around the entire set of bubbles in the Official Use Only area question's bubbles (0-9).
3. When the **Properties – OMR Region** box opens, enter **Subjective** in the **Region name** box. We title it Subjective in order to remember that this question is for designating our subjective points for the human-graded part of the test.
4. Select **Grid** as the **OMR type**. Grid regions capture information that spans across multiple rows and columns, but consists of a single piece of data (e.g. zip codes, names, social security numbers, phone numbers, etc.). In our case, the teacher bubbles in a two-digit number representing the points earned on the subjective portion of the test.

5. Select **Numeric** for the **Data type**. This region contains a two-digit number, so numeric data is appropriate.
6. In the **Region Layout** area, select **Row** for the **Region orientation** because the question is oriented by row (each row is one digit in the two-digit number).
7. Enter **10** in the **Columns in the region** box and **2** in the **Rows in the region** box. The 10 columns represent our answer choices (0-9) and the 2 rows represent the digits in the subjective score.
8. Use the **Possible label scales** drop-down list to select **0-9**. These labels automatically fill the **Labels** grid. The Labels represent the data output you see when you process forms.
9. Click the **Analysis** button.
10. Under **Test Settings**, mark the option for **Grade this item**. Grid regions are not set to grade by default like multiple choice regions.
11. In the **Testing Point System** area, under **Item test type**, select **Subjective**. For **Subjective points**, enter **20**. The question is worth 20 points total. The teacher will bubble in the points earned for each student.
12. Click the **OK** button.

13. Click the **OK** button to return to the main Template Editor window.

You see a green box around the **Official Use Only** question in the image area, identifying it as an OMR region, and a new node in the tree view titled **Subjective**.

### To save the Tutorial 1 form template

We are finished creating all of the regions in our form template and need to save the form template as a File we can use to process completed forms.

1. Select the **File** menu and then click **Save**. Alternatively, select the **Save** link in the Task Pane. Make note of where you save the form template File (we suggest in \Documents\Remark Office OMR\Tutorials\Tutorial 1, but not overwriting the tutorial File that we supply in case you need it later).
2. In the **File name** box, type **Tutorial1** and then click the **Save** button.

You have now created the Tutorial 1 form template. Close the Template Editor by selecting the **File** menu and then clicking **Exit**. Alternatively, you may also simply click the X in the upper right hand corner of the **Template Editor** window.

# Processing the Completed Answer Sheets

Now that you have created the form template for the **Test Answer Sheet** you are ready to begin processing the completed forms using the supplied image Files.

## To open the Test Answer Sheet form template

1. If not already running, start the **Remark Office OMR Data Center** (Start|Programs|Remark Office OMR|Remark Office OMR Data Center). When the Data Center opens, it displays a blank spreadsheet-style data grid.
3. Select the **File** menu and then click **Open Form Template**. Alternatively, select the **Open Other Templates** link in the Task Pane. You must open a form template in order to process forms.

**Tip:** When you are in the Remark Office OMR Template Editor with a form template open, you can select **File|Launch Remark Office OMR** and the Data Center opens with the selected form template also open.

4. Select the **Tutorial1.omr** File you created in the previous section of this tutorial and then click the **Open** button. Alternatively, we have provided a sample File in \Documents\Remark Office OMR\Tutorials\Tutorial 1\Remark Office OMR Tutorial 1 – Sample Test.omr.

When the Tutorial1 form template opens, its name appears on the title bar at the top of the screen and you see the region names you specified as your column headers in the data grid. Each column in the grid corresponds with one variable or question in the form template, as the column headers indicate. The data grid fills row by row as your completed forms are processed. Each grid row contains information from one processed form regardless of the number of Pages the form contains.

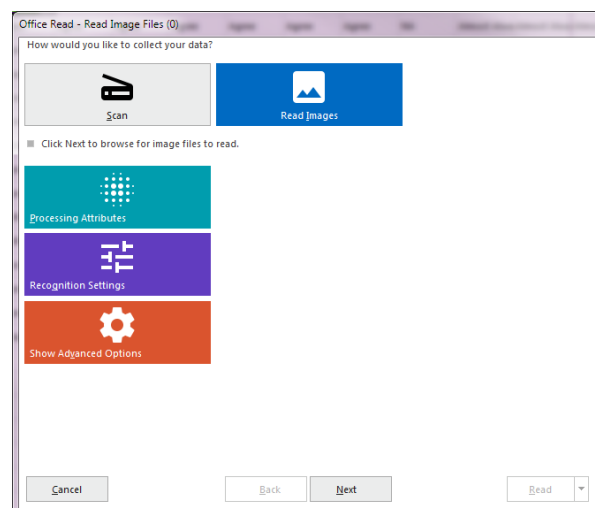
## To read from image Files

The Read window is used to process completed forms and produce data. The Read window has several steps to help customize the reading process. This tutorial focuses on the basic functions. As stated previously, we are reading pre-scanned image Files.

1. Select the **Tools** menu and then click **Read**. Alternatively, you may select the **Read** link from the task pane or **Read** button on the toolbar.
2. Select the **Read Images** button if it is not already selected.
3. Click the **Next** button to continue.

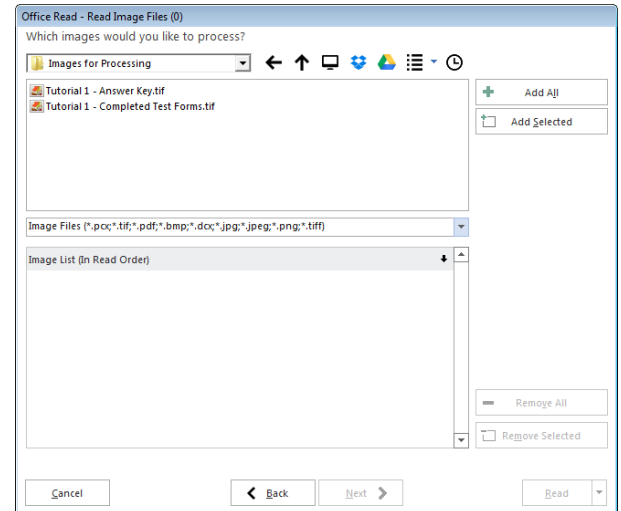
The **Image Selection** window appears to enable you to view and select the images you want to process.

4. Navigate to the **Tutorial 1** folder of your Remark Office OMR installation (e.g. \Documents\Remark Office OMR\Tutorials\Tutorial 1).



5. Navigate to the **Images for Processing** folder.
6. Select the Files called **Tutorial 1 – Answer Key.tif** and **Tutorial 1 – Completed Test Forms.tif** by either double clicking them or selecting them and clicking the **Add Selected**, which moves them into the **Images in Read Order** window on the right. You may also click **Add All** button to move any images in the folder to the **Images List (in Read Order)** window. Note that the first File in the list is the answer key for the test. The second File is a multi-Page TIF image File that contains 20 student tests. You must select the answer key first.

**Tip:** You can use the **Ctrl** or **Shift** keys to select multiple image Files and then use the **Add Selected Images** button to move the images to the **Images in Read Order** window.



7. Click the **Next** button to continue.

The **Review Exceptions** window appears. This window allows you to configure options for reviewing exception cases such as blank and multiple responses. We will not be using this feature in this tutorial.

8. If the **Enable Review Exceptions** button is selected, click it to deselect this option. We are not reviewing exceptions at this time.
9. Click the **Read** button to begin reading the image Files.

As each image is processed, you see a row added to the data grid.

## Reviewing and Correcting the Data

After the forms are processed, 21 rows of data are displayed in the data grid. Each row represents the responses collected from one of the forms. The first row is the answer key for the test, and the following rows are student tests. You are now ready to inspect the data for missing or unrecognized responses in order to prepare for analysis and/or data export.

*How does the software handle data exceptions?*

Remark Office OMR informs you of unrecognized or questionable responses by placing a visible marker in each appropriate data grid cell. Each one of the types of problematic or potentially inaccurate data is represented by a specific color and explanatory text (e.g. yellow color and the word BLANK).

