Remark Office OMR Demo Tutorial Grading Tests

Tutorial Overview

Thank you for downloading a demo version of Remark Office OMR. In order to allow you to sample the functionality in the software, we have included this tutorial. The tutorial works with pre-supplied sample image files so that you can walk through the various steps of using the software. The sample files used in this tutorial are located in your My Documents folder in a subfolder called Remark Office OMR\Tutorials. This tutorial outlines how to create a form template for a basic test form. It also details how to process forms, correct the output and run a report.

> **Note:** If you plan to use Remark Office OMR to collect data from survey forms, there is a separate tutorial accessible from the Help menu that focuses on surveys.

Important Note: The tutorials provided with the software work with image files that are included when you install the Remark Office OMR demo. In reality, the software can read pages directly from a scanner, or import scanned image files. Even though you are importing 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 tutorial still gives you a good overview of how the software works in order to prepare you for using your own forms and scanner.

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

- **Getting Started 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. Hover your mouse over any button to see tool tip text explaining the functionality of the button.

- **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.

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 lesson.

Form Template Overview

The following concepts are important to understand when performing this tutorial. 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 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 will darken) and the specifics of the data you require. The form template defines the backend database you will use for storage of the processed data. You will 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) 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 tutorial.

The 30 Question Exam Answer Sheet

This tutorial quickly teaches you how to use the basic software functions and how to easily navigate the software's user interface. You create a form template for a 30-question exam or test. This exam form includes bubbles for students to enter their student ID and 30 multiple choice questions with the answer choices of A-E. The exam answer sheet would be paired with a question sheet or booklet when students take the test.

You will perform the following steps in this tutorial:

- Create the exam form template

- Process completed exam forms

- Review and correct the data output

- Grade and analyze the exam data with Remark Quick Stats®

The next page shows an image of the exam so you can get an idea of the type of form being used in this demonstration. The exam form was created in Microsoft Word. You can also find a copy of this form in Documents\Remark Office OMR\Tutorials\Demo Tutorial 1.

EXAM ANSWER SHEET

Student ID

⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪
① ① ① ① ① ① ① ① ① ① ①
② ② ② ② ② ② ② ② ② ② ②
③ ③ ③ ③ ③ ③ ③ ③ ③ ③ ③
④ ④ ④ ④ ④ ④ ④ ④ ④ ④ ④
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Please follow the directions on the exam questions sheet. Fill in the entire circle that corresponds to your answer. To make changes, erase marks completely.

Correct: ●   Incorrect: ✓ ✗ ⦸

1	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	16 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	17 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	18 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	19 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
5	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	20 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
6	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	21 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
7	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	22 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
8	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	23 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
9	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	24 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
10	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	25 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
11	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	26 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
12	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	27 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
13	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	28 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
14	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	29 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
15	Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	30 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Creating the Exam 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.

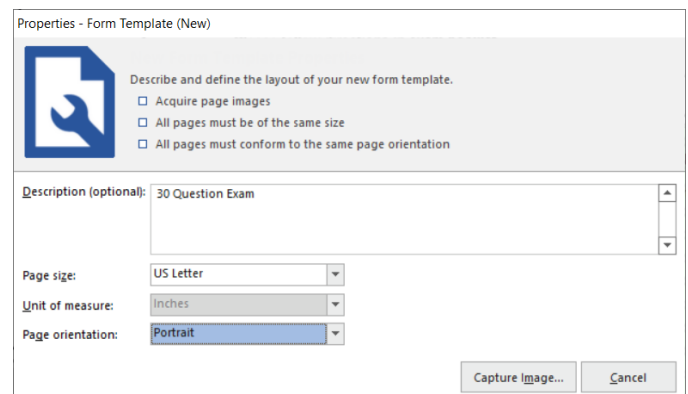**To begin setting up the exam form template**

1. If not already running, start **Remark Office OMR** (Start|Programs|Remark Office OMR Demo|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**. Any of these actions opens 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**. Alternatively, select the **New** link in the task pane.

