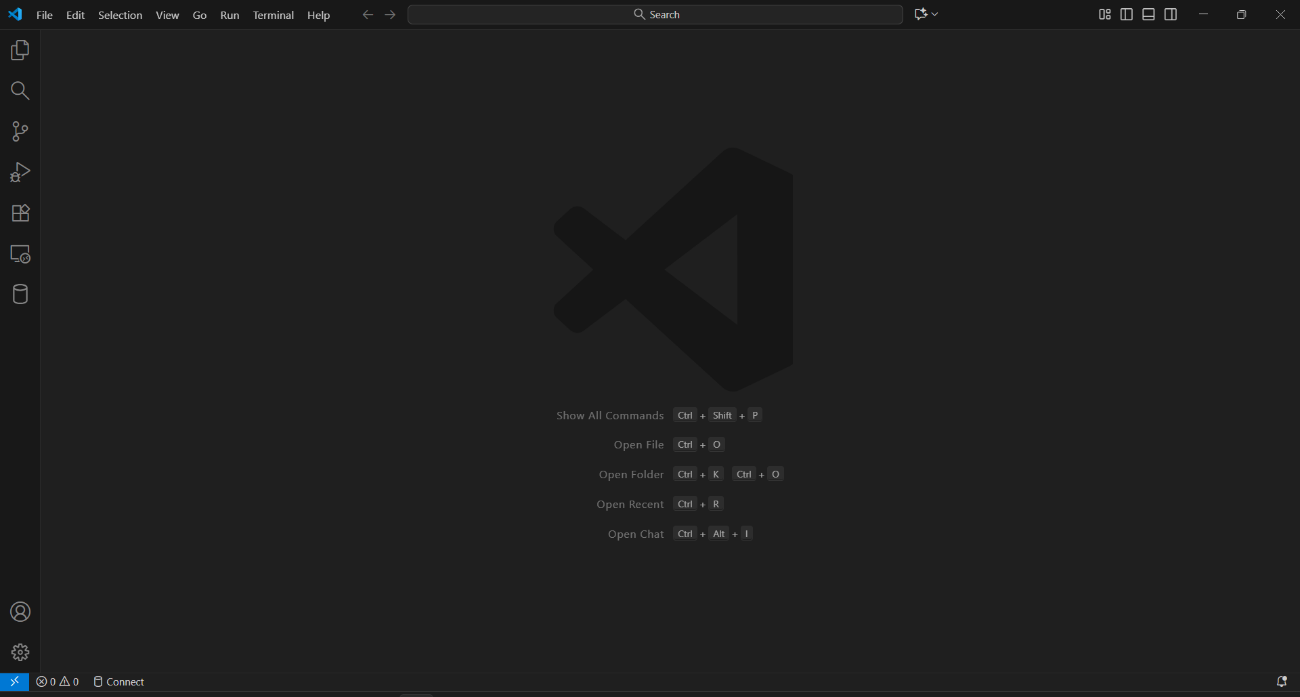
**Task 1**

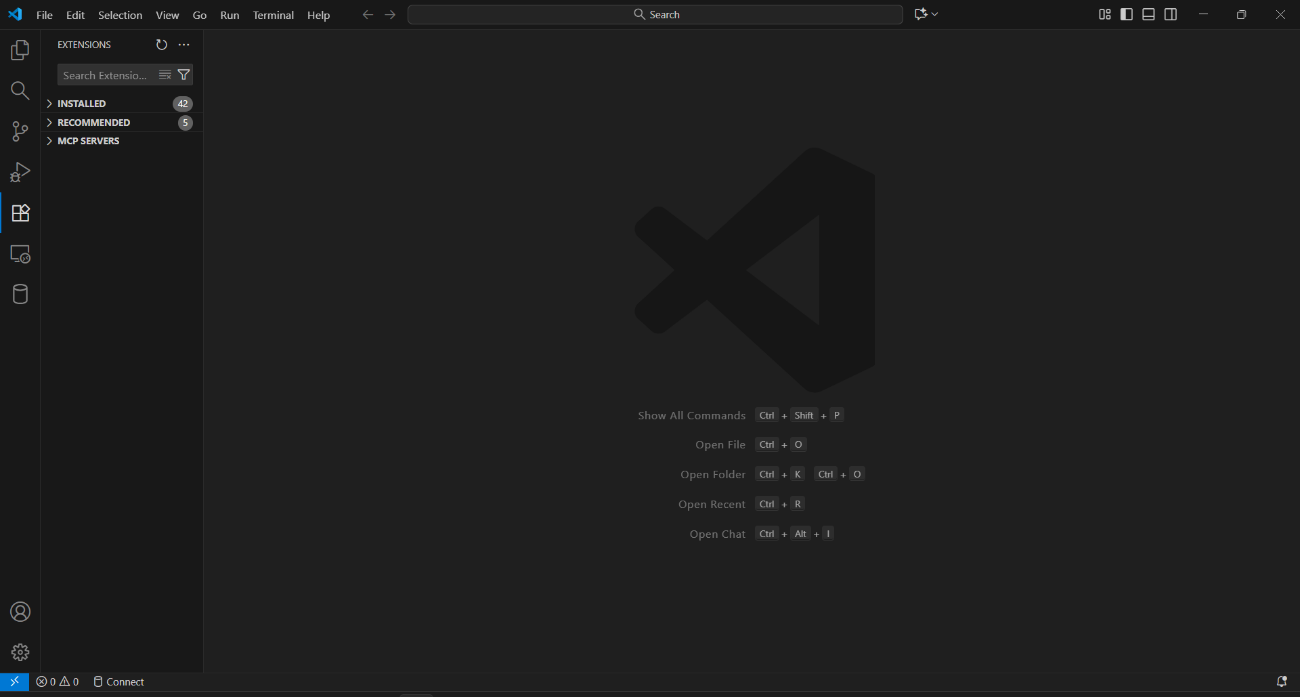
**Description:** Install and configure GitHub Copilot in VS Code. Take screenshots of each step.