The software then assists you to correct exception cases or problems by allowing you to see what was entered on the actual form. The stored images for each processed form are available to display your respondents' answer choices. You can click inside any cell in the data grid to view the corresponding image of that form. (If you click in a cell and do not see an image beneath the data grid, select the **View** menu and then click **Image Viewer** to open the Image Viewer.)

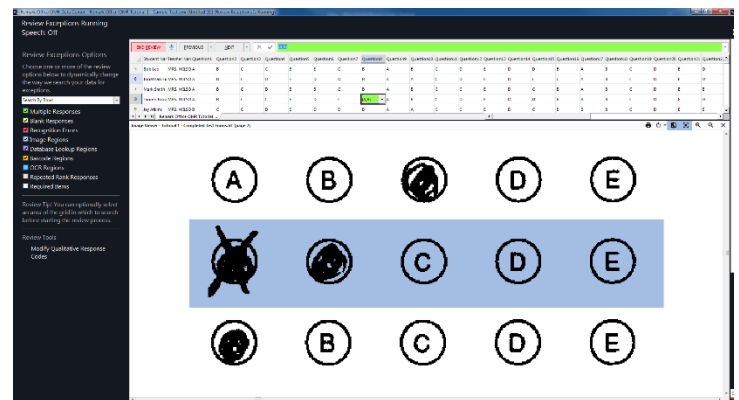
## To run Review Exceptions

We use an automated tool called Review Exceptions to locate and correct any exceptions in our data.

1. Click the **Tools** menu and then select **Review Exceptions**, or click the **Review Exceptions** link in the Task Pane.
2. Once you access Review Exceptions, use the task pane to select the exception cases you would like to review: Blank responses, Multiple Responses, Recognition Errors, Image Regions, Database Lookup Regions, Barcode Regions, OCR Regions, Repeated Rank Responses or Required Items. You can also choose whether to search by rows or columns in the data grid.
3. Click the **NEXT** button at the top of the data grid to start the review process.

The Data Center searches the data for the specified exception cases. When a selected exception case is found, it appears in the data header bar at the top of the data grid. The bar is color coded to match the exception type (e.g. yellow for a BLANK response). Use this window to make changes. You can use the drop-down list if applicable, or type a response. Note if there is a list of answer choices defined, as you begin typing, Remark Office OMR will attempt to auto-fill your answer based on your possible answer choices.

3. The first piece of flagged data is a multiple response in the eighth grid row for the item called **Question8**. In the data header bar use the drop-down list to select the appropriate response. Use the Image Viewer beneath the data grid to review the student's exam. In this case, you see the student accidentally marked A and then put an X through it. The intended response was B. Select **B** from the drop-down list. You may also simply type **B**.



4. Press **Enter** or click the **NEXT** button to continue.
5. The next exception is a multiple response in row 16 for question 12. Look at the Image Viewer to see the intended response. In this case, the student marked both D and E, but crossed out E. Use the drop-down list in the Review Exceptions pane to select **D** from the list (or type **D**).
6. Press Enter or click the **NEXT** button to continue.
7. The next exception is a blank response in row 17 for question 6. Look at the Image Viewer to see the intended responses. In this case, the student truly left the question blank. You may simply press **Enter** to ignore it. The question will be marked as incorrect when the data are scored.
8. Press Enter or click the **NEXT** button to continue.
9. All exceptions have been cleaned and you are prompted to save the changes. Click the **Save Changes** button to save your changes.

Your data set is now ready to be saved and analyzed.

# Saving the Test Data

Remark Office OMR provides many File formats for exporting data to other applications. For this tutorial, the data set is saved to the Remark Extended (RMX) format, which is a proprietary format within the software. This format saves the exception colors (if any are present) as well as the link from the data to the stored images so that you can open your data and still view the image that corresponds with any piece of data.

## To save the exam data

1. Select the **File** menu and then click **Save Data**, or click **Save Data** in the Task Pane.
2. Data can be saved anywhere on your system. By default, a Data folder is installed in the Remark Office OMR directory; we recommend using this folder for storage of data Files. In the **Look in** box, navigate to this **Data** folder on your system (e.g. \Documents\Remark Office OMR\Data).
3. Click the **Save as type** down arrow to display a list of File types.
4. If not already selected, click the **Remark Extended (.RMX)** format.
5. Type **Tutorial1** in the box titled **File name**.
6. Click the **OK** button to save the File.

# Grading the Test Data

Remark Office OMR provides statistical analysis functionality for grading data from your tests. There are two ways to grade an exam:

**Quick Grade:** Uses the first grid row as the answer key by default as well as all settings defined in the form template (e.g. whether a question is graded, assigned point values and respondent identifiers).

**Advanced Grade:** Allows you to customize the grading process, including adding benchmark values, customized grade scales and learning objectives (subtests).

For this tutorial, we will demonstrate **Advanced Grade**.

**Tip:** The **Remark Quick Stats** module of the software includes various ways to tabulate/grade data and display reports. Review the Remark Quick Stats User's Guide PDF File by clicking **Start|Programs|Remark Office OMR|Documentation** to see all available analysis features.

## To grade the exam data

1. Select the **Tools** menu, click **Analysis** and then click **Advanced Grade**, or select the **Analysis** tab in the Task Pane and then click the **Advanced Grade** link.

The Basic Test Options window appears.



- Mark the checkbox for **Use a test benchmark**, choose **Custom** and enter the number **75**. A Benchmark is a target score you want your students to achieve. Reports that include benchmarks show you which students achieved the benchmark percent, which did not and the difference between the student's score and the benchmark. Using Benchmarks is useful for seeing how well your students are mastering topics.
- Click the **Answer Key** link in the Task Pane to continue.

The **Answer Key** window appears. This window is where you specify an answer key. You may scan a key, import a key from an image File, use a grid row as the key or type an answer key. In our case, we processed the answer key as the first row of our data grid.

- In the **Import answer key from** box, use the drop-down arrow to select **Data Set (Grid) Row**. By default, the grid row box is filled with the number **1**.
- Click the **Import Key** button to obtain the answer key responses from the data grid.
- Click the **Question Properties** link in the Task Pane to continue.

Student Name	Teacher Name	Question	Correct Answer	Grade As Objective	Grade As Subject
	MRS. WILSON	Question1	A	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question2	B	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question3	C	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question4	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question5	E	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question6	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question7	C	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question8	B	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question9	A	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question10	B	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question11	C	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Question12	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The **Question Properties** window appears. This window allows you to change properties you defined in the form template for this grading session. You may change things such as respondent identifiers, point values, correct answers, data type and question text. You may also add a benchmark value for individual questions. Changes made here do not change the form template. You may hold down the **Shift** or **Ctrl** keys and select multiple questions to make the same change to each question. For the purposes of this tutorial, we set up everything correctly in the form template, so we do not need to make any adjustments to this window.

- Click the **Learning Objectives** link in the Task Pane to continue.

The **Learning Objectives** window appears. This window is where you define learning objectives (sometimes called subtests). You may assign questions to each learning objective you define so that the software provides a separate grade for that subset of questions. This feature allows you to track progress on specific objectives that you are teaching your students. For this tutorial, we are defining two learning objectives.

- Click the **New** button.
- In the **Objective name**, enter **Spelling**.
- Mark the **Use benchmark** box, select **Custom** and enter **75**. Using a benchmark score indicates that your students need to score at least 75% on this learning to be considered proficient at spelling.

11. Click the **New** button.

12. Enter **Grammar** in the **Objective name** box. The same benchmark value of 75 is prefilled for you.

You should now have two learning objectives defined: **Spelling** and **Grammar**. The next step is to pick the questions that belong to each Learning Objective.

13. Highlight **Spelling** in the **Learning objectives** column.

14. In the **Available questions** column, click **Question1**. Hold down the **Shift** key and then click **Question10**. Question1 through Question10 are selected.