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

1. Enter **30 Question Exam** in the **Description** box.

2. Locate the **Page size** area where you can tell the software the size paper your form uses. Select **US Letter** from the drop-down list.

3. Locate the **Page orientation** area and select **Portrait**.

4. 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 are acquiring our image from a pre-scanned image file stored on your computer.

1. Click the button for **Read Images**.

2. Click the **Browse** button. The **Select Image File** window opens.

3. Select the **Remark Office OMR Demo Tutorial 1 – Sample Exam.pdf** file from the Tutorial 1 folder of your Remark Office OMR installation directory (e.g. Documents\Remark Office OMR\Tutorials\Demo 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.
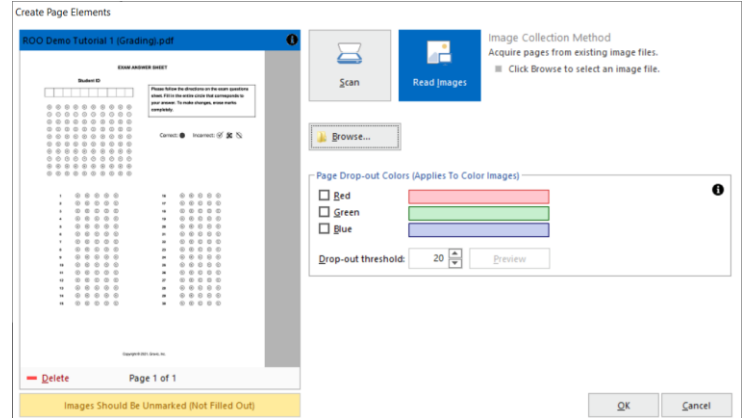
4. When a thumbnail image of your form appears, click the **OK** button to accept the image.

Once the thumbnail image is accepted, the Template Editor opens the new form template where you can begin defining 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 intent of this sample form is to expose you to a variety of region types. The following table lists the seven regions on the Restaurant Evaluation form and their corresponding region types:

Area on Form	Corresponding Region Type
Student ID	OMR (Grid)
Questions 1-15	OMR (Multiple)
Questions 16-30	OMR (Multiple)

To define Student ID as an OMR region

The Student ID region needs to capture the 10 digits as one piece of information (e.g. 1234567890). We will employ 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.

1. Select the **Page 1** node in the tree view menu, click **Insert** and then click **OMR Region After Selected Page**, or click the **OMR** toolbar button. Draw the OMR region box around the entire group of bubbles. Place the cursor at the top left of the bubble group in the student ID, then press and hold the left mouse button while dragging the rectangle to the bottom right corner, capturing all 10 rows and 10 columns of bubbles in the region. When creating OMR regions, you want to leave a small buffer space between the region box and the
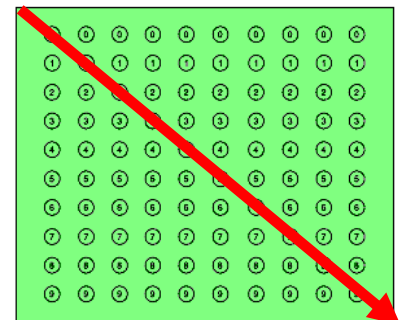
bubbles (about 1/8 inch). (Do not worry if your box is not perfect; you can adjust it when you finish creating the region.)

2. After positioning the box, release the mouse button, and 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** (the area detailing how many **Rows** and **Columns** of marks are contained in the region and their orientation).
   - **Response Choices** (the Labels you want to see as your data).

3. In **Region Definition** area, enter **Student ID** in the **Region name** box. This name is used to identify the region in the data set.

4. Select **Grid** for the **OMR type**. A grid region allows the respondent to choose several response bubbles to make up one single response (a student id in this case).

5. Select **Numeric** for the **Data type**. We are capturing a 10-digit number.

6. In the **Region Layout** area, select **Column** for the **Region orientation**. Each column in this region represents one digit of the student ID.

