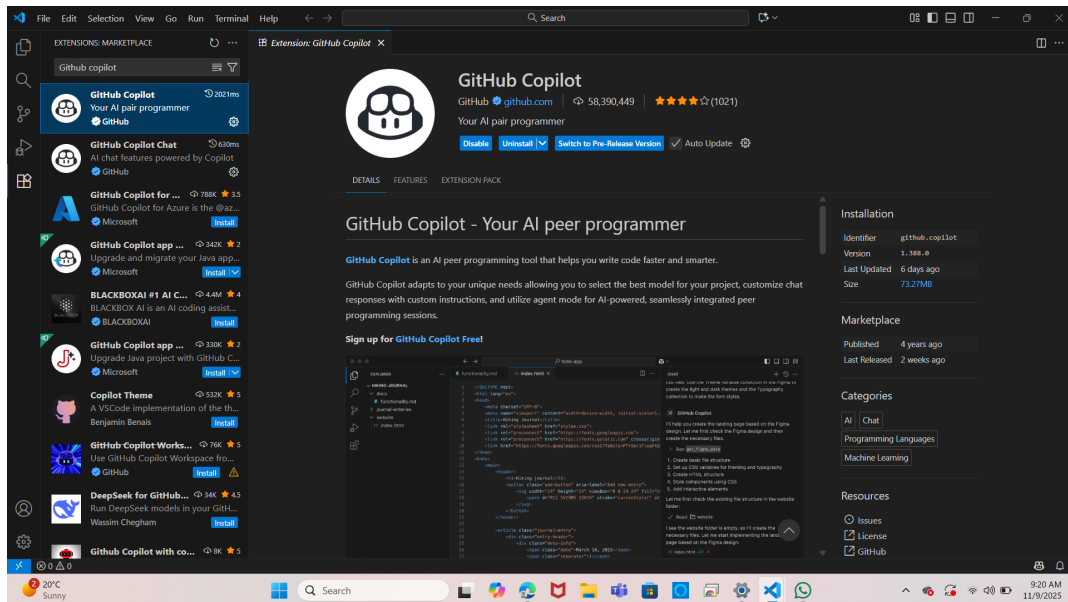
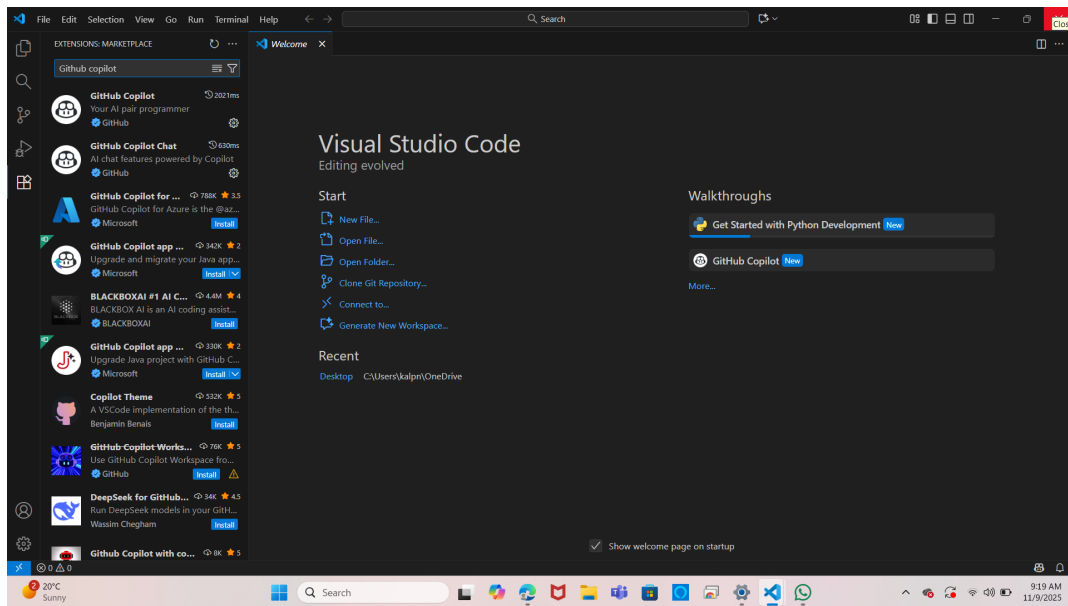


# AI Assisted Problem Solving Using Python - Lab 1

## Task #1: Environment Setup – GitHub Copilot and VS Code Integration

GitHub Copilot was successfully installed and configured in Visual Studio Code. Although the setup was completed earlier, screenshots have now been taken to demonstrate the installation and activation process. The following images show Copilot installation, activation, and usage for AI-assisted coding.



