Object Oriented Programming
Assignment 01 - Creating Table for Data

1   Assignment Goal

The purpose of this assignment is to gather a complete understanding of Inheritance and effective Graphical User Interface to represent data. If done properly, You will understand the strength of OOP and that being the reuse of code through inheritance.
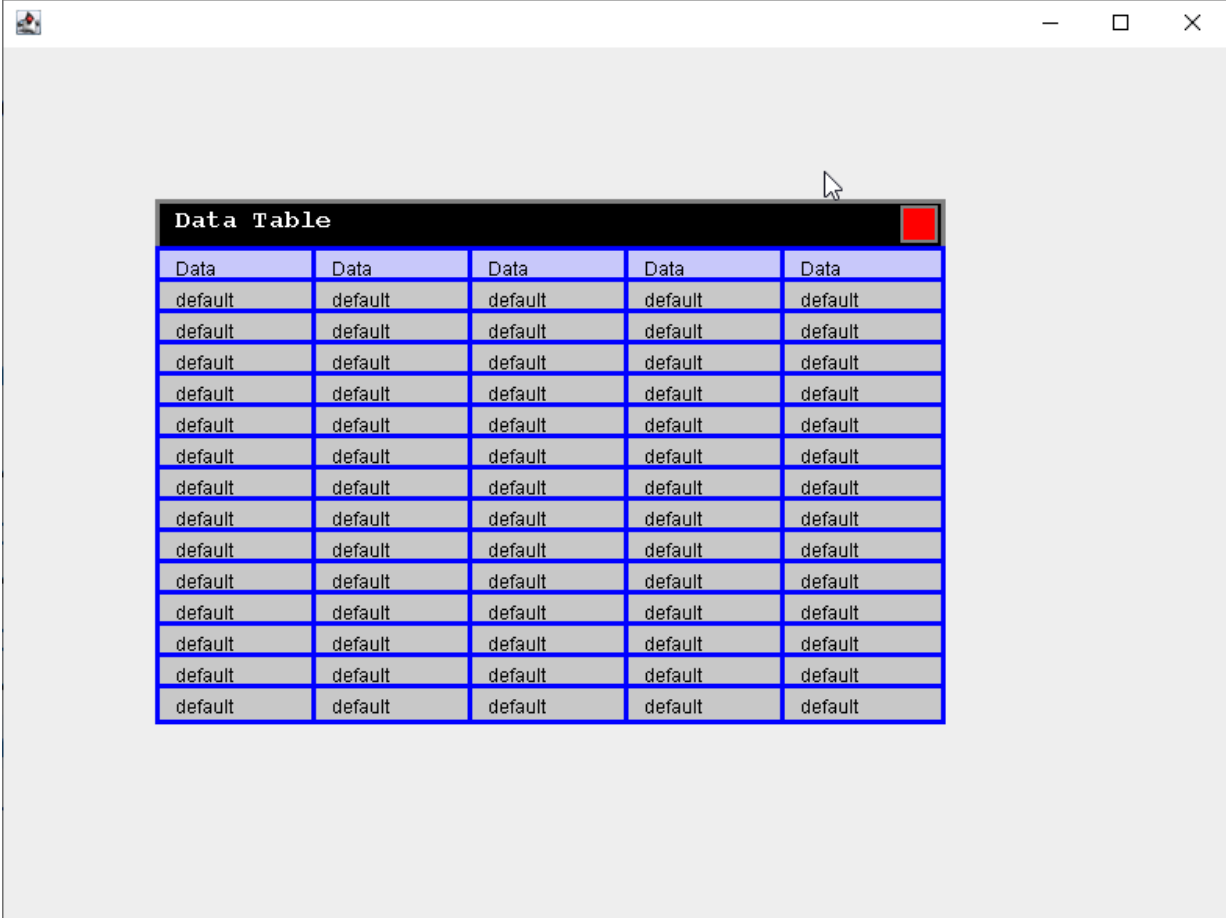
You can access Java Documentation at this link.

For all the graphics, you will need to read the Java Documentation at this link.

You can read about Fonts through the Java Documentation at this link.

