

Please solve the following problems by midnight on Sunday, July 31.

Excel: Please submit the following problems in separate workbooks named “HW 9 Problem 1 Solution”, “HW 9 Problem 2 Solution”, etc.

1. Using the concepts from Chapter 43 in Winston and the Cantoso.xlsx data file answer the following:

Cantoso Ltd. produces microchips. Five types of defects (labeled 1 – 5) have been known to occur. Chips are manufactured by two operators (A and B) using four machines (1-4). You are given data about a sample of defective chips, including the type of defect, the operator, machine number, and day of the week the defect occurred. **Use this data to chart a course of action that would lead, as quickly as possible, to improved product quality.** Include the narrative for your suggestions with the pivot tables that support your ideas. You should use a PivotTable to “stratify” the defects with respect to the type of defect, day of the week, machine used, and operator working. You might even want to break down the data by machine, operator, and so on. Assume that each operator and machine made an equal number of products. You’ll find this data in the Cantoso.xlsx

2. Using the concepts from Chapter 43 in Winston and the Hospital.xlsx data file, answer the following:

You have been assigned to evaluate the quality of care given to heart attack patients at Emergency Room (ER) and Chicago Hope (CH). For the last month you are given the following patient data:

- Hospital (ER or CH).
- Risk category (see high or low). High-risk people are less likely to survive than low-risk people.
- Patient outcome (live or die).

Use this data to determine which hospital is doing a better job of caring for heart attack patients. Hint: use all the data. The data is the file called hospital.xlsx

3. Using the concepts from Chapter 43 in Winston answer the following:

The Dow.xlsx data contains the values of the Dow Jones Index for January 2 through August 10, 2010. Create a line sparkline to show the ups and downs of the market. Then, below the line sparkline, use a win/loss sparkline to show the ups and downs of the market. Please make the cells displaying the sparklines wide enough see what is going on. Comment on what the different views of the same data highlights for you.

4. The Crimedata.xlsx file contains annual violent crimes, property crimes and murders in the United States. Using the concepts from Chapter 52 in the Winston text and this data, create a graph showing the number of crimes each year. Use check boxes to control which series are plotted. Your graph should look something like the one attached and show only the selected crime types when one or more check boxes is selected:

VBA: Please submit these as three separate workbooks cleverly named as HW 9 Problem 5 and HW 9 Problem 6.

Please study chapter 11 in the VBA for Modelers text that you were to purchase on-line before attempting these problems.

5. Create a user form that contains the usual OK and Cancel buttons. It should also contain a list box of the type where the user is allowed to select only one item from the list. Write a **UserForm-Initialize** sub that populates the list with the states Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, Pennsylvania, and Wisconsin (in this order), and selects Indiana by default. Then write the event handlers for the buttons and code in a module so that when the program runs, the user sees the form. If she chooses an item from the list and clicks OK she should see a message such as “You live in Ohio”. If she clicks cancel you should see the message, “You must not live in a Big Ten state” (The source of this problem, your text, may be out of date as to what constitutes a Big Ten state).

6. Create a MultiPage UserForm that has 3 pages, one labeled “Cool”, one labeled “Not Cool” and one labeled “Difficult”. Each page should have a Run Button that prints out a MsgBox that says “This page is named “ and the page name. There should be a “Cancel” button on the overall UserForm that cancels the form. Finally, there should be a button on the Documentation Sheet that runs the UserForm.

Do not forget your run buttons and your documentation sheets.