**Expected Output:** Install and configure GitHub Copilot in VS Code. Take screenshots of each step.

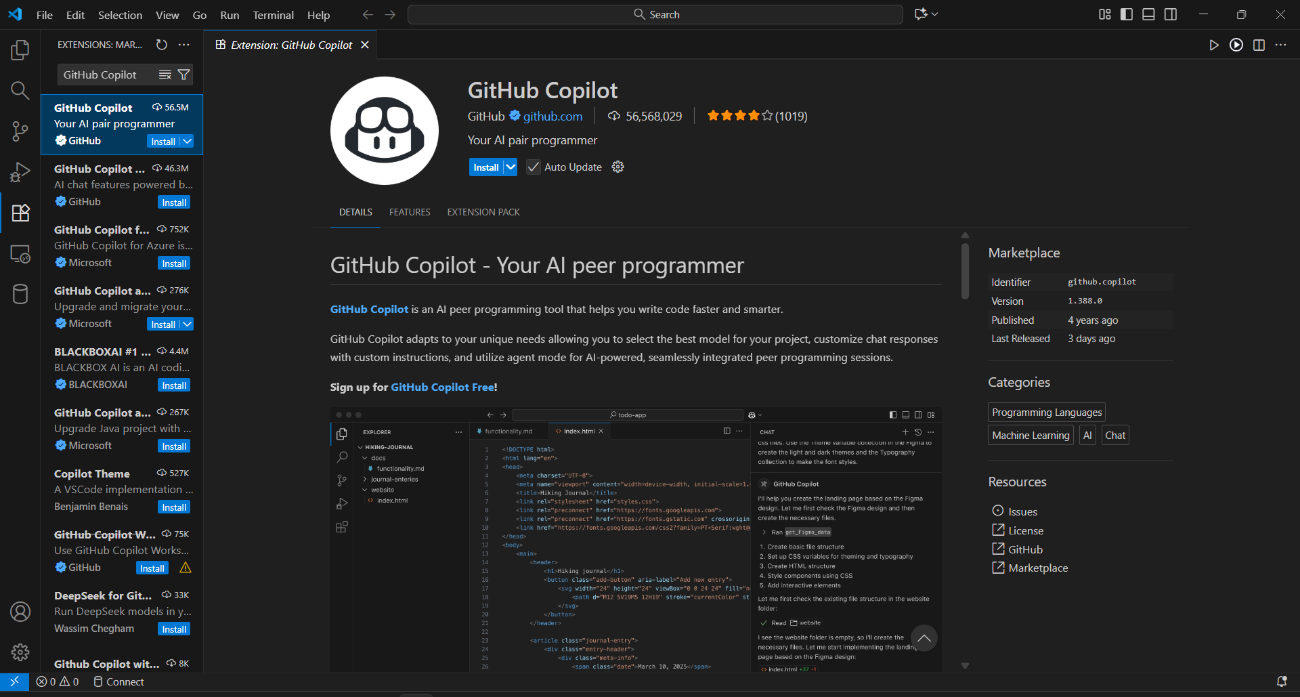
**Prerequisites:** Latest version of VS Code is installed, GitHub Account, Internet Connection

