Exercises Week 1-2

EX.2-1 Positive or negative

Open VSC then -> File -> Open folder -> select “Python course” folder.

Create a new file “ex2-1.py”

TASK: Write a Python program that prompts the user to enter any numeric value. The program should then determine if the value is positive, negative, or zero, and display the result accordingly.

Example:

```
Enter any numeric value: 123
This number is positive
```

TEST the program with positive, negative and zero values. Try to enter non-numeric value -> error

EX.2-2 Discount calculator

Create a new file “ex2-2.py”

TASK: Create a Python program that takes the user's input for the total sum of money spent. If the total is greater than or equal to 500, apply a 10% discount and calculate the discounted total. Display the discount amount and the final total to pay after the discount.

EXAMPLE:

```
Enter the total sum of money spent: $500
Discount applied: $50.0 (10.0%)
Total to Pay after Discount: $450.0
```

TEST the program:

(1) sum = 100 -> discount = 0
(2) sum = 500 -> discount = 10.00, to pay after discount = 450.00
(3) sum = 1000 -> discount = 10.00, to pay after discount = 900.00

EX.2-3 Programming inspirator

Create a new file “ex2-3.py”

TASK:

(1) Ask your user to input any programming language.

If the language is “JavaScript”, the inspiration is "You can become a Web Developer."

If the language is “PHP”, the inspiration is "You can become a Backend Developer."

If the language is “Python”, the inspiration is "You can become a Data Scientist."

If the language is “Solidity”, the inspiration is "You can become a Blockchain developer."

If the language is “Java”, the inspiration is "You can become a Mobile App Developer."

Otherwise, the inspiration is "The language doesn't matter, what matters is solving problems."

Display the inspiration.

(2) (Optional) Research the **match** statement**:** https://www.educative.io/answers/what-is-a-match-case-statement-in-python
Re-write your code using match-case statement.

EXAMPLE:

```
Enter the programming language: Java
You can become a Mobile App Developer
```

EX.2-4 Grade calculator

Create a new file “ex2-4.py”

TASK: Create a Python program that takes the user's exam mark (a percentage between 0 and 100) as input and determines the corresponding grade based on the following criteria:

- If the mark is greater than or equal to 90%, the grade is "A+".
- If the mark is greater than or equal to 80% and less than 90%, the grade is "A".
- If the mark is greater than or equal to 70% and less than 80%, the grade is "B".
- If the mark is greater than or equal to 60% and less than 70%, the grade is "C".
- If the mark is greater than or equal to 50% and less than 60%, the grade is "D".
- If the mark is less than 50%, the grade is "Fail".

Display the determined grade based on the input mark.

EXAMPLE:

```
Enter your exam mark (0-100): 99
Your grade is A+
```

```
Enter your exam mark (0-100): 120
Incorrect input: the mark must be a number between 0 and 100%.
```

TEST the program with different numeric values including incorrect input :-1, 120.