7. In the **Columns in region** box, ensure that **10** was entered for the **Columns in the region** and **10** in the **Rows in region** box.

8. Enter the appropriate **Labels** in **Response Choices**. 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 ten columns, moving from top to bottom. The numbers fill the **Labels** grid automatically. The Labels represent the actual data that will be returned from the processed forms when filled in by the respondent, and the Grid region will return all selections to make a ten-digit number.

9. We want to use the student ID to identify our students. Click the **Analysis...** button.

10. Mark the checkbox for **Designate as a respondent ID during analysis** (note that grading and tabulating need to be turned off to enable this option).

11. Click the **OK** button to close the **Analysis** options.

    - **Note:** Don't worry about setting up your answer key now; we will scan it later with our filled in tests.

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

You now see a green box around the **Student ID** region in the form area, identifying it as an OMR region. You will also see that **Student ID** has been added to the tree view.
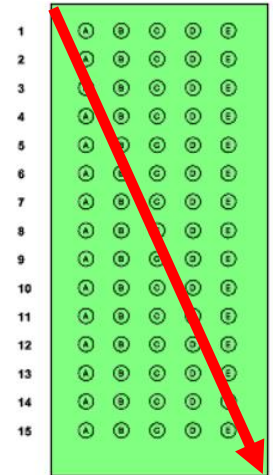
To define questions 1-15 as an OMR region

There are 30 multiple-choice questions on the exam, divided into two sections. You can create a region around the first 15 questions and then copy it to the second 15 questions.

1. Highlight the **Student ID** node in the tree view, if not already highlighted.
2. Click the **OMR** toolbar button. Alternatively, select the **Draw Regions** link in the Task Pane and then **Insert OMR Region**.

The mouse changes to a crosshair.

3. Place the cursor at the top left of the bubble group in question 1, then press and hold the left mouse button while dragging the rectangle to the bottom right corner of question 15, capturing all 15 rows and five columns of bubbles in the region.
4. After positioning the box, release the mouse button. The **Properties - OMR Region** window appears.
5. In the **Region Definition** area, enter **Question** in the box titled **Region name**. This name is used to identify the region in the data set. The additional questions within the region will be number sequentially (Question1-Question15).
6. For the **OMR Type**, select **Multiple**. The Multiple region designation is used for typical multiple choice style questions.
7. For the **Data type**, select **Textual**. This region contains a textual scale of agreement statements, so textual data is appropriate.
8. In the **Region Layout** area to the right, if it is not already selected, choose **Row** for **Region orientation**. Region orientation lets Remark Office OMR know how the region is structured on the form. For this question, each row represents one question.
9. Ensure that **5** was entered in the **Columns in the region** box and **15** 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 and the software tries to figure this out for you.
10. Enter the appropriate **Labels** in **Response Choices**. For the **Labels** area, click the down arrow for **Possible label scales** and choose the scale **A-E (5)** from the list of choices. This range represents the response choices for the bubbles in all five columns, moving from left to right. The entries will fill the **Labels** grid automatically. The Labels represent the response choices for each bubble. You will notice that as you type Labels, or when they auto-fill, numbers automatically fill the **Values** column to the right. While the Labels represent the actual data you will see returned from the processed forms, the Values represent the information Remark Office OMR uses to perform any statistical analysis (such as calculating means).
11. Click the **OK** button to return to the main Template Editor window.

7

You now see a green box around the first 15 questions in the form area, identifying it as an OMR region. You also see that **Question** has been added to the tree view.

To define questions 16-30 as an OMR region

The easiest way to capture the second set of multiple-choice questions is to copy the Question region since it has everything defined that you need.

