

CS 101 Homework #5

Deadline: October 26th, 9:00 pm. Save your code as lastname_homework5.py and submit on Edmodo.

Questions/Tasks:

- For this homework, please, avoid using the IF statements even if you know how to do that.
- Use f-strings approach when printing your output

1) *Using the while loop*, print the square and cube of all numbers between 10 and 20 (included). Your output should look like this: "The square of 10 is 100. The cube of 10 is 1000."

2) Ask the user for their favorite month of the year, favorite number, and favorite animal. Create a passcode that is a concatenation of the three strings, for example "may4cat". Using the while loop, ask the user to enter the correct passcode. The user should be allowed to proceed only when the correct passcode is entered.

3) *Using the while loop*, produce the following output:

```
*
**
***
****
***
**
*
```

Hint: you will actually need to use two while loops: first increasing and second decreasing. You may have to experiment a bit before getting it right!

4) *Using the while loop*, produce the following output (which should look like rhombus).

```
  *
 * *
* * *
* * * *
 * * *
  * *
   *
```

5) Ask the user to enter two integers. Then ask the user to calculate the product of the two integers. The user has three attempts to give a correct answer. If the correct answer is not given the program terminates providing a correct answer to the user. Program requirements:

- *Do not use IF statements.*
- *Implement error handling for all user input (initial numbers and the product).*
- *Use the while loop for getting the correct initial input.*
- *Use the while loop for getting the correct solution (also remember the maximum of three attempts).*