15. Click the **Align Questions** button. The questions appear under **Spelling** in the **Learning objectives** column.

16. Highlight **Grammar** in the **Learning objectives** column.

17. In the **Available questions** column, click **Question11**, hold down **Shift** and then click **Question20**. Question11 through Question20 are selected.

18. Click the **Align Questions** button. The questions appear under **Grammar** in the **Learning objectives** column.

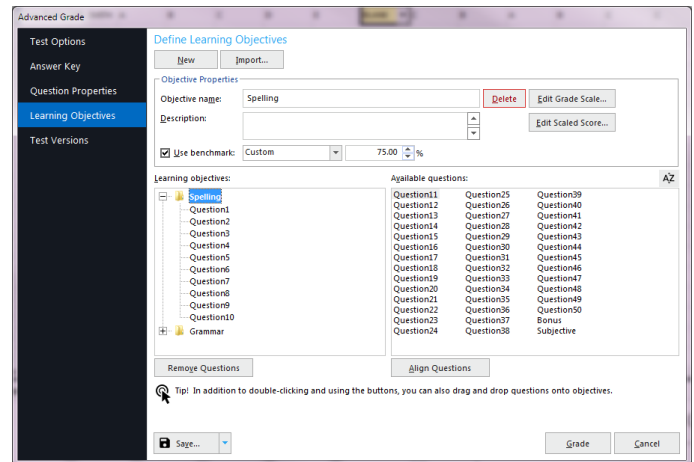
19. We are finished setting up the answer key, so click the **Grade** button.

You are prompted to save the answer key. Saving answer keys is useful if you administer the same test on multiple occasions.

20. Click the **Yes** button to save the answer key.

21. In the **Save Answer Key** window, type **Tutorial1** in the **File name** box.

22. Click the **Save** button to save the File. You receive a confirmation notice that the File was saved and then Remark Quick Stats opens.



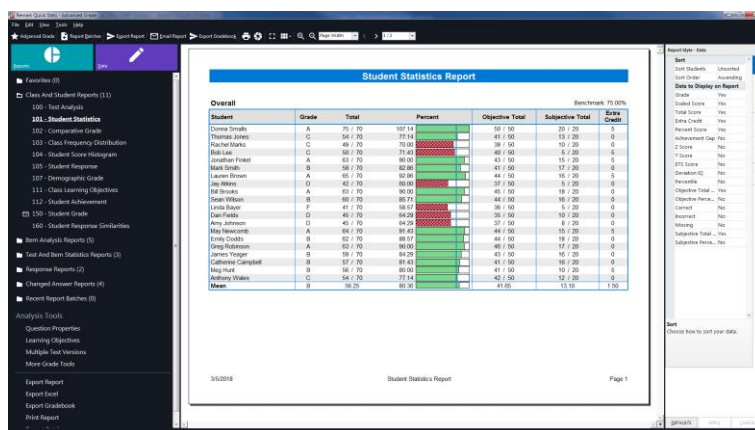
## Reviewing Grade Results and Reports

Once Remark Quick Stats opens, you have access to a variety of grade reports. You can report on the test itself, the class or individual students. For this tutorial, we will look at the Student Statistics, Student Response and Student Grade Reports.

## To run the Student Statistics Report

1. By default, the Student Statistics report displays automatically. If you are not seeing this report, select the **Student Statistics** link in the list of reports under **Class and Student Reports**.

The Student Statistics Report displays the grades for the entire class. Each student can optionally be identified by an Analysis Respondent ID region (chosen in the form template or Advanced Grade) if desired. In this tutorial, we designated the Student ID barcode as an Analysis Respondent ID. You can also view the benchmark information and learning objectives. This report provides a nice overview of how your class is performing. Use the Page Navigation Tools at the top of the window to review the various Pages of your report.



2. To gain some comfort with the **Remark Quick Stats** window, go to the toolbar and use the **Full Screen** button to expand the report. Then toggle back to the default view by selecting the button again. If you need to, use the **Zoom In** and **Zoom Out** buttons to increase or decrease the size of the report image.

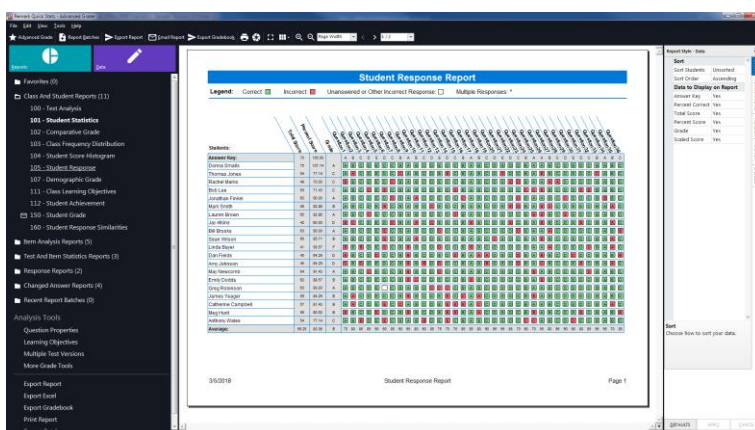
Next, we will look at the Student Response Report.

## To run the Student Response Report

The Student Response Report allows you to view class and question performance, along with score data in a graphical format.

1. In the **Task Pane** under **Class and Student Reports**, select the **Student Response** link.

The report displays each question across the top and each student down the left. Green indicates the question was answered correctly, red indicates the question was answered incorrectly and white indicates the question was left blank. Means are included at the bottom of each column. Use the Navigation Tools at the top of



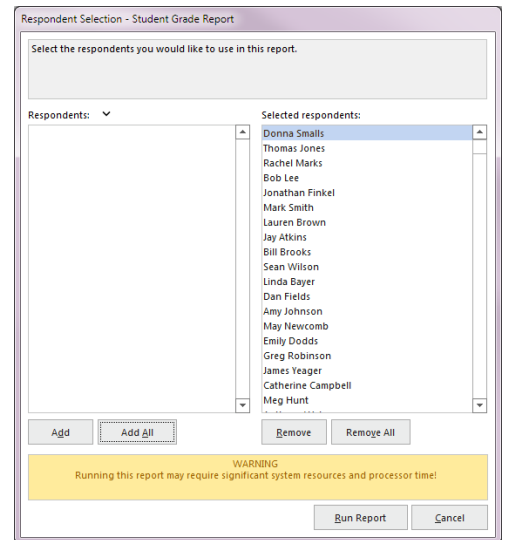
the window to scroll to the second Page, where you find summary score information. Report colors are customizable in the report's options, located in the Style Pane on the right side of the window.

Finally, we will look at the Student Grade Report.

### To run the Student Grade Report

1. In the **Task Pane** under **Class and Student Reports**, select the **Student Grade** link.
2. Select one or more students from the **Respondents** list and click the **Add** button to move them to the **Selected respondents** list. Alternatively, click the **Add All** button to move all students over.
3. Click the **Run Report** button; the report displays on the right.

The **Student Grade Report** shows an individual report of each student's grades. You can show the correct and incorrect responses, as well as an image of the actual test as it was scanned. You can also add customized headings such as high, low and mean scores for the class. Learning objectives are tracked, as well as subjective and extra credit points.

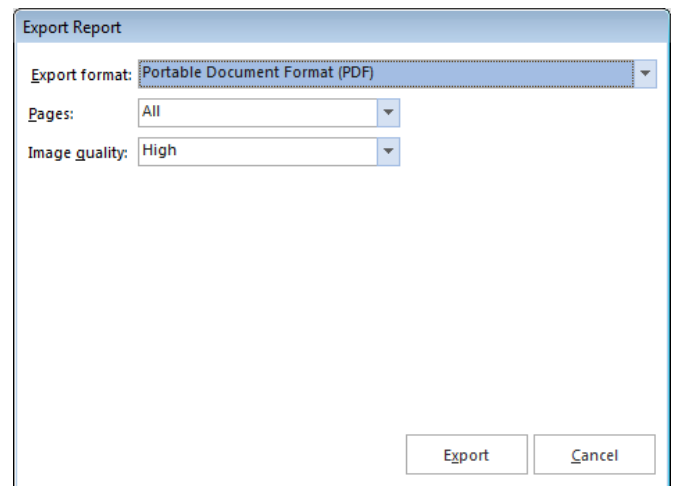


## Exporting the Student Grade Reports

Once you have tabulated your data, you can save a report and/or export the report to one or more formats for either storing or sharing with others. For this tutorial, we will export the Student Grade Reports to PDF Files. Saving to this format allows you to email test grades to parents, for example.