1. Highlight the **Question** node in the tree view, if not already highlighted.
2. Select the **Edit** menu and click **Copy** (or press Ctrl+C on your keyboard).
3. Select the **Edit** menu and click **Paste** (or press Ctrl+V on your keyboard).
4. The region is copied next to the original region and is red. Use your mouse to click and drag the region over questions 16-30. The region turns green when you have it properly placed. All of the settings are carried over so there is nothing else you need to define.
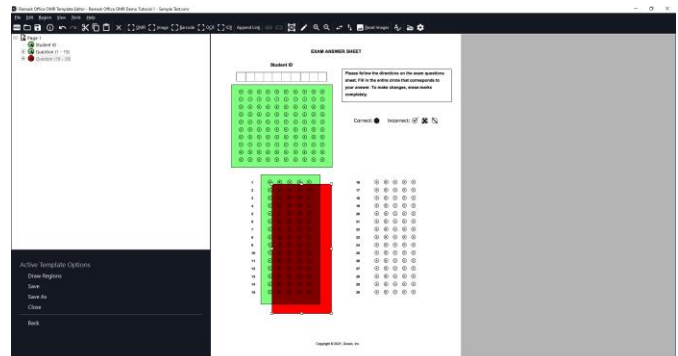
To save the tutorial form template

We have 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 My Documents\Remark Office OMR\Tutorials\Demo Tutorial 1).
2. In the **File name** box, type **Demo Tutorial 1** and then click the **Save** button (the .omr extension is added automatically for you).

    Note: If someone has already completed the tutorial with this file name, you may modify the file name.

You have now created the Tutorial 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. You may now move on to processing the filled in exams.

Processing the Completed Exams

Now that you have created the form template for the exam, you are ready to begin processing the completed forms using the supplied image files. For the purposes of this tutorial, we assume that the teacher administered the tests to the students and scanned the exams into a PDF file.

To open the exam form template

1. If not already running, start the **Remark Office OMR Data Center** (Start|Programs|Remark Office OMR Demo|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 Form Template**. Alternatively, select the **Open** link in the Task Pane. You must open a form template in order to process forms.

3. Select the **Demo Tutorial 1.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\Demo Tutorial 1\Remark Office OMR Demo Tutorial 1.omr.

When the exam tutorial 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 will focus on the basic functions. As mentioned previously, we will be reading pre-scanned image files.

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

2. The **Office Read** window appears.

3. Select the button for **Read Images**.

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

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

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

6. Navigate to the **Images for Processing** folder.

7. Select the file called **Demo Tutorial 1 – Completed Exams.pdf** by either double clicking it or selecting it and clicking the button for **Add Selected**, which moves
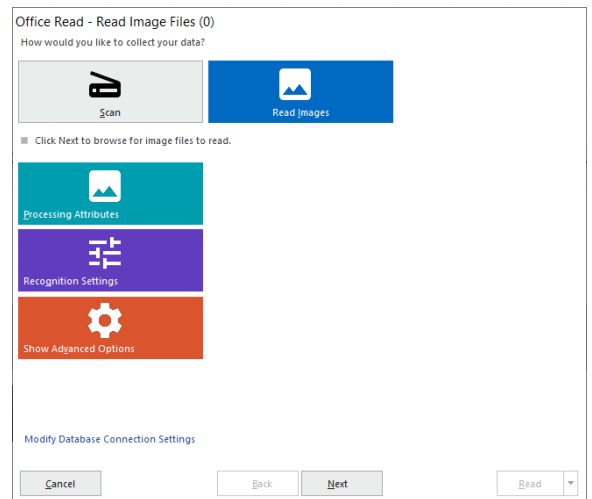
the file into the **Image List** window on the right. This multi-page PDF file contains 10 completed exams, including an answer key that we bubbled in.

8. 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.

9. If the **Enable Review Exceptions** button is marked, click it to deselect this option. We will not be reviewing exceptions at this time.

10. Click the **Read** button to begin reading image files.

As each image is processed, you see a row added to the data grid. Once all the forms are processed you are ready to review and clean the data.

