Exercises Week 1-3 (Loops)

EX.3-1 Multiplication table

Open VSC then -> File -> Open folder -> select "Python course" folder.

Create a new file "ex3-1.py"

TASK: Create a Python program that takes a numeric value as user input. The program should display the multiplication table for this number, showing the results of multiplying the number with integers from 1 to 10.

(*) use FOR loop

EXAMPLE:

```
*************************
Enter any whole number: 5
Multiplication Table for 5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
*************************
```

EX.3-2 Star pyramid

Create a new file "ex3-2.py"

TASK: (1) Create a Python program that displays the following sequence:

(*) Use double FOR loop.

(**) you can add strings the same as numbers: "*" + "*" + "*" = "***"

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

(2) Modify your code to display following sequence:

(*) Use negative step.

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

EX.3-3 Bingo card
Create a new file "ex3-3.py"

TASK: Create a Python program that displays the Bingo card with random numbers (1-99):

 (*) use random

EXAMPLE:

```
---------------------------
| 79 | 69 | 60 | 85 | 18 |
---------------------------
|  2 | 45 | 67 | 72 | 88 |
---------------------------
```

EX.3-4 "Guess the number" game

Create a new file "ex3-4.py"

TASK: Write a Python program to implement the "Guess the Number" game. The program should randomly choose a number between 1 and 20, and the player needs to guess this secret number. Provide hints (too high/too low) to help the player narrow down their guesses. Track the number of attempts made by the player and display the secret number and the total attempts when the player successfully guesses the number.

(*) Randomize the secret number between 1 and 20 using the random.randint() function from the random module: https://www.w3schools.com/python/ref_random_randint.asp

(**) Use a *WHILE* loop to keep asking for guesses until the correct number is guessed.

EXAMPLE:

```
**************************************
Welcome to the Guess the Number game!
**************************************

I have chosen a number between 1 and 20. Can you guess it?
Enter your guess (between 1 and 20):10
Too high! Try again.
Enter your guess (between 1 and 20):5
Too low! Try again.
Enter your guess (between 1 and 20):7
Congratulations! You guessed the number 7 in 3 attempts.
```