### To export the Student Grade Reports

1. Select the **File** menu, click **Export** and then click **Report**, or click the **Export Report** link in the Task Pane.
2. In the **Export Report** box, select **Portable Document Format (PDF)**.
3. In the **Pages** area, select **All**.
4. Set the **Image quality** to its default value of **High**.
5. Click the **Export** button to choose a location and File name for the PDF File.
6. In the **Save As** window, use the **Look in** drop-down list to locate a folder on your computer for the File. For this tutorial, use **My Documents** or another folder where you can easily access the exported report.
7. Click the **Save** button to export the report.



You may now go to the My Documents folder on your computer and view the resulting PDF Files.

You have completed the first tutorial. Look below for a summary, and then continue on to Tutorial 2 for more practice.

## **Tutorial 1 Summary**

The first tutorial illustrated basic and some advanced features of the software, including:

- Creating a form template
  - Setting advanced region options
- Processing forms
- Using Review Exceptions to clean data
- Saving data
- Grading tests with Advanced Grade
- Exporting reports

# Tutorial II – The Hospital Stay Survey

The second tutorial quickly teaches you how to use the basic software functions and how to easily navigate the software's user interface. You will create a form template for a hospital stay evaluation. This evaluation is a typical survey form containing several types of areas that Remark Office OMR recognizes, including text, OMR bubbles and an area for gathering comments. The survey asks previous hospital patients to provide details about when and where they stayed and then answer some basic questions to evaluate their stay. A survey such as this one can be scanned to produce data and subsequently, reports to show how the hospital is performing.

You will perform the following steps in this tutorial:

- Create the Hospital Stay Evaluation form template
- Process completed Hospital Stay Evaluation forms
- Review and correct the data output
- Save the Hospital Stay Evaluation data
- Analyze the Hospital Stay Evaluation data with Remark Quick Stats

## Creating the Hospital Stay Evaluation Form Template

The first step in this process is to create a form template outlining the areas on the form that you want the software to recognize.

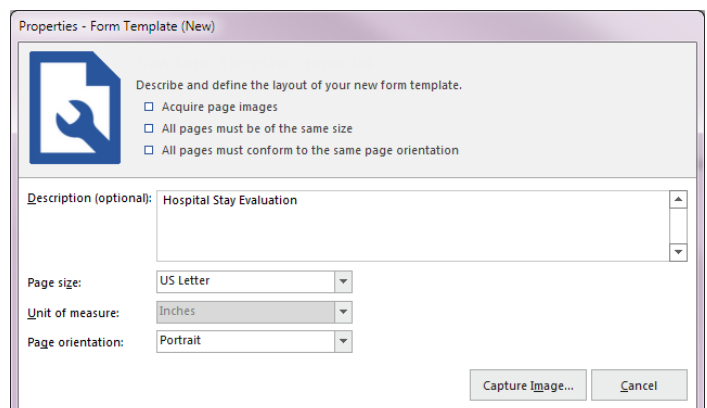
1. If not already running, start **Remark Office OMR** (Start|Programs|Remark Office OMR|Remark Office OMR Data Center).
2. Begin a new form template. Select the **File** menu and then click **New Form Template**. Alternatively, in the left-hand panel, known as the **Task Pane**, select **New** under the **Templates** tab. Any of these actions will open a second window containing the **Remark Office OMR Template Editor**.

**Tip:** If you use **File|New Form Template** or the **New** link in the Task Pane, the Template Editor opens with the new form template window already opened for you.

3. [Optional] If the Template Editor opens but you do not see the **Properties - Form Template (New)** window, select the **File** menu and then click **New Form Template**.

The **Properties - Form Template (New)** window opens. This window is where you describe your form to Remark Office OMR. You do this by entering basic information about your form, including the form template description, Page size and Page orientation.

4. Enter **Hospital Stay Evaluation** in the **Description** box.



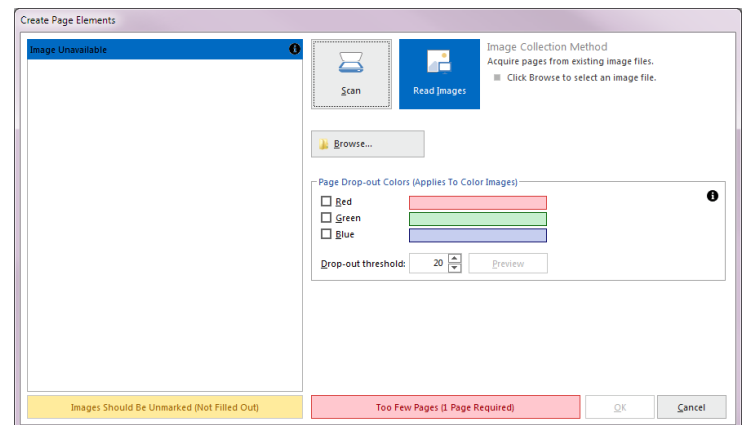
5. Locate the **Page size** area where you can tell the software the size paper your form uses. If not already listed, select **US Letter** in the **Size** drop-down list.
6. Locate the **Orientation** area and select **Portrait**.
7. Click the **Capture Image** button to continue.

The **Create Page Elements** window appears. The Create Page Elements window allows you to either acquire an image of your form from your scanner, or acquire an image of your form from an existing image File. Each Page in a form template is created using an image of the appropriate Page in your form. The image allows you to see the form so that you can easily teach Remark Office OMR how to read it.

### To obtain a form template image

As previously mentioned, there are two ways to acquire an image for a form template Page. Images can be acquired by scanning to create a new image File or by opening an existing image File. We will be acquiring our image from a pre-scanned image File stored on your computer.

1. Click the **Read Images** button in the **Image Collection Method** area.
2. Click the **Browse** button. The **Select Image File** window opens.
3. Select the **Tutorial 2 – Hospital Stay Survey.tif** File from the Tutorial 2 folder of your Remark Office OMR installation directory (e.g. \Documents\Remark Office OMR\Tutorials\Tutorial 2) and then click the **Open** button.



Once an image is acquired by opening an existing image File, the Template Editor displays a thumbnail of the image for your approval.

4. When a thumbnail image of your form appears, click the **OK** button to accept the image.

Once the thumbnail image is accepted, the Template Editor opens the new form template where you can begin to define the regions. You see a tree view (item list) on the left and an image representation of your form on the right.

### To define form template regions

The purpose behind making a form template is to tell the software where to locate the information on your specific form and how to understand your specific data requirements. The following table lists the six regions on the Hospital Stay Evaluation form and their corresponding region types:

Area on Form	Corresponding Region Type
Hospital Name	OCR
Hospital Unit	OMR (Multiple)
Length of Stay	OMR (Multiple)
Room Number	OMR (Grid)
Evaluation Questions	OMR (Multiple)
Comments	Image

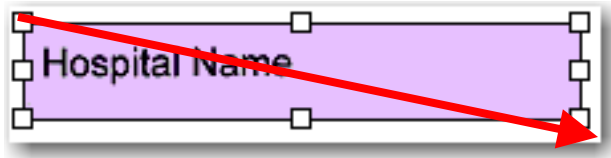
### To define the hospital name as an OCR region

The hospital name text is located in the upper left hand corner of the form and is defined as an OCR region. Remark Office OMR reads the pre-printed text automatically so that the responses can be tied back to specific hospitals.

