Chapter 5 Problem Set

Note: When you turn in an assignment to be graded in this class, you are making the claim that you neither gave nor received assistance on the work you turned in (except, of course, assistance from the instructor or teaching assistants).

Develop a class named Graph that extends Canvas, a built in class in the Python package tkinter. You will use this class Graph as the parent class to GraphBar and GraphPie. Calling these two classes will build and display in a graphical window either a bar chart or pie chart from the information provided. Each graph has the following information:

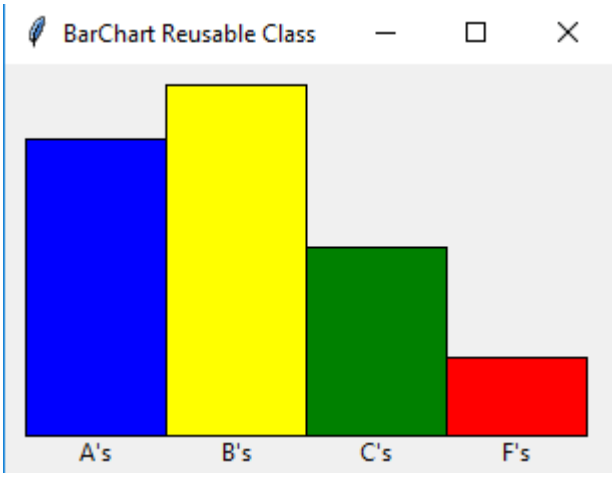
- data, which consists of a 2-dimensional list containing a value, a title for the value, and a color for the graph. Here is an example: data = [[6, “A’s”, “blue”], [7, “B’s”, “yellow”],[4, “C’s”, “green”], [2, “F’s”, “red”]]
- width of the window
- height of the window

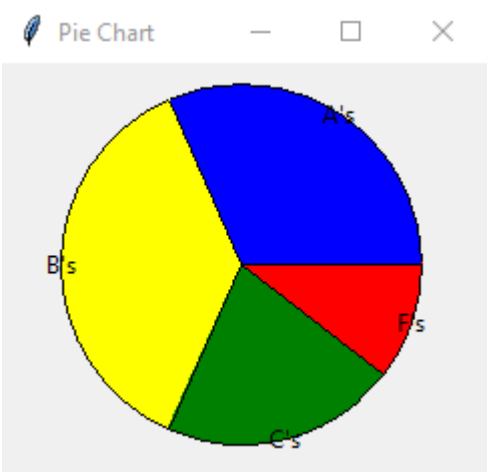
The parameter list for Graph is: Graph(parent, data, width = x, height = y), where Graph is a subclass of Canvas and parent would be window and x and y are window dimensions, and data is a list as described above.

The only difference between GraphBar and GraphPie is the graph that is created. Please make sure that when constructing the graphs you only use the methods available through Canvas. Utilizing other packages/tools is not allowed.

Your program will read in a text file containing the following information on each line separated by tabs: graphType, data (2-dimensional list), width, and height. From this input your program will construct the appropriate object and display the graph of that object. See the sample displays below.

Please let me know what questions you might have. I have attached some sample Python files for your reference.





Grading Rubric:

Category	Points
Proper use of classes	20
Use of inheritance	20
Correct reading input file	10
Proper use of canvas to draw graphs	20
Correct or output based on input	20
Appropriate layout of graphs	10
Total	100