Reviewing and Correcting the Data

After the forms are processed, 10 rows of data are displayed in the data grid. Each row represents the responses collected from one of the forms. The first row is our answer key. You are now ready to inspect the data for missing or unrecognized responses in order to prepare for either analysis or export.

Remark Office OMR informs you of unrecognized or questionable responses by color-coding each appropriate data grid cell and including a short descriptive word describing the exception (e.g. 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 show you respondents' answer choices.

For this tutorial, we are going to run **Review Exceptions**, which provides an automated way to search through the data for exceptions and then correct them.

To run Review Exceptions

1. Select the **Tools** menu and then click **Review Exceptions**. Alternatively, select 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. In our case, we will be reviewing blank and multiple responses.

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 blank response in row three for question 19. If you look at the **Image Viewer**, you see that the respondent truly did leave this question blank. Therefore, no changes are necessary. Press **Enter** or click the **NEXT** button to continue.

4. The next exception is a multiple response in row four for question 24. Look at the Image Viewer to see the intended response. In this case, it looks like the respondent changed his response from **D** to **A** by crossing out the original mark and filling in a second bubble. We will assume that **A** is the intended response. Select **A** from the drop-down list (or type "A").

5. Press **Enter** or click the **NEXT** button to continue.

6. The next piece of flagged data is a multiple response in row ten for question 5. It appears that the respondent changed his response from **C** to **E** by crossing out the original mark and filling in a second bubble. We will assume that **E** is the intended response. Select **E** from the drop-down list (or type "E").

7. Press the **Enter** key or click the **NEXT** button. There are no more exception cases in the data.

8. When prompted, click the **Save Changes** button to save your changes.
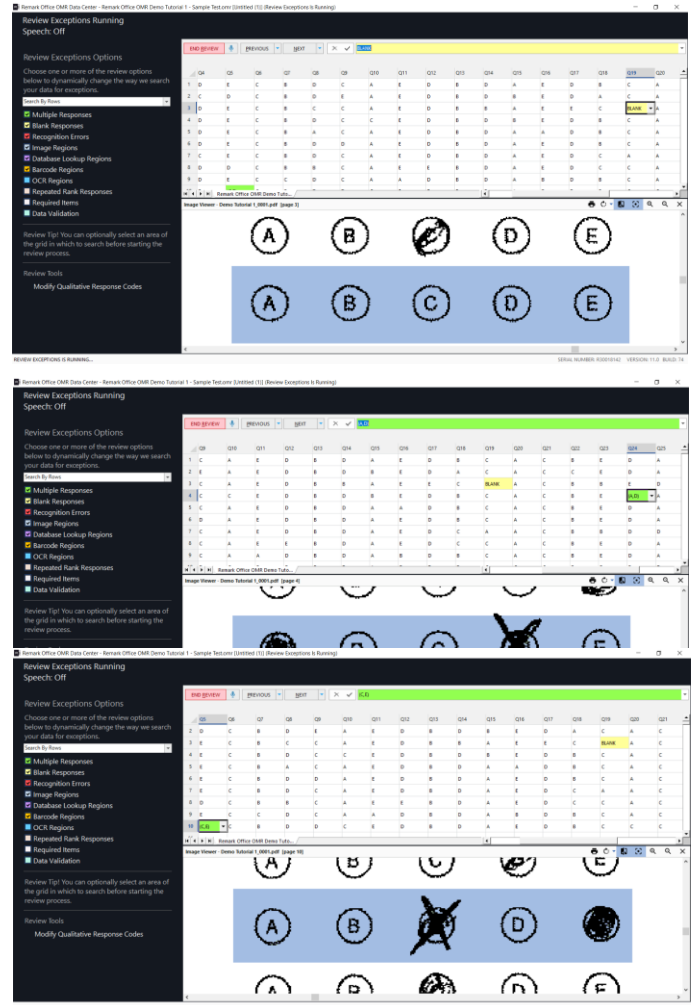
Your data is now ready to be saved and analyzed.