1. Highlight the **Page 1** node on the left side of your screen, if it is not already highlighted.
2. Select the **Page** menu, click **Insert** and then click **OCR Region After Selected Page**, or click the OCR toolbar button. Alternatively, select the **Draw regions** link in the Task Pane and then select **Insert OCR region**.

The mouse changes to a crosshair.

3. To create the OCR region, place the cursor just beyond the top left of the text, then press and hold the left mouse button while dragging the rectangle beyond the bottom right corner of the text, making sure you have selected the entire allotted space. Because text length may vary depending on the name of each hospital, capture a little extra space at the end of the text to accommodate the largest possible hospital name you might process.



4. After positioning the box, release the mouse button and the **Properties** window appears, allowing you to define the region's properties. This window allows you to provide pertinent information about the OCR region.
5. Type **Hospital** in the **Region name** box. The Region name provides a brief description of the region and will become the name for this column in your data set.
6. Set the **OCR type** to **Primary**. Primary OCR works well in most cases and is the default setting. (Microsoft Office Document Imaging is a second OCR option available if you have Microsoft Office 2007 installed on your computer. Legacy OCR refers to an older OCR engine we had in previous software versions. Microsoft Vision requires a Microsoft Azure Cloud Vision account.)
7. The following options should be set to their default settings:



- **Data Type** is **Textual**. We are collecting hospital names, which are textual. If we were to export our data once it is collected, the data type would be flagged as textual in the output File.
  - **Language** is **English, Middle**.
  - **Orientation** to **Left to Right**. The text on our form is oriented from left to right
  - **OCR Image Pre-Process Options** are all unchecked.
8. Mark the checkbox for **Region contains more than one word**. Each hospital name contains more than one word.
  9. Click the **OK** button to return to the main Template Editor window.

You now see a purple box around the text in the image area, identifying it as an OCR region, and a new node in the tree view titled **Hospital**.

### To define the Hospital Unit as an OMR region

The Hospital Unit question contains two columns of bubbles separated by text. Therefore, we have to use the software's Append Linked Region feature to link the second set of bubbles to the first set of bubbles. When linking regions that have text in the middle of them, you create a region around the first set of bubbles, then link the second set to the first set. (You cannot create one OMR region around bubbles that have text between them.)

1. Highlight the **Hospital** node by clicking it in the tree view, if it is not already highlighted.
2. Select the **Region** menu, click **Insert** and then click **OMR Region After Selected Region**, or click the OMR toolbar button. Alternatively, select the **Insert OMR Region** link in the Task Pane.

The mouse changes to a crosshair.

**Tip:** When defining an OMR region, include only the actual marks; never include the nearby labels, text, etc. Also, create approximately a 1/8 inch buffer space between the marks and the edge of the defined region. This buffer allows Remark Office OMR to accommodate minor shifting or skewing during form processing and decrease the number of data exceptions you need to clean in the resulting data.

3. Place the cursor just to the left of the top bubble for "Cardiac", then press and hold the left mouse button while dragging the rectangle to the bottom right corner of the region, the bubble for "Maternity", capturing all three bubbles in the region.

After positioning the box, release the mouse button. The **Properties - OMR Region** window appears. The Properties - OMR Region window allows you to enter information that will define the OMR region and the data it produces, including:

- **Region Definition** (the area containing **Region name**, the type of OMR region or **OMR type** and the **Data type**).

- **Region Layout** of the region (the area detailing how many **Rows** and **Columns** of marks are contained in the region and their orientation).
- **Possible Responses** (the Labels you want to see as your data).

4. In the **Region Definition** area, enter **Hospital Unit** in the box titled **Region name**.

5. For the **OMR Type**, select **Multiple**. The Multiple region designation is used for typical multiple choice style questions.

6. For the **Data type**, select **Textual**. This region contains Hospital Unit names, so textual data is appropriate.

7. In the **Region Layout** area to the right, select **Column** for **Region orientation**. Region orientation lets Remark Office OMR know how the region is structured on the form. For this question, the question's first set of answer choices is listed in one column.

8. Ensure that **1** was entered in the **Columns in the region** box and **3** in the **Rows in the region** box. The region size lets Remark Office OMR know how many rows and columns of marks are in the region.

9. Locate the **Labels** area, and then type in the text for each unit: **Cardiac**, **General Surgery**, **Maternity**, one per line. Your choice of Labels in the form template determines what you see in the data set when your filled in forms are processed. The Labels represent the response choices for each bubble, moving from top to bottom. Notice that as you type the Labels, numbers automatically fill the **Values** column to the right. While the Labels represent the data you will see returned from the processed forms, the Values represent the information Remark Quick Stats uses to perform any statistical analysis.

**Tip:** When entering **Labels** into **Possible Responses**, you may use the **Enter Key** to move to the next row.

10. Click the **OK** button to return to the main Template Editor window.

You see a green box around the first column of bubbles in the **Hospital Unit** area of the form, identifying it as an OMR region. You also see that **Hospital Unit** is added to the tree view on the left side of the Template Editor.

### To append the second set of Hospital Unit bubbles to the first set

We can now add the second set of options (bubbles) in the Hospital Unit question to the first, using the Append Linked Region feature.

1. With the **Hospital Unit** node highlighted in the tree view, select the **Region** menu and then click **Append Linked Region**, or click the toolbar button.
2. Place the cursor just to the left of the top bubble for "Neurology", then press and hold the left mouse button while dragging the rectangle to the bottom right corner of the region, the bubble for "Pediatrics", capturing all three bubbles in the region.

- After positioning the box, release the mouse button. The **Properties - OMR Region** window appears. You will notice that everything is filled in for you based on the previous OMR region, with the exception of the **Labels**.
- Locate the **Labels** area, and then type in the text for each unit: **Neurology**, **Pathology**, **Pediatrics**, one per line. Your choice of Labels in the form template determines what you will see in the data set when your filled in forms are processed.
- Click the **OK** button to return to the main Template Editor window.

You see a green box around the second column of bubbles in the **Hospital Unit** area of the form, identifying it as an OMR region. You also see that the two linked regions are outlined with a dashed line to show their linked status.

### To define Length of Stay as an OMR region

The **Length of Stay in Days** region is a third OMR region designed to output the number of days the respondent stayed in the hospital. The steps involved in creating this OMR region are similar to those performed for the Hospital Unit. However, notice that many of the region's properties change to reflect that the area on the form has a single row with five columns instead of two columns with three rows.

- Highlight **Hospital Unit** by clicking its node in the tree view, if it is not already highlighted.
- Select the **Region** menu, click **Insert** and then click **OMR Region After Selected Region**, or click the OMR toolbar button. Alternatively, select the **Insert OMR region** link in the Task Pane.

The cursor changes to a crosshair.

- Place the cursor just to the top left of the row of marks representing the **Length of Stay**, then press and hold the left mouse button while dragging the rectangle to the bottom right corner capturing all of the bubbles in the region.
- In the **Region Definition** area, enter **Length of Stay** in the box titled **Region name**.
- For the **OMR type**, select **Multiple**.
- For the **Data type**, select **Textual**. This region contains numbers of days but because one of the choices (5+) is not numeric, textual is the correct data type.
- In the **Region Layout** area to the right, select **Row** for **Region orientation**. Region orientation lets Remark Office OMR know how the region is structured on the form. For this question, the question's answer choices are listed in a row.

8. The following should be filled in for you: **Columns in the region: 5** and **Rows in the region: 1**. (If not, please enter these values.)
9. For the **Labels** area, type the number for each length of stay on each of the rows: **1, 2, 3, 4, 5+**, one per line. This label range represents the response choices for each bubble, moving from left to right. Again notice that as you type the Labels, numbers automatically fill the **Values** column in the grid.
10. Click the **OK** button to return to the main Template Editor window.

You now see a green box around the **Length of Stay** region in the form area, identifying it as an OMR region. You also see that **Length of Stay** is added to the tree view.