The screenshot shows the Visual Studio Code interface with the file explorer on the left displaying a project named 'AI\_Python\_lab'. The file 'is\_prime.py' is selected. The main editor window shows the code for the `is_prime` function, which checks if a number is prime by testing divisibility from 2 to  $\sqrt{n}$ . The terminal at the bottom shows the execution of the script, which prints `8 is_prime False`, `9 is_prime False`, and `10 is_prime False`. The chat panel on the right is open, showing a prompt to 'Ask about your code'.

```
1 #function to check a number is prime
2 #function to check a number is prime
3 def is_prime(n):
4     if n <= 1:
5         return False
6     for i in range(2, int(n**0.5) + 1):
7         if n % i == 0:
8             return False
9     return True
10 #test the function
11 for num in range(1,11):
12     print(num, "is_prime", is_prime(num))
```

```
8 is_prime False
9 is_prime False
10 is_prime False
PS C:\Users\kalpn\OneDrive\Desktop> & C:\Users\kalpn\AppData\Local\Programs\Python\Python312\python.exe c:\Users\kalpn\OneDrive\Desktop\AI_python_lab\reverse_string.py
ldrow_ollet
PS C:\Users\kalpn\OneDrive\Desktop> & C:\Users\kalpn\AppData\Local\Programs\Python\Python312\python.exe c:\Users\kalpn\OneDrive\Desktop\AI_python_lab\factorial_function.py
120
PS C:\Users\kalpn\OneDrive\Desktop> & C:\Users\kalpn\AppData\Local\Programs\Python\Python312\python.exe c:\Users\kalpn\OneDrive\Desktop\AI_python_lab\largest.py
8
PS C:\Users\kalpn\OneDrive\Desktop>
```

The screenshot shows the Visual Studio Code interface with the file explorer on the left displaying the same project. The file 'largest.py' is selected. The main editor window shows the code for the `largest_number` function, which finds the largest number in a list. The terminal at the bottom shows the execution of the script, which prints `Output: 8`. The chat panel on the right is open, showing a prompt to 'Ask about your code'.

```
1 #write a function to find largest number in a list
2 def largest_number(lst):
3     if not lst:
4         return None # Return None if the list is empty
5     largest = lst[0]
6     for num in lst:
7         if num > largest:
8             largest = num
9     return largest
10 #test the function
11 print(largest_number([3, 5, 2, 8, 1])) # Output: 8
12
```

```
8 is_prime False
9 is_prime False
10 is_prime False
PS C:\Users\kalpn\OneDrive\Desktop> & C:\Users\kalpn\AppData\Local\Programs\Python\Python312\python.exe c:\Users\kalpn\OneDrive\Desktop\AI_python_lab\reverse_string.py
ldrow_ollet
PS C:\Users\kalpn\OneDrive\Desktop> & C:\Users\kalpn\AppData\Local\Programs\Python\Python312\python.exe c:\Users\kalpn\OneDrive\Desktop\AI_python_lab\factorial_function.py
120
PS C:\Users\kalpn\OneDrive\Desktop> & C:\Users\kalpn\AppData\Local\Programs\Python\Python312\python.exe c:\Users\kalpn\OneDrive\Desktop\AI_python_lab\largest.py
8
PS C:\Users\kalpn\OneDrive\Desktop>
```

## Conclusion:

GitHub Copilot is now fully integrated with VS Code and functioning correctly. It has been used to generate and test Python functions such as `is_prime()`, `reverse_string()`, `factorial_function()`, and `largest_number()` as part of Lab Assignment 1.