**Step 1:** Open VS Code

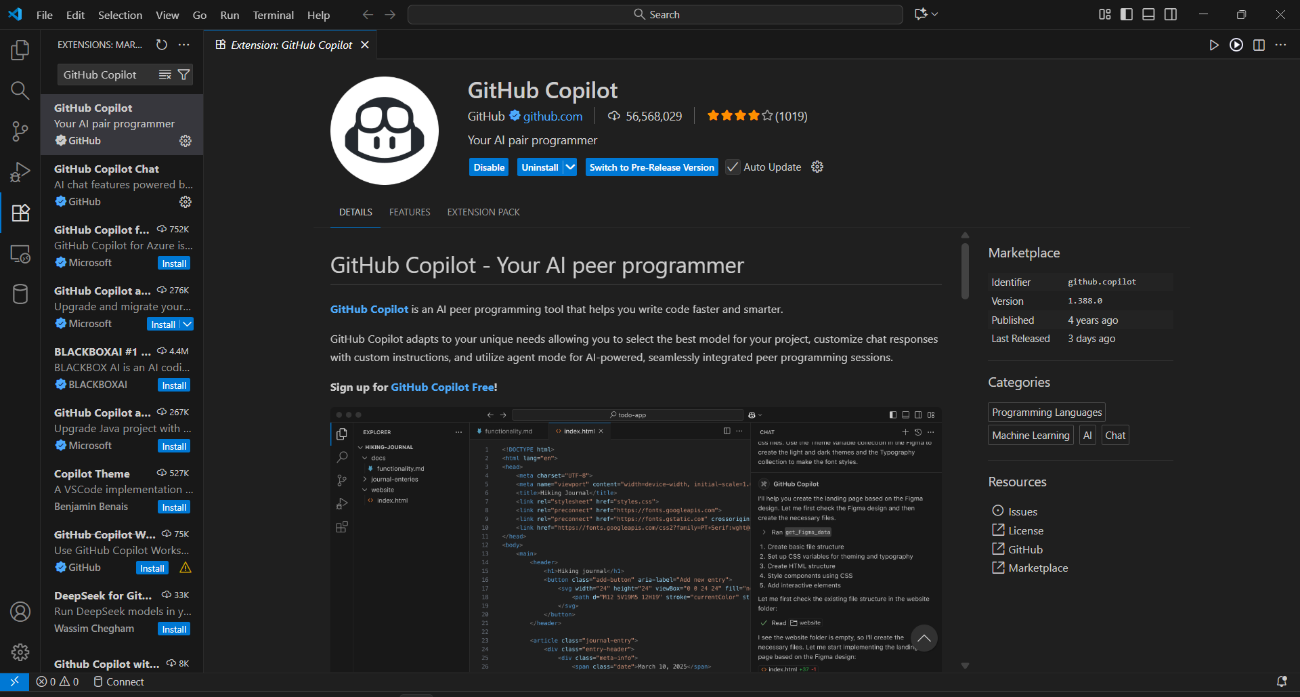
**Step 2:** Open the Extensions Tab

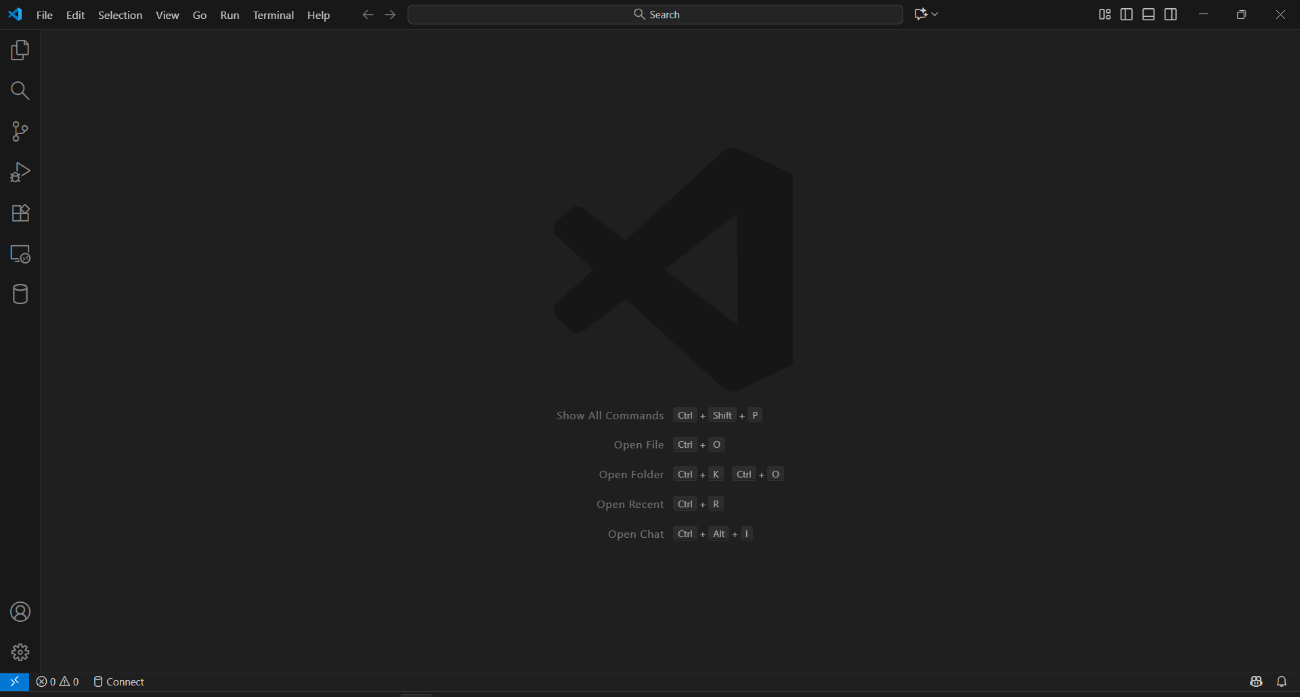


**Step 3:** Search for “GitHub Copilot”

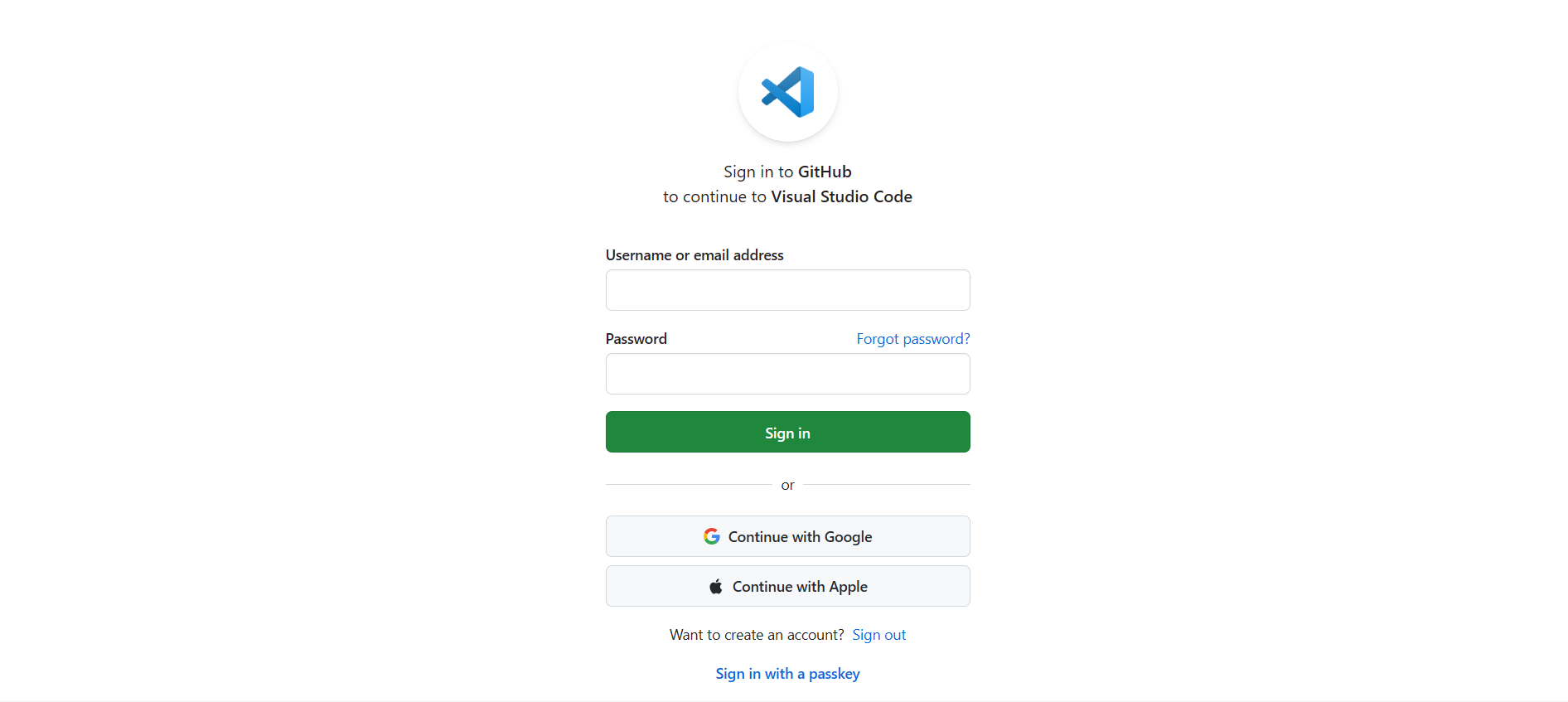


**Step 4:** Click on “Install” and wait for VS Code to install the GitHub Copilot Extension

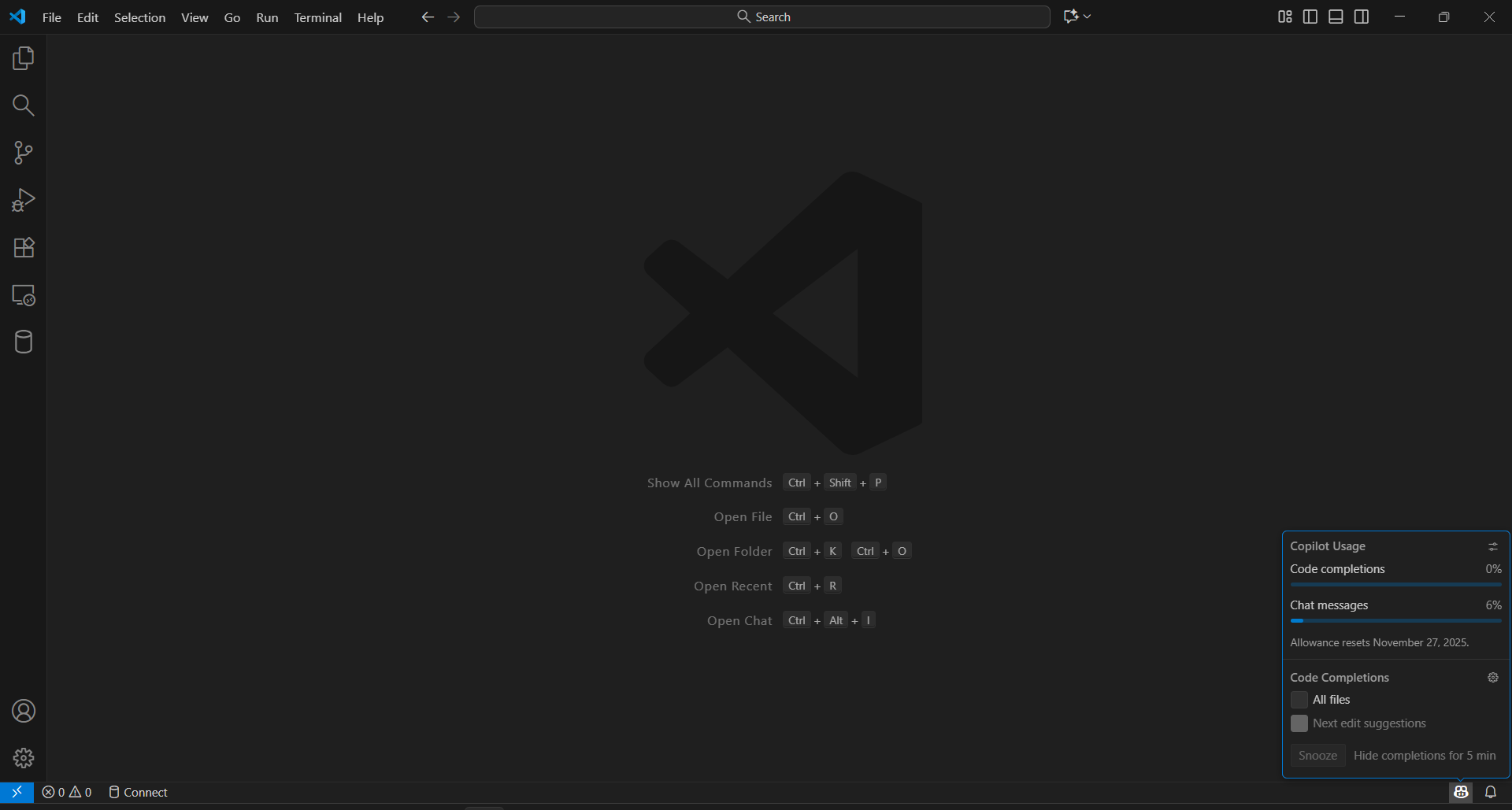


**Step 5:** Close and Reopen VS Code

**Step 6:** Sign-in and Authorize GitHub Copilot using the GitHub account



**Step 7:** GitHub Copilot is now Ready!

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**Task 2**

**Description:**  Use Copilot to generate a is\_prime() Python function.

**Expected Output:** Function to check primality with correct logic.

**Prerequisites:** Latest version of VS Code is installed, GitHub Copilot in VS Code, Internet Connection

**Prompt:** write code for the function named is\_prime(), that takes a number as an argument and checks whether the number is a prime number or not

**Co-Pilot (AI) Generated Code:**

def is\_prime(number):

    # Check if number is less than 2 (not prime)

    if number < 2:

        print(f"{number} is not a prime number")

        return False

    # Check for divisibility from 2 to square root of number

    for i in range(2, int(number \*\* 0.5) + 1):

        if number % i == 0:

            print(f"{number} is not a prime number")

            return False

    print(f"{number} is a prime number")

    return True

# Example usage:

is\_prime(29)

is\_prime(15)

**Output:**

29 is a prime number

15 is not a prime number

**Task 3**

**Description:** Write a comment like # Function to reverse a string and use Copilot to generate the function.

**Expected Output:** Auto-completed reverse function

**Prerequisites:** Latest version of VS Code is installed, GitHub Copilot in VS Code, Internet Connection

**Prompt:** Function to reverse a string

**Co-Pilot (AI) Generated Code:**

# Function to reverse a string

def reverse\_string(s):

    return s[::-1]

# Example usage

input\_string = "Hello, World!"

reversed\_string = reverse\_string(input\_string)

print("Reversed String:", reversed\_string)

# Output: !dlroW ,olleH

**Output:**

Reversed String: !dlroW ,olleH

**Task 4**

**Description:** Generate both recursive and iterative versions of a factorial function using comments.

**Expected Output:** Two working factorial implementations

**Prerequisites:** Latest version of VS Code is installed, GitHub Copilot in VS Code, Internet Connection

**Prompt:** Iterative and recursive function for factorial

**Co-Pilot (AI) Generated Code:**

# Iterative and recursive function for factorial

def factorial\_iterative(n):

    result = 1

    for i in range(2, n + 1):

        result \*= i

    return result

def factorial\_recursive(n):

    if n == 0 or n == 1:

        return 1

    else:

        return n \* factorial\_recursive(n - 1)

# Example usage

if \_\_name\_\_ == "\_\_main\_\_":

    number = 5

    print(f"Iterative Factorial of {number}: {factorial\_iterative(number)}")

    print(f"Recursive Factorial of {number}: {factorial\_recursive(number)}")

**Output:**

Iterative Factorial of 5: 120

Recursive Factorial of 5: 120

**Task 5**

**Description:** Use Copilot to find the largest number in a list. Assess code quality and efficiency.

**Expected Output:** A valid function with your review

**Prerequisites:** Latest version of VS Code is installed, GitHub Copilot in VS Code, Internet Connection

**Prompt:** Function to find the largest number in a list

**Co-Pilot (AI) Generated Code:**

# Function to find the largest number in a list

def find\_largest\_number(numbers):

    if not numbers:

        return None  # Return None if the list is empty

    largest = numbers[0]

    for number in numbers:

        if number > largest:

            largest = number

    return largest

# Example usage

numbers = [3, 5, 2, 8, 1]

largest\_number = find\_largest\_number(numbers)

print(f"The largest number in the list is: {largest\_number}")

**Output:**

The largest number in the list is: 8

**Code review:** The AI generated code consists of a function named find\_largest\_number() to find the largest number in a list. The function also handles empty list condition and returns None. The function initializes the first number in the list as the “largest” (largest number), then iterate and compare each number in the list with “largest” if a number is greater than “largest” then assign that number to largest. After the iteration is completed, the function returns the “largest” (largest number).