### To define Room Number as an OMR region

The Room Number region needs to capture all five digits as one piece of information. We use a Grid OMR region to define the bubbles on the form. A Grid OMR region outputs a single piece of data regardless of the number of rows and columns included in the region. This type of region is used for items such as dates, ID numbers, social security numbers, etc.

The steps involved to create a Grid region are the same as you used to create the OMR regions we already created. However, the specific properties of the region change to reflect the way the region is formatted on the form and the way we want the software to report the data.

1. Highlight the **Length of Stay** node in the tree view, if not already highlighted.
2. Click the OMR toolbar button to insert an OMR region, and then draw the OMR region box around the entire group of bubbles.
3. After positioning the box, release the mouse button, and the **Properties - OMR Region** window appears.
4. In **Region Definition** area, enter **Room Number** in the **Region name** box.
6. Select **Grid** for the **OMR type**.
7. Select **Numeric** for the **Data type**. We are capturing a five-digit number.
8. In **Region Layout** area, select **Column** for the **Region orientation**. Each column in this region represents one digit of the room number.
9. In the **Columns in region** box, ensure that **5** was entered and in the **Rows in region** box, ensure that **10** was entered.
10. Enter the appropriate **Labels** in **Possible Responses**. For the **Labels** area, click the down arrow for **Possible label scales** and choose the scale **0 to 9** from the list of choices. This range represents the response choices for bubbles in all five columns, moving from top to bottom. The numbers fill the **Labels** grid automatically. The Labels represent the data that is returned from the processed forms when filled in by the respondent, and the Grid region returns all selections to make a five-digit number.

Room Number:

11. Click the **OK** button to return to the main Template Editor window.

You see a green box around the **Room Number** region in the form area, identifying it as an OMR region. You also see that **Room Number** is added to the tree view.

### To define the Hospital Stay Evaluation questions as an OMR region

There are five questions on the form that ask the patient to evaluate his or her hospital stay. All five questions share the same evaluation scale of Strongly Agree to Strongly Disagree, which allows them to share one set of labels on the form. This compact and logical question area can be captured with a single OMR region even though it contains five separate questions. Defining similar questions in one region saves time and effort, and is preferable.

1. Highlight the **Room Number** node in the tree view, if not already highlighted.
2. Click the OMR toolbar button to insert an OMR region, and use the crosshair to draw a box around the entire group of 20 bubbles (all four columns and five rows). This region contains five individual questions and each question has four possible answer choices.
3. When the **Properties – OMR Region** box opens, enter **Evaluation** in the **Region name** box.
4. Select **Multiple** as the **OMR type**.
5. Select **Textual** for the **Data type**. This region contains a scale from Strongly Agree to Strongly Disagree, so textual data is appropriate.
6. In the **Region Layout** area, select **Row** for the **Region orientation** because each individual question occupies one row of the region.
7. Ensure that **4** was entered in the **Columns in the region** box and **5** in the **Rows in the region** box.
8. In the **Possible label scales** drop-down list, select the **Strongly Agree to Strongly Disagree (4)** scale. The Labels and Values grids are filled automatically with the appropriate labels and values.
12. In the left **Task Pane**, select **Question Properties**. The next step is to enter the **Question Text** and **Question Names** for each of the five questions.

**Tip:** **Question Text** appears on the reports generated in Remark Quick Stats and is useful when exporting to some data formats. **Question Names** can be used to enter individual names for every question within one OMR region. If the Question Names grid is left blank, the software uses the Region Name defined on the previous screen and appends sequential numbers to the end of the name to differentiate the questions. Individual Question Names are useful if you are exporting data to an existing File that requires specific field names (e.g. an Access table).

Labels	Values
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Question Text	Question Names
1 The staff was responsive to my needs.	Responsive
2 The staff treated me with respect.	Respect
3 Medical procedures were explained in terms I understood.	Explanations
4 My doctor was available to answer questions.	Questions
5 My overall rating of this hospital stay is favorable.	Overall

13. Enter the **Question Text** and **Question Names** for each of the five questions as shown here:

**Question Text:**

**Question Names:**

The staff was responsive to my needs.

Responsive

The staff treated me with respect.

Respect

Medical procedures were explained in terms I understood.

Explanations

My doctor was available to answer questions.

Questions

My overall rating of this hospital is favorable.

Overall

14. Click the **OK** button to return to the main Template Editor window.

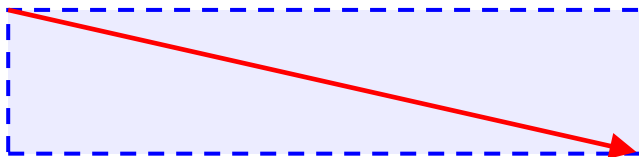
You see a green box around the **Hospital Stay Evaluation** region in the form area, identifying it as an OMR region. You also see that **Evaluation** is added to the tree view.

### To define the Comment area as an Image region

Areas in which you expect your respondent to use handwriting can be captured by Remark Office OMR as Image regions. Image regions offer you three different ways to capture handwriting: 1) the software takes a snapshot of the handwriting and stores it on your computer as an image File, 2) the software allows you to hand enter the written information into your data set using image assisted data entry, 3) you apply qualitative codes that characterize the comments as you read them on-screen. For image clips and data entry regions, you can run a Respondent Report in Remark Quick Stats to view the information from the Image region. For qualitative codes, you can run an Item Analysis report. We are capturing a snapshot of the handwriting (image clip).

1. Highlight the **Evaluation** node in the tree view, if not already highlighted, and then click the Image toolbar button to insert an **Image** region.
2. Once the cursor becomes a crosshair, place the cursor at the top left of the area where you would expect the respondent to enter their comments. Press and hold the left mouse button while dragging the rectangle to the bottom right corner of the area, making sure you have selected the entire allotted space.

Comments:



3. After positioning the box, release the mouse button and the **Properties – Image Region** window appears, allowing you to define the region's properties.
4. Enter **Comments** in the **Region name** box.
5. Set the **Region type** to **Image clip**. This type captures each respondent's response as a small image File for storage on your computer. You can then run a report in Remark Quick Stats to review the comments.

6. At the bottom of the **Region Definition** area, mark the setting for **Attempt to detect the presence of handwriting in the region**. By using this feature, Remark Office OMR searches for handwriting in the Image region area during form processing. If writing is found, the image clip is captured, and the path to the clipped image File is displayed in the data grid.
7. In the **Target folder** box, click the ellipsis to choose the **Images** folder of your Remark Office OMR installation (e.g. My Documents\Remark Office OMR\Images). Whenever a comment is found, a small image File is captured and stored in this folder.
8. In the **Begin names with** box, type **Tutorial Comments**. When the images are captured, the image names begin with the text "Tutorial Comments" so that you know they belong to this form.
9. Set the **Clip File type** and **Compression** to the default settings of **TIF** and **Group 4**.
10. Click the **OK** button to return to the main Template Editor window.

You see the new Image region visible as a blue field on your form and that **Comments** is added to the tree view of your form template.

### To save the Tutorial 2 form template

We are finished creating all of the regions in our form template and need to save the form template as a File we can use to process completed forms.

1. Select the **File** menu and then click **Save** or select the **Save** link in the Task Pane. Make note of where you save the form template File (we suggest \My Documents\Remark Office OMR\Tutorials\Tutorial 2).
2. In the **File name** box, type **Tutorial2** and then click the **Save** button.

You have now created the Tutorial 2 form template. Close the Template Editor by selecting the **File** menu and then clicking **Exit**. Alternatively, you may also simply click the X in the upper right hand corner of the **Template Editor** window.

# Processing the Completed Hospital Stay Evaluations

Now that you have created the form template for the **Hospital Stay Evaluation** survey, you are ready to begin processing the completed forms using the supplied image Files.

