**CPSC 275**

**Fall 2015**

**Assignment 8: Titanic**

Due: November 2

*Overview*

You’ll create a program that will allow the user to see information about passengers aboard the Titanic. The application should consist of three combo boxes so the user can choose which passengers they would like information about. It should also have three buttons for printing: Page Setup, Print Preview, and Print.

*Application Design*

You will use the database Titanic.accdb (available on Canvas) to complete this project. It contains information about the 1313 passengers that were aboard the Titanic (crew members are not included in the database).

Your form should have three combo boxes: the first is for class—this should include First, Second, Third or All. The second is for Sex, which should include Female, Male, or All. The third is for Age, which should include Child, Adult, Unknown, or All. Child should show all passengers whose age is known and are under 18, Adult should show all passengers whose age is known and are 18 and over, and unknown should only include passengers whose age is not known.

When the user prints, the program should print all passengers who meet the criteria, with the report format described below. Page Setup and Print Preview should work as expected.

*Report Format*

The printout should have a header that appears on the first page only and includes your name, for example “Titanic Passengers - Biff” in larger font at the top. On the next line, it should give the criteria, such as “All Classes – Male - Adult” This can be in whatever font you feel looks best.

Below that should be a header for the columns, in bold. The column headers should be displayed on under the report header on the first page, and then on the other pages at the top.

Below the column headers, each passenger’s information should be printed out. This should include the name, age, class, sex, and survival. If age is not known, list show a dash (“-“) under the age column. Survival should be listed as either Yes or No.

Finally, at the very end of the report (just once—not on each page), there should be a survival percentage for all of the passengers in the report: “Listed passengers survival rate: 34%”

The columns should fit across a typical width in landscape view (for example, 1 inch margins). If the user changes the page settings to make the width too small to fit the columns on a page, you do not need to wrap the line—instead, the text should be clipped so that the margins are correct, although some information may be lost. If there are many passengers in the report, you will need to print multiple pages to display them all.

*Notes*

A couple of things to highlight with the assignment:

* Be aware of capitalization with your values. The database has sex in all lower-case letters, so if you use == to compare it to a dropdown with capital letters, it will appear that nobody matches. You can have your dropdown in all lower-case letters, or compare them in a case-insensitive way (for example, there is a version of .Equals that ignores case).
* If a value is null in the database (meaning the information isn’t there), it actually returns a special DBNull rather than our standard null. You can use DBNull.Value to see if something is null in the database: if (row[“Room”] == DBNull.Value) . . .   
  Name, Class, Sex, and Survived have values for every person in the database, so you only need to worry about Age possibly being null.

*Code Readability*

As with all assignments this semester, your code should be easily readable. The code should have a set of comments at the top, noting your name, the assignment number, and a brief description of the program. All variables should be named appropriately: given a brief, descriptive name. The only exceptions should be loop variables which may be named i, j, etc. Lastly, each independent piece of code should have a brief comment describing it. This means that every method, loop, and if statement should have at least one comment, describing what it does. Complex sections of code may need additional comments.

*Submitting the Assignment*

Name your application A8\_LastName (A8\_Hodges for example). Submit your solution to Canvas. Submit a printout of your code as well as the printouts listed below.

You should also submit the printout from running the program with:

* First class female children