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Internship Domain : python

project

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- **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

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

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\naazs\Documents\internship2task5> & C:/Pyth
[4, 9, 16, 25]
PS C:\Users\naazs\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

```python
#Task 2:Create a function `is_even_or_odd` that takes a number and returns whether it is even or odd.

def is_even_or_odd(number):
    if number % 2 == 0:
        return "Even"
    else:
        return "Odd"

# Example usage:
num1 = 7
print(f"{num1} is {is_even_or_odd(num1)}")   # Output: 7 is Odd

num2 = 10
print(f"{num2} is {is_even_or_odd(num2)}")  # Output: 10 is Even

num3 = 0
print(f"{num3} is {is_even_or_odd(num3)}")  # Output: 0 is Even
```

```
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

```python
# Task 1:Write a function `calculate_area` that takes radius and returns area of a circle.

import math

def calculate_area(radius):
    return math.pi * radius * radius

# Function ko call karna aur output print karna
radius = 5  # yahan koi bhi number de sakte hain
area = calculate_area(radius)
print(f"The area of the circle with radius {radius} is {area:.2f}")

```

```
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

```python
#Task 2:Write a function `greet_user(name, age)` that returns a greeting like: 'Hello Ali, you are 20 years old.'

def greet_user(name, age):
    return f"Hello {name}, you are {age} years old."

# Function ko call karna aur output print karna
message = greet_user("samra", 20)
print(message)

```

```
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>
```

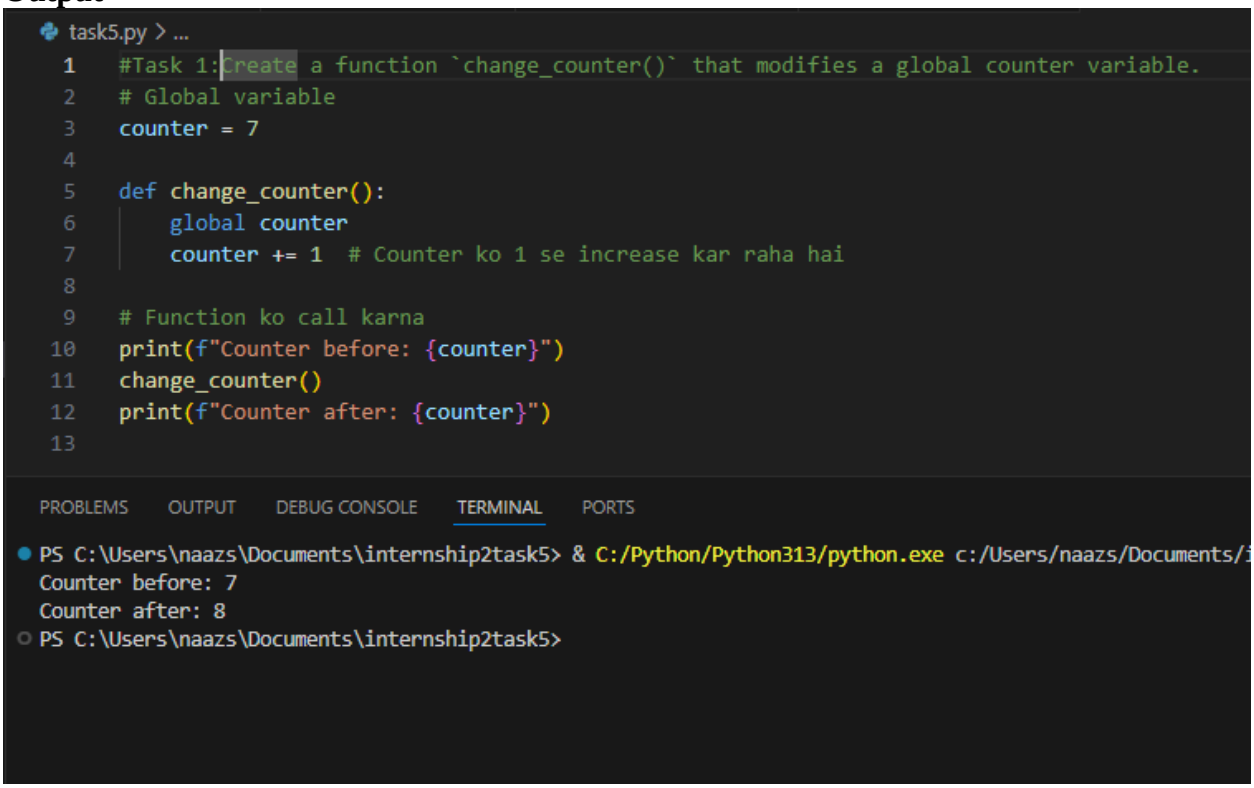
- **Task 5:**

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



- **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.

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