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Description

Purpose

This project is designed to teach you how to devise, implement, and submit solutions to the simple programming problem of constructing a software that collect the result of dice throws. It aims at making sure that you master the simple concepts of control structures and data manipulation before introducing more advanced concepts.

Challenge

In short

Develop a simple program that asks the user how many sides their dice has, how many time they will throw it, and what the result of those throws are, with user-input validation.

In more details

1. Your program should start by asking the user how many sides their dices has. The only valid values are 4, 6, 8, 10, 12 and 20.

2. Once the user is done providing this information, it should ask how many times they intend to throw the dice. Of course, only a strictly positive number of throws is allowed.

3. Then, your program should ask the user to enter the result of their throws, one by one, knowing that the numbers entered should be between 1 and the number of sides of their dice (both included).

4. Once the user entered all their throws, your program should display:

   (a) A simple table summarizing their throws,
   (b) The average of their throws.

Submission

Please, follow our guideline on project submission[1]. In particular, make sure you write your name and the date in a delimited comment at the beginning of your file.

Example

Here is an example of execution, where the user input is u n d e r l i n e d, and hitting "enter" is represented by "↵ ":

```
How many sides does your dice have?
Valid choices are 4, 6, 8, 10, 12 or 20.
5 ↵
How many sides does your dice have?
Valid choices are 4, 6, 8, 10, 12 or 20.
6 ↵
You picked a 6 sided dice.
How many times will you throw it?
- 1 ↵
How many times will you throw it?
3 ↵
Enter the 3 throws, one by one, separated by new lines.
Enter throw #1. 5 ↵
Enter throw #2. H o l d   o n ↵
Enter throw #2. - 1 ↵
Enter throw #2. 1 0 ↵
Enter throw #2. 1 ↵
Enter throw #3. 6 ↵
You made the following throws:
| Value | Number of throws |
|   1   | 1
|   2   | 0
|   3   | 0
|   4   | 0
|   5   | 1
|   6   | 1
Your average is 4.

Press any key to continue...
```

Note that it is ok if you cannot reproduce this output *exactly*, however you should pay attention to the way it handles improper values, and try to reproduce this behaviour.

[1]https://princomp.github.io/projects/submission

Bonuses

- Improve the way the statistics are displayed using string formatting[2].
- Display the smallest throw and the largest throw (in our example, 1 and 6 would be displayed).
- Display actual error message when the user enters an incorrect value (for example, you could display "please enter a positive number of throws" if the user entered -1, and "please, enter a number" if the user enters "I don't know").

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[2]https:/princomp.github.io/labs/OverflowAndUnderflow#optional-string-formatting