## To open the Hospital Stay Evaluation form template

1. If not already running, start the **Remark Office OMR Data Center** (Start|Programs|Remark Office OMR|Remark Office OMR Data Center). When the Data Center opens, it displays a blank spreadsheet-style data grid. The **Data Center** offers a **Task Pane** on the left containing the most commonly requested actions.
2. Select the **File** menu and then click **Open Template** or select the **Open Other templates** link in the Task Pane. You must open a form template in order to process forms.

**Tip:** When you are in the Remark Office OMR Template Editor with a form template open, you can select **File|Launch Remark Office OMR** and the Data Center opens with the selected form template also open.

3. Select the **Tutorial2.omr** File (the File you created in the previous section of this tutorial) and then click the **Open** button. Alternatively, we have provided a sample File in \Documents\Remark Office OMR\Tutorials\Tutorial 2\Remark Office OMR Tutorial 2 – Sample Survey.omr.

When the Tutorial2 form template opens, its name appears on the title bar at the top of the screen and you see the region names you specified as your column headers in the data grid. Each column in the grid corresponds with one variable or question in the form template, as the column headers indicate. The data grid fills row by row as your completed forms are processed. Each grid row contains information from one processed form regardless of the number of Pages the form contains.

## To read forms from image Files

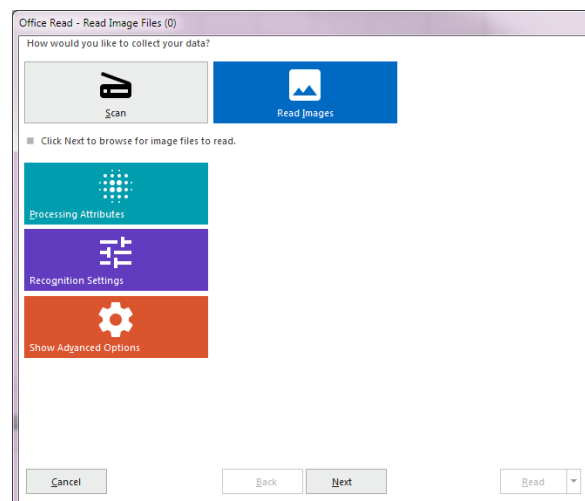
The Read window is used to process completed forms and produce data. The Read window has several steps to help customize the reading process. This tutorial focuses on the basic functions. As mentioned previously, we are reading pre-scanned image Files.

1. Select the **Tools** menu and then click **Read**, or select the **Read** link in the Task Pane.

The **Read** window appears.

2. In the **Data Collection Method** area, select the button for **Read Images**.
3. Click the **Next** button to continue.

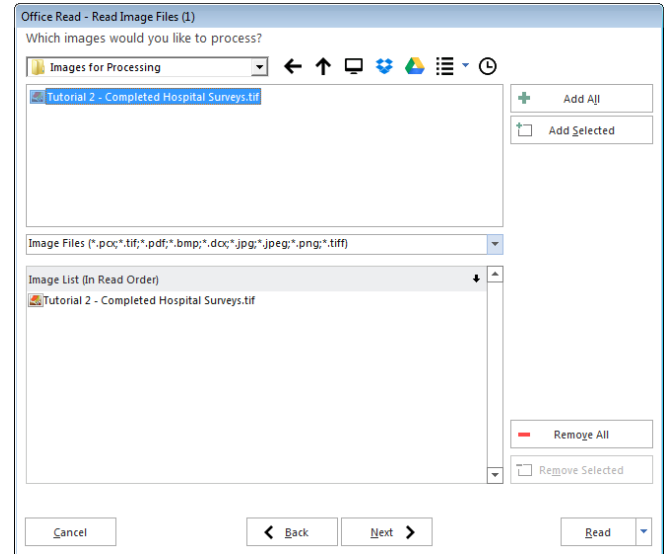
The **Image Selection** window appears to enable you to view and select the images you want to process.





4. Navigate to the **Tutorial 2** folder of your Remark Office OMR installation (e.g. C:\My Documents\Remark Office OMR\Tutorials\Tutorial 2).
5. Navigate to the **Images for Processing** folder.
6. Select the File called **Tutorial 2 – Completed Hospital Surveys.tif** by either double clicking it or selecting it and clicking the top green button for **Add Selected Images**, which moves the File into the **Images in Read Order** window on the right.
7. Click the **Next** button to continue.

The **Review Exceptions** window appears. This window allows you to configure options for reviewing exception cases such as blank and multiple responses. We are using this feature in this tutorial.



8. If the **Enable Review Exceptions** button is selected, click it to deselect this option. We are not reviewing exceptions at this time.
9. Click the **Read** button to begin reading image Files.

As each image is processed, a row of data is added to the data grid.

## Reviewing and Correcting the Data

After the forms are processed, 20 rows of data are displayed in the data grid. Each row represents the responses collected from one of the forms. You are now ready to inspect the data for missing or unrecognized responses in order to prepare for analysis and/or data export.

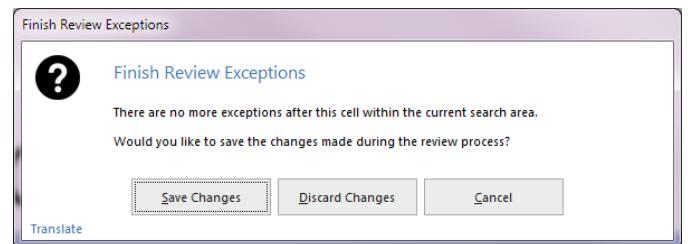
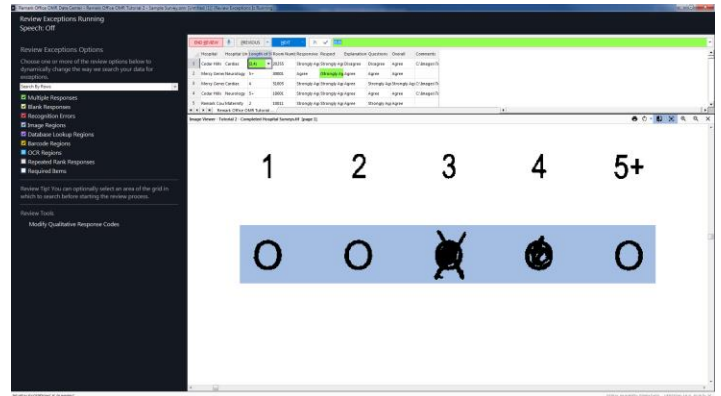
We use an automated tool called Review Exceptions to locate and correct any exceptions in our data.

1. Click the **Tools** menu and then select **Review Exceptions**, or click the **Review Exceptions** link in the Task Pane.
2. Once you access Review Exceptions, use the task pane to select the exception cases you would like to review: Blank responses, Multiple Responses, Recognition Errors, Image Regions, Database Lookup Regions, Barcode Regions, OCR Regions, Repeated Rank Responses or Required Items. You can also choose whether to search by rows or columns in the data grid.
3. Click the **NEXT** button at the top of the data grid to start the review process.

The Data Center searches the data for the specified exception cases. When a selected exception case is found, it appears in the data header bar at the top of the data grid. The bar is color coded to match the exception type (e.g. yellow for a BLANK response). Use this window to make changes. You can use the drop-down list if applicable, or type a response. Note if there is a list of answer choices defined, as you begin typing, Remark Office OMR will attempt to auto-fill your answer based on your possible answer choices.

The first piece of flagged data is a multiple response in the first grid row for the item called **Length of Stay**, which is flagged as green in the data header bar.

- In the data header bar above the grid use the drop-down list to select the appropriate response. Use the Image Viewer beneath the data grid to review the respondent's form. It appears that the respondent changed his response from 3 to 4 by crossing out the original mark and filling in a second bubble. We will assume that **4** is the correct response. Select **4** from the drop-down list.
- Click the **NEXT** button to move to the next exception. Or, simply press **Enter**.
- The next exception is a multiple response in row two for the item called Respect. Look at the Image Viewer to see the intended response. In this case, it looks like the respondent changed his response from **Strongly Agree** to **Agree**. Select **Agree** from the drop-down list (or type "A" and watch Remark Office OMR auto-fill the response).
- Press the **Enter** key. There are no more exception cases in the data.
- When prompted, click **Save Changes** to the message to save your changes. There are no more exceptions to review in this data set.



