

**Name : SAMRA NAZ**

**Intern ID : TN/IN01/PY/008**

**Email ID : naazsamra01@gmail.com**

**Internship Domain : python  
project**

**Instructor Name : Hassan ALI**

- **Task 1:**

**Create a function `square\_numbers` that takes a list of numbers and returns a list of their squares.**

**Description**

This function `square_numbers` takes a list of numbers as input and returns a new list containing the square of each number using list comprehension.

**Output**

```
1 def square_numbers(numbers):
2     return [num ** 2 for num in numbers]
3 nums = [2, 3, 4, 5]
4 squared = square_numbers(nums)
5 print(squared) # Output: [4, 9, 16, 25]
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● PS C:\Users\naaazs\Documents\internship2task5> & C:/Python
[4, 9, 16, 25]
○ PS C:\Users\naaazs\Documents\internship2task5>
```

## Task 2:

Create a function `'is_even_or_odd'` that takes a number and returns whether it is even or odd.

### description:

- Takes a number as input.
- Checks if it's even or odd using the modulus operator `%`.
- Returns "Even" if the number is divisible by 2, otherwise returns "Odd".

### Output

```
even odd C:\Users\naazs\Documents\internship2task5\squarenumfun.py
1 #Task 2:Create a function `is_even_or_odd` that takes a number and returns whether it is even or odd.
2
3 def is_even_or_odd(number):
4     if number % 2 == 0:
5         return "Even"
6     else:
7         return "Odd"
8
9 # Example usage:
10 num1 = 7
11 print(f"{num1} is {is_even_or_odd(num1)}") # Output: 7 is Odd
12
13 num2 = 10
14 print(f"{num2} is {is_even_or_odd(num2)}") # Output: 10 is Even
15
16 num3 = 0
17 print(f"{num3} is {is_even_or_odd(num3)}") # Output: 0 is Even
18

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\naazs\Documents\internship2task5> & C:/Python/Python313/python.exe "c:/Users\naazs/Documents/internship2tas
7 is Odd
10 is Even
0 is Even
PS C:\Users\naazs\Documents\internship2task5>
```

- **Task 3:**

**Write a function `calculate\_area` that takes radius and returns area of a circle.**

**description:**

- Takes the radius of a circle as input.
- Calculates the area using the formula  $\pi * r^2$ .
- Returns the calculated area.

**Output**

```
parameter task3.py > ...
1  # Task 1:Write a function `calculate_area` that takes radius and returns area of a circle.
2
3  import math
4
5  def calculate_area(radius):
6      return math.pi * radius * radius
7
8  # Function ko call karna aur output print karna
9  radius = 5 # yahan koi bhi number de sakte hain
10 area = calculate_area(radius)
11 print(f"The area of the circle with radius {radius} is {area:.2f}")
12
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\naazs\Documents\internship2task5> & C:/Python/Python313/python.exe "c:/Users/naazs/Documents/inter
The area of the circle with radius 5 is 78.54
PS C:\Users\naazs\Documents\internship2task5>
```

- **Task 4:**

Write a function ``greet_user(name, age)`` that returns a greeting like: 'Hello Ali, you are 20 years old.'

- Takes a user's name and age as input.
- Returns a greeting message in the format:  
"Hello samra, you are 20 years old."

**Output**

```
task4 parameter.py > ...
1  #Task 2:Write a function `greet_user(name, age)` that returns a greeting like: 'Hello Ali, you are 20 years old.'
2
3  def greet_user(name, age):
4      return f"Hello {name}, you are {age} years old."
5
6  # Function ko call karna aur output print karna
7  message = greet_user("samra", 20)
8  print(message)
9
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\naazs\Documents\internship2task5> & C:/Python/Python313/python.exe "c:/Users/naazs/Documents/internship2task5/task4 paramete
Hello samra, you are 20 years old.
PS C:\Users\naazs\Documents\internship2task5>
```

- **Task 5:**

Create a function `change_counter()` that modifies a global counter variable.

**description:**

- Uses a global variable `counter`.
- The function increases (increments) the counter by 1.
- Uses the `global` keyword to modify the global variable inside the function.

