Day 10

Functions in Python:

What is a Function?

A function is a block of reusable code that performs a specific task. Instead of writing the same code again and again, we put it inside a function and reuse it.

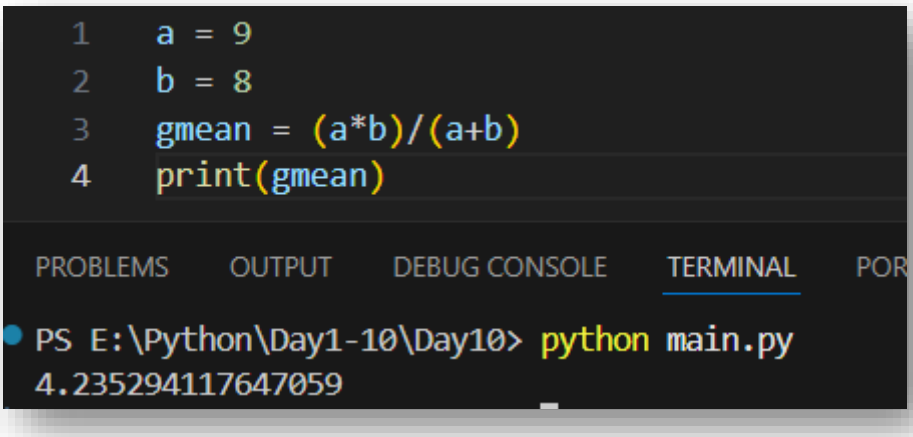
Why do we need Functions?

- To avoid repetition
- To make code clean and organized
- To reuse code
- To make programs easy to understand

Types of Functions:

1. **Built-in functions:** Examples: print(), len(), input()
2. **User-defined functions:** Functions created by the programmer

Example: Geometric mean without using the functions.



Creating a Function (def): Syntax

```
def function_name():
    # code
```

Example: calculating the geometric mean using the functions in python.

```python
def gmean(a, b):
    mean = (a * b) / (a + b)
    print(mean)

a = 9
b = 8
gmean(a,b)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS E:\Python\Day1-10\Day10> python main.py
4.235294117647059
```

Example: code to compare the two numbers without using functions.

```python
a = 8
b = 9
if(a>b):
    print("First number is greater")
else:
    print("Second number is greater")
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS E:\Python\Day1-10\Day10> python main.py
Second number is greater
```

Example: code to compare the numbers using functions.

```python
def isGreater(a, b):
    if(a > b):
        print("First number is greater")
    else:
        print("Second number is greater")
a = 8
b = 9
isGreater(a, b)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS E:\Python\Day1-10\Day10> python main.py
Second number is greater
```

Example:

```
21  def isGreater(a, b):
22      if(a > b):
23          print("First number is greater")
24      else:
25          print("Second number is greater")
26  c = 8
27  d = 9
28  isGreater(c,d)
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS E:\Python\Day1-10\Day10> python main.py
Second number is greater
```

Example: we uses “pass” for things we don’t want to write as of now.

```
30  def isLove():
31      pass
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS E:\Python\Day1-10\Day10> python main.py
PS E:\Python\Day1-10\Day10>
```

Example:

```
33  def greet():
34      print("Hello, Welcome to Python")
35  greet()
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS E:\Python\Day1-10\Day10> python main.py
Hello, Welcome to Python
```

--The End--