Your data is now ready to be saved and analyzed.

## Saving the Hospital Stay Evaluation Data

After reviewing the data, you may save it one of many File formats available for exporting data to other applications. For this tutorial, we will save the data to the Remark Extended (RMX) format, which is a proprietary format within the software. This format saves the exception colors (if any are present) as well as the link from the data to the stored images so that you can open your data and still view the image that corresponds with any piece of data.

### To save the Hospital Stay Evaluation data

- Select the **File** menu and then click **Save Data**, or click the **Save Data** link in the Task Pane.
- Data can be saved anywhere on your system. By default, a Data folder is installed in the Remark Office OMR directory; we recommend using this folder for storage of data Files. In the **Look in** box, navigate to this **Data** folder on your system (e.g. \Documents\Remark Office OMR\Data).
- Click the **Save as type** down arrow to display a list of File types.
- If not already selected, click the **Remark (.RMK)** format.
- Type **Tutorial2** in the box titled **File name**.
- Click the **OK** button to save the File.

# Analyzing the Hospital Stay Evaluation Data

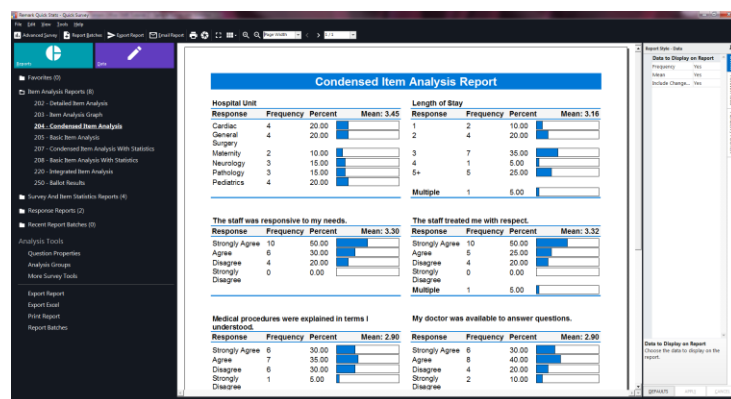
Remark Office OMR provides statistical analysis functionality for tabulating data from your forms. The **Quick Survey** feature is one such facility and provides you with a choice of standard reports based on your data.

## To tabulate the Hospital Stay Evaluation data

1. Select the **Tools** menu, then click **Analysis** and then click **Quick Survey**, or click the **Analysis** tab and then select the **Quick Survey** link in the Task Pane.

The **Remark Quick Stats** window appears.

2. By default, the **Condensed Item Analysis Report** displays. If you are not seeing this report, click the **Item Analysis Reports** link in the Task Pane and choose **Condensed Item Analysis**.



The **Condensed Item Analysis Report** shows several statistics for each question, such as Label, Total and Percent. Each table displays statistics for a separate question in the survey. This simple, straightforward report may be all that you need to communicate your survey's results. Although we will not view every available report in this tutorial, we suggest that you explore the other available reports and experiment with the report options by using the Report Style pane to adjust the look and feel of the reports.

Let's take a look at one more report: The Response by Item report, which shows us the answers to the "Comments" question.

## To run a Response Report by Item report

1. In the **Task Pane**, select the **Response Reports** link and click the **Response by Item** link.
2. A selection window appears, allowing you to choose questions on which to base the report. From the **Questions** list, choose the **Comments** question and move it to the **Selected questions** window so that we can see the responses to our open ended comments question.
3. Click the **Run Report** button to run the report.

Notice that the comments are displayed on screen for all handwritten comments. You can read through them and/or export them to another format. The Report Style pane on the right allows you to choose whether to show or hide the respondent identifier. Our survey is anonymous; therefore you may wish to hide the respondent identifier by changing

The screenshot shows the 'Question Selection - Response Report by Item' dialog box. It has two main sections: 'Questions' and 'Selected questions'. The 'Questions' section contains a list with 'Hospital' and 'Room Number'. The 'Selected questions' section contains a list with 'Comments'. Below these lists are buttons for 'Add', 'Add All', 'Remove', and 'Remove All'. At the bottom right are 'Run Report' and 'Cancel' buttons.

**Respondent ID** to **No**. Then click the **Apply** button and run the report again. Note that the comments are clearer when printed.

## Creating a Report Batch

The previous tutorial on test grading explored Remark Quick Stats. In this tutorial, we demonstrate use of the Report Batch feature. This feature allows you to display, print or export multiple reports at one time. In addition, it allows you to auto filter data based on one or more questions on your form. We are going to auto filter the data based on the Hospital OCR region. Remark Quick Stats provides us with a report for each hospital based on the filter that we set up.

### To run a Report Batch

1. In Remark Quick Stats, select the **Tools** menu and then click **Report Batches**, or select **Report Batches** from the Task Pane.
2. Mark the checkbox for **Filter Reports by** and select **Hospital**. The reports will be created based on the hospital names in our data. Remark Quick Stats will sort the data behind the scenes and then report by hospital.
3. Click the **Next** button to continue.
4. The next window allows you to choose which reports to run. Select the **Detailed Item Analysis Report** and the **Response Report by Item**. These reports will provide us with an item analysis for each question and a listing of the open-ended comments.
5. Click the **Next** button to continue.
6. The next window allows you to print the reports. We will not print for this tutorial.
7. Click the **Next** button to continue.
8. The next window allows you to display and export reports. Mark the checkbox for **Display the reports upon completion**.
9. Mark the checkbox for **Export reports as** and choose **Portable Document Format (PDF)**. Do not mark the checkboxes for **Merge all selected reports into a single file** or **Save all reports to a single folder**.
10. Click the ellipsis next to **Base File name** to choose a location and name for your File. Note where you save the File so that you can view it later (you may wish to save it to the tutorial folder in \Documents\Remark Office OMR\Tutorials\Tutorial 2).

Report Batches

Report batch file:

Open an existing report batch file if you would like to preload settings based on a previously saved configuration.

Optionally choose fields below on which to filter your data, generating a new report for each value.

☒ Filter reports by (1st): Hospital

☐ Filter reports by (2nd):

☐ Filter reports by (3rd):

Cancel Back Next Finish

Report Batches

☒ Display the reports upon completion

☒ Export reports as: Portable Document Format (PDF)

☐ Merge all selected reports into a single file

☐ Save all reports to a single folder

Base file name:

Image quality: High

Customize File Name (Optional)

File base name:

Destination folder:

Email reports to:

Email template:

Note: In order to include reports as email attachments, you must also export the report.

Cancel Back Next Finish

11. Click the **Finish** button to generate the reports. You are asked if you want to save the report batch File for later use. Click **No** for this tutorial (saving report batches is useful if you plan to run the same reports repeatedly).

The reports begin to generate and you see a progress bar on the screen.

12. The Response Report by Item requires user input. You are prompted to choose the question on which to base this report. When prompted, choose the **Comments** question from the **Questions** window. Use the arrow to move it to the **Selected questions** window. This report displays all of the handwritten comments from the forms.

You are notified when the Report Batch is finished creating your reports. Navigate on your computer to the folder in which you saved the PDF Files. You will see folders for each hospital, and two reports in each folder: one for the Detailed Item Analysis and one for the Response Report by Item. If you have the Adobe Acrobat Reader, open the reports to gain a better understanding of how the auto filter feature worked.

## Tutorial II Summary

The second tutorial illustrated the basics of using the software, including:

- Creating a form template
  - Linking OMR regions
- Processing forms
- Using Review Exceptions to clean data
- Saving data
- Tabulating surveys with Quick Survey
  - Using Report Batches

You have completed the Remark Office OMR tutorials. We encourage you to read the Designing Scannable Forms chapter of your Remark Office OMR user's guide before you get started with your own forms.