**Output**

```
task5.py > ...
1 #Task 1: Create a function `change_counter()` that modifies a global counter variable.
2 # Global variable
3 counter = 7
4
5 def change_counter():
6     global counter
7     counter += 1 # Counter ko 1 se increase kar raha hai
8
9 # Function ko call karna
10 print(f"Counter before: {counter}")
11 change_counter()
12 print(f"Counter after: {counter}")
13
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

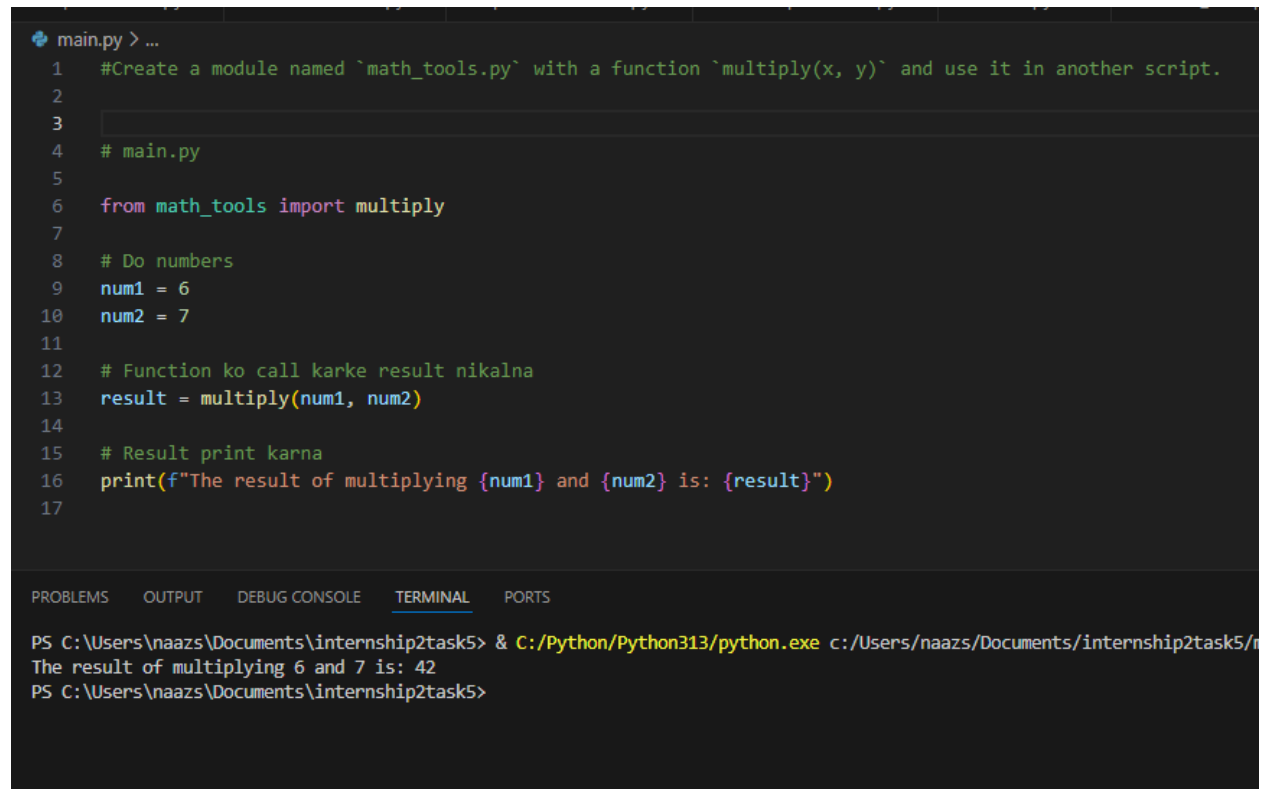
```
● PS C:\Users\naazs\Documents\internship2task5> & C:/Python/Python313/python.exe c:/Users/naazs/Documents/3
Counter before: 7
Counter after: 8
○ PS C:\Users\naazs\Documents\internship2task5>
```

- **Task 6:**

Create a module named `math_tools.py` with a function `multiply(x, y)` and use it in another script.

- Created a module named `math_tools.py` containing a function `multiply` that multiplies two numbers.
- In another script (`main.py`), imported the `multiply` function and used it to multiply two numbers, then printed the result.

## Output



```
main.py > ...
1  #Create a module named `math_tools.py` with a function `multiply(x, y)` and use it in another script.
2
3
4  # main.py
5
6  from math_tools import multiply
7
8  # Do numbers
9  num1 = 6
10 num2 = 7
11
12 # Function ko call karke result nikalna
13 result = multiply(num1, num2)
14
15 # Result print karna
16 print(f"The result of multiplying {num1} and {num2} is: {result}")
17
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
PS C:\Users\naaazs\Documents\internship2task5> & C:/Python/Python313/python.exe c:/Users/naazs/Documents/internship2task5/main.py
The result of multiplying 6 and 7 is: 42
PS C:\Users\naaazs\Documents\internship2task5>
```