2   The Task

In this assignment, you will create the table given below:

Figure 1: Table with no data

The starting point of your assignment will be the Cell class and the Point class. The UML for both the classes is given below:
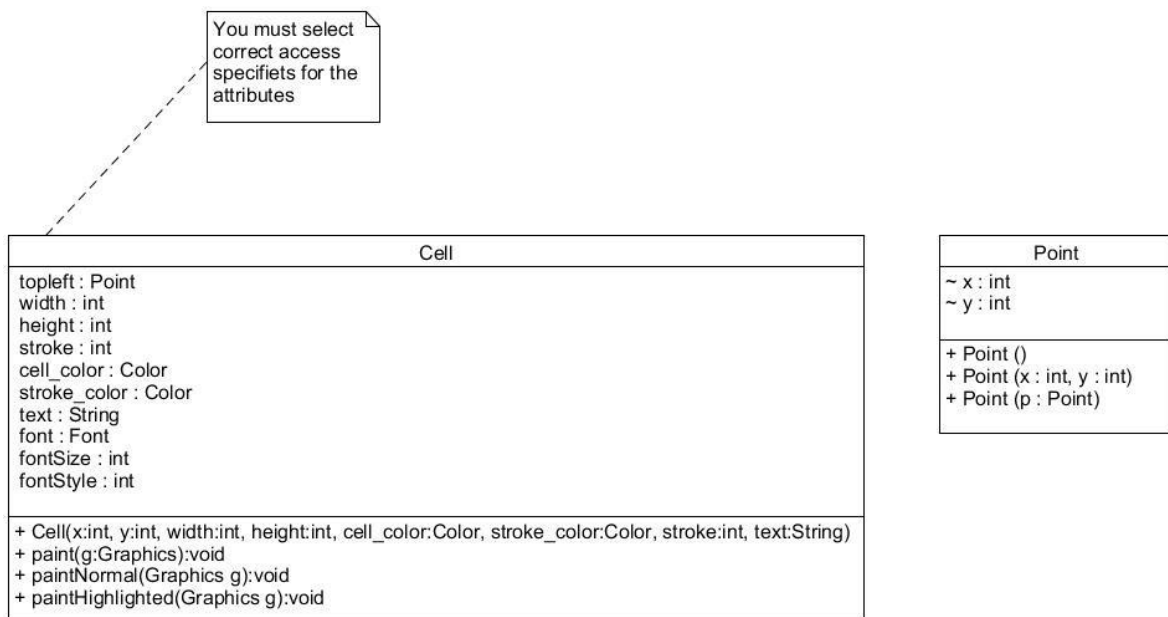

Figure 2: UML for the starting classes

Keep in mind that you will need to carefully select the access specifiers for the attributes of the Cell class.

You will need to define the following classes as well:

- TitleBar (TitleBar will inherit from Cell and will also contain a red closing button)
- Table (The table will be made of a TitleBar and Cells)
- DrawingCanvas (you will draw everything on this canvas)
- DrawingManager (Contains the main function)

Keep in mind that the red button will not function but will be part of the TitleBar. Its position will automatically change with the length of the TitleBar.

3   Critical Points

Make use of the **DrawingProject.zip** uploaded on LMS to write your code. You will need to satisfy the following conditions:

1. You will read all the data from a text file. Hence you can give any data of any length in the text file and the program should be able to load it.

2. If the file has no data it will display a default table as shown in Figure 1.

3. If there is data, then the text in the TitleBar will be changed to represent what the table is about.

4. the text of the TitleBar will always be bold.

5. The first row of the data will always be of a different color than the rest of the rows and will contain the title of all the column values.

6. The number of rows and columns will change according to the rows and columns in the text file.

7. The table will always stay within the bounds of the window.

8. The size of the cells will change as per the number of rows and columns.

9. the size of the text will also change as per the number of rows and columns.

10. the user will be able to define all the colors of all the elements may that be border, cell, text or TitleBar color.

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4   Submission

The deadline of the assignment is 19th of February at 11:55 pm. There will be no extensions and no late submissions will be accepted. You should complete the assignment at least a day before the submission deadline.

You will zip the source folder and name it as your name ERP.zip. Suppose your name is John Doe and your ERP is 12345, then the name of your file should be John_Doe_12345.zip. You will then upload it to LMS before the deadline.

- · If you upload the wrong file, you will not get any marks.
- · If at the last moment LMS does not work, you will not get marks. LMS tends to fail at the last moment as everyone is uploading files. The load makes it crash so avoid uploading the files at the last moment. If you choose to take that risk, then it will be your choice.
- · Do not email me your assignments or upload them on dropbox, they will not be checked
- · if the size of the files is too big, you are uploading files that are not required so remove those files from the zip file and then upload them.
- · if your files are not in a zip file, they will not be checked.

Keep in mind that any attempt at plagiarism or collusion will cause you to automatically fail the course, hence write your own code.