The demo version of Remark Office OMR does not allow data to be saved. In the full version of the product, you can save your data to many file formats, including Microsoft SQL Server, Access, Excel, SPSS®, CSV, Oracle, and others. We will continue on to analysis of the data.

Grading the Exam Data

Remark Office OMR provides statistical analysis functionality for grading data from your forms. The **Quick Grade** feature is one such facility and provides you with a choice of standard reports based on your data. It uses the first row of data as the answer key.

- **Note:** There is an Advanced Grade feature that allows for full customization of the grading process, including changing point values, adding extra credit, setting up learning objectives, applying benchmarks, using multiple test versions, and more.

To grade the exam data

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

The **Remark Quick Stats** window appears.

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 OMR Grid region as an Analysis Respondent ID. This report provides a nice overview of how your class is performing.
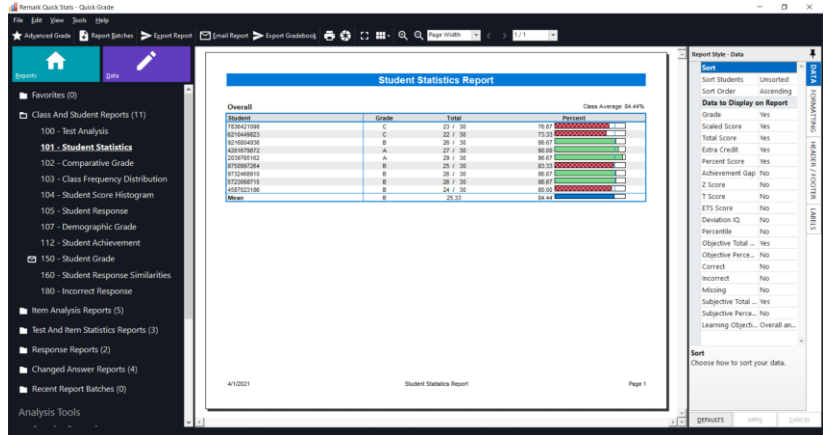

Next, we will look at the Student Grade Report.

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. If defined, learning objectives are tracked, as well as subjective and extra credit points.
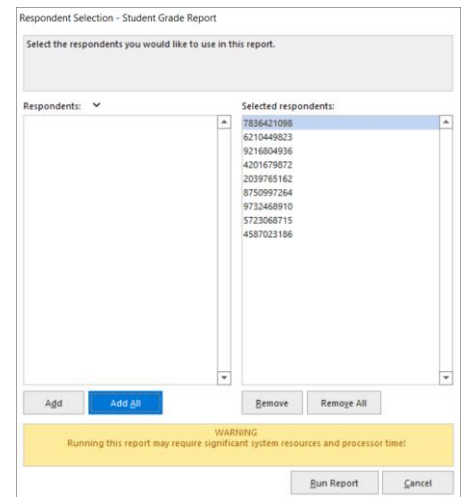
There are other reports available that we encourage you to view by clicking their links in the Task Pane. Note that you can experiment with the report options in the **Report Style** pane. In the full version of the software, you can export the reports to several formats, including PDF, Excel, RTF, and TIF. In addition, there is a Report Batch option that allows you to filter the data on up to three items in your data set and then automatically generate, print, and/or export the resulting reports. You can also export grades to various gradebook programs.

Tutorial Summary

This tutorial illustrated the basics of using the software, including:

- Creating a form template

    - OMR grid regions

    - OMR multiple choice regions

- Processing forms

- Using Review Exceptions to clean data

- Grading exams with Quick Grade

    - Student Statistics Report

    - Student Grade Report

You have completed the Remark Office OMR tutorial. We hope that this tutorial has given you an overview of how the software works. The full version of Remark Office OMR has many more features to help you grade all different kinds of tests. Please note that the demo you are using can also be used with your own forms. Please visit our website for more product information or to purchase. For a full functioning trial of the software, please contact our sales department. We are always happy to look at the forms you want to process and answering any questions you may have.