CS 1213-01 Program #4
Fall 2018

Due: October 10 at class time.

Assignment

Write a Python program to calculate statistics concerning the weights of newborn bison in an animal science research project. The user will enter the weight in pounds for each of several bison in the study. Any negative number will serve as a sentinel to mark the end of the input. The program will calculate and display the average weight of the bison. It will also count the bison in each of three size categories: small (less than 40 pounds), medium (40 to 50 pounds), and large (more than 50 pounds). In addition to the average weight and the category counts, it will compute and print the weight of the heaviest bison in the study.

Input

The user will enter the bison weights on the keyboard at run time. Your program must work correctly for an arbitrary number of entries. Prompt the user for each entry. The prompt must include a sequence number, beginning with #1 for the first entry. See the example on the next page. The user will enter only the weights, not the sequence numbers. The program must compute and display the correct sequence numbers.

The user will enter an arbitrary negative number to serve as a sentinel at the end of the data. The sentinel must not be included in the statistics.

Output

The program must compute and display the average weight, the number of small bison, the number of medium bison, the number of large bison, and the weight of the heaviest bison. Use the output format that is illustrated by the sample on the next page.

Sample Run

The following page shows how the screen must look when your program runs. You must strictly follow this format, wording, spacing, and alignment, including the number of decimal places on the numbers. The characters in red are typed by the user. The other characters are output by the program.

Sample Run

```
Bison weights
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Weight #1: 42.0
Weight #2: 51.7
Weight #3: 48.1
Weight #4: 37.5
Weight #5: 45.0
Weight #6: 49.9
Weight #7: 59.2
Weight #8: 30.0
Weight #9: 39.9
Weight #10: 50.0
Weight #11: 49.0
Weight #12: -1

Average weight: 45.7

Small bison : 3
Medium bison: 6
Large bison : 2

Heaviest bison: 59.2
```

Instructions for Turning in Your Project

I will not grade your project and you will receive a score of 0 if you do not comply with these instructions. You must turn in all materials by class time on the due date for them to be counted on time. Your submission is not complete—and I will not grade it—until you have turned in all the required materials. Anything that is not turned in by class time will be marked at least one day late and will receive a grading penalty as specified in the syllabus.

Turn in these things:

- Upload your Python program to Canvas.
- Turn in a hardcopy of your Python program at class time on the due date. Your hardcopy must match the electronic copy that you upload to Canvas.
- Turn in a printed, completed copy of the project form along with your hardcopy on the due date. There is a blank project form in *Handouts* on Canvas.