

Task Description #2

- A function in Python that returns the maximum of three numbers using GitHub Copilot. Use an appropriate comment as a prompt.

Expected Output #2

- Python function that takes three inputs and returns the largest value. Include the code and output.

Prompt : Generate a code for maximum of three numbers using function

CODE :

```
1  def maximum_of_three(a, b, c):
2      if a >= b and a >= c:
3          return a
4      elif b >= a and b >= c:
5          return b
6      else:
7          return c
8
9  # Accept three numbers from the user
10 num1 = float(input("Enter first number: "))
11 num2 = float(input("Enter second number: "))
12 num3 = float(input("Enter third number: "))
13
14 max_value = maximum_of_three(num1, num2, num3)
15 print("The maximum of the three numbers is:", max_value)
```

OUTPUT :

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\aravi\OneDrive\Desktop\aiac> & C:/Users/aravi/AppData/Local/
.11.exe c:/Users/aravi/OneDrive/Desktop/aiac/task_2.py
Enter first number: 65
Enter second number: 87
Enter third number: 34
The maximum of the three numbers is: 87.0
PS C:\Users\aravi\OneDrive\Desktop\aiac> █
```

Task Description #3

- Use GitHub Copilot to create a recursive Python function that calculates the factorial of a number.

Expected Output #3

- Python function for factorial using recursion with input and output examples.

Prompt : Generate a code for recursive Python function to calculate the factorial of a number and print the factorial of that number.

CODE :

```
1  def factorial(n):
2      if n == 0 or n == 1:
3          return 1
4      else:
5          return n * factorial(n - 1)
6
7  number = int(input("Enter a number: "))
8  result = factorial(number)
9  print(f"Factorial of {number} is {result}")
```

OUTPUT :

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\aravi\OneDrive\Desktop\aiac> & C:/Users/aravi/AppData/Local/Microsoft
aravi/OneDrive/Desktop/aiac/task_2.py
Enter a number: 5
Factorial of 5 is 120
PS C:\Users\aravi\OneDrive\Desktop\aiac> |
```

Task Description #4

- Prompt GitHub Copilot to create a class named Student with attributes name, roll_no, and marks. Add a method to display student details.

Expected Output #4

- Python class definition with an initializer and a display method. Include object creation and output.

Prompt : create a python code to create a class named Student with attributes name, roll_no, and marks. Add a method to display student details . And allow the user to enter the students details.

CODE :

```
1  class Student:
2      def __init__(self, name, roll_no, marks):
3          self.name = name
4          self.roll_no = roll_no
5          self.marks = marks
6
7      def display_details(self):
8          print(f"Name: {self.name}")
9          print(f"Roll No: {self.roll_no}")
10         print(f"Marks: {self.marks}")
11
12     def main():
13         students = []
14         n = int(input("Enter number of students: "))
15         for _ in range(n):
16             name = input("Enter student name: ")
17             roll_no = input("Enter roll number: ")
18             marks = float(input("Enter marks: "))
19             student = Student(name, roll_no, marks)
20             students.append(student)
21
22         print("\nStudent Details:")
23         for student in students:
24             student.display_details()
25             print("-" * 20)
26
27     if __name__ == "__main__":
28         main()
```

OUTPUT :

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\aravi\OneDrive\Desktop\aiac> & C:/Users/aravi/AppData/Local/Microsoft/Windows/
aravi/OneDrive/Desktop/aiac/task_2.py
Enter number of students: 2
Enter student name: varsha
Enter roll number: 5
Enter marks: 98
Enter student name: hari
Enter roll number: 7
Enter marks: 88

Student Details:
Name: varsha
Roll No: 5
Marks: 98.0
-----
Name: hari
Roll No: 7
Marks: 88.0
-----
PS C:\Users\aravi\OneDrive\Desktop\aiac> |
```

Task Description #5

- Ask GitHub Copilot to generate a Python function that takes a string as input and returns the frequency of each word.

Expected Output #5

- Python function that returns word frequency using a dictionary. Provide sample input and output.

Prompt : Generate a Python function that takes a string as input and returns the frequency of each word. And also the input should be dynamic and display the frequency of each word.

CODE :

```
1 def word_frequency(text):
2     words = text.split()
3     freq = {}
4     for word in words:
5         word = word.lower().strip('.,!?:;"\'()[ ]{}')
6         if word:
7             freq[word] = freq.get(word, 0) + 1
8     return freq
9
10 if __name__ == "__main__":
11     user_input = input("Enter a string: ")
12     frequencies = word_frequency(user_input)
13     print((variable) word: Any)
14     for word, count in frequencies.items():
15         print(f"{word}: {count}")
```

OUTPUT :

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\aravi\OneDrive\Desktop\aiac> & C:/Users/aravi/AppData/Local/
aravi/OneDrive/Desktop/aiac/task_5.py
Enter a string: hello world hello red blue red hello
Word Frequencies:
hello: 3
world: 1
red: 2
blue: 1
PS C:\Users\aravi\OneDrive\Desktop\aiac> =
```