

Lesson 04 Demo 04

Creating a Function Using GitHub Copilot

Objective: To build a Python function that counts vowels in each string using GitHub Copilot in VS Code

Tools required: VS Code with GitHub Copilot

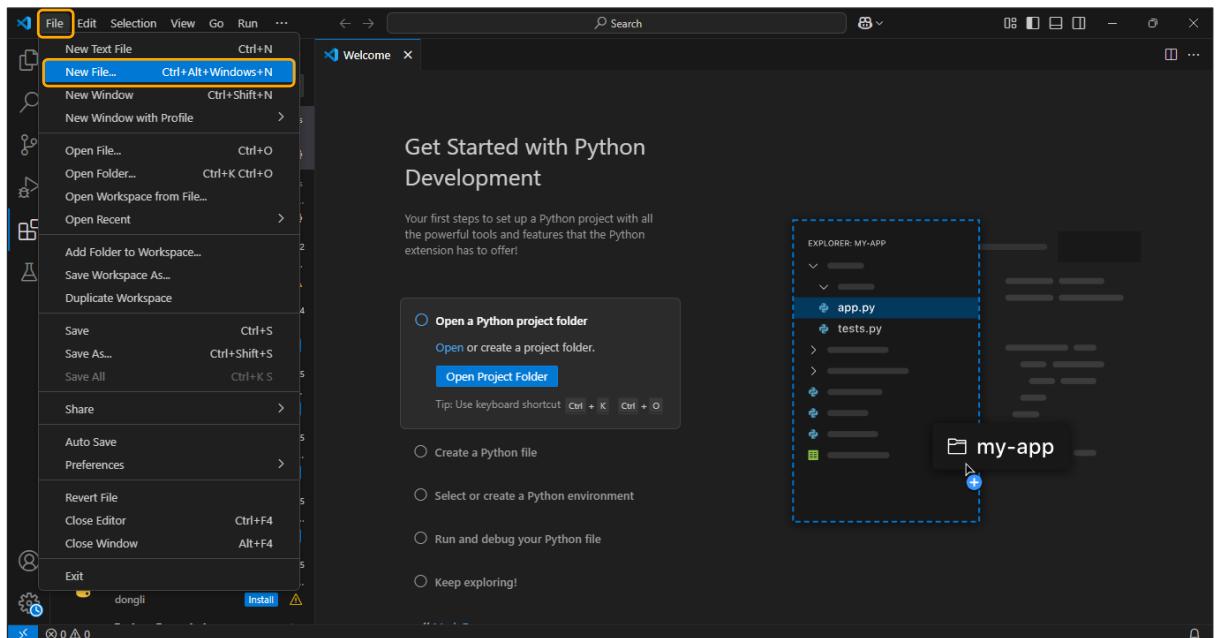
Prerequisites: None

Steps to be followed:

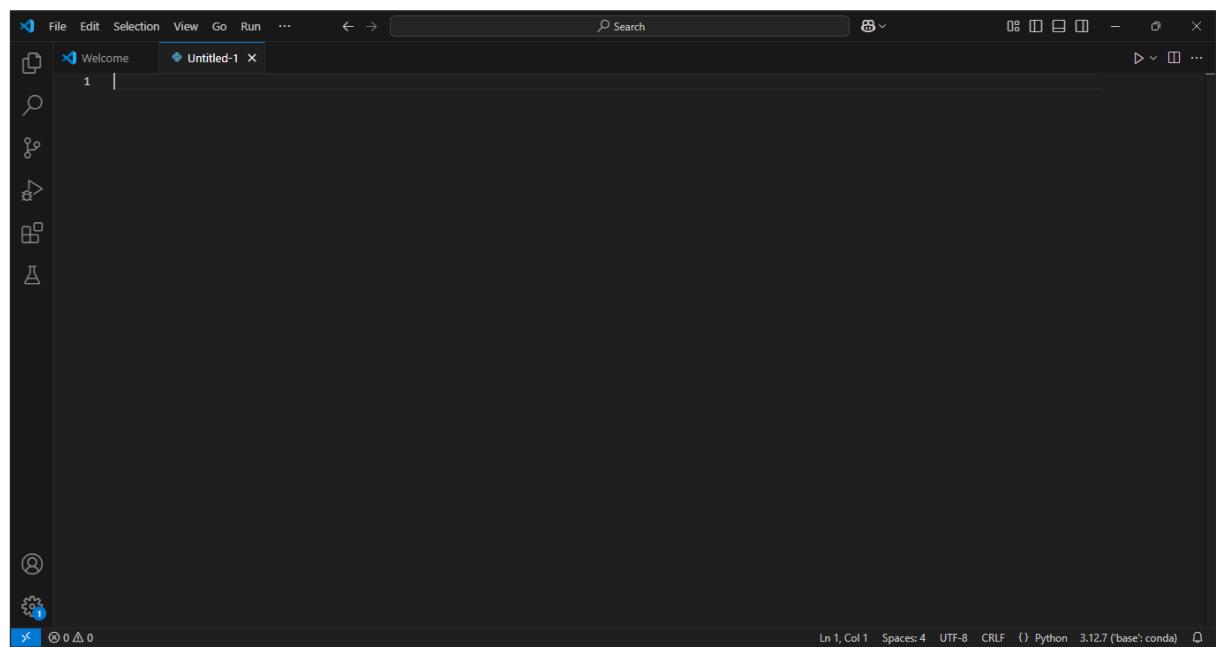
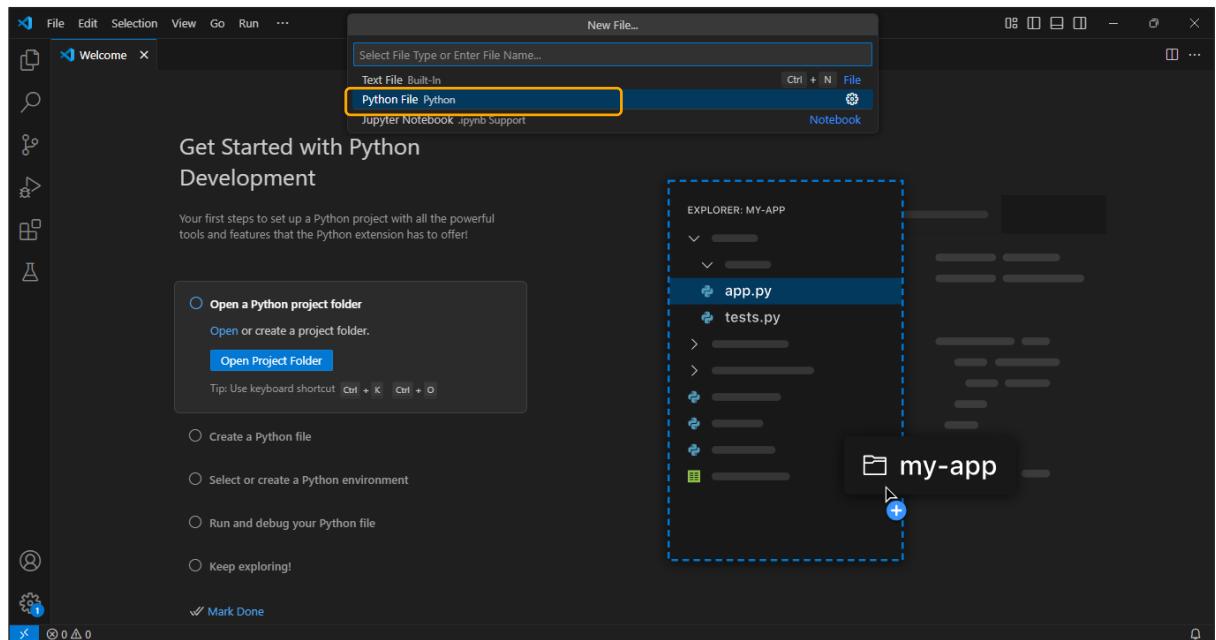
1. Launch VS Code and open a new file
2. Use Copilot to generate the function
3. Test the function

Step 1: Launch VS Code and open a new file

1.1 Launch VS Code and click on **File** and then **New File**



1.2 Select the **Python File** option from the name bar on top and a new Python file named Untitled-1 will open



Step 2: Use Copilot to generate the function

2.1 Write a comment describing a function so that Copilot can generate the function for you

Example comment:

Function to count the number of vowels in each string

```
1 # Function to count the number of vowels in each string
```

2.2 Press enter after writing the comment and wait for Copilot to suggest a function

```
1 # Function to count the number of vowels in each string
2 def count_vowels(string):
    vowels = 'aeiou'
    count = 0
    for char in string:
        if char in vowels:
            count += 1
    return count
```

2.3 Press tab to accept the suggestion. Copilot will generate a function that loops through the string and counts the vowels.

```
1 # Function to count the number of vowels in each string
2 def count_vowels(string):
3     vowels = 'aeiou'
4     count = 0
5     for char in string:
6         if char in vowels:
7             count += 1
8     return count
```

Step 3: Test the function

3.1 Add the following print statements to test the function with different inputs:

```
print(count_vowels("hello")) # Expected output: 2
print(count_vowels("Simplilearn")) # Expected output: 4
print(count_vowels("Python")) # Expected output: 1
print(count_vowels("AI-powered coding")) # Expected output: 5
```

```
# Function to count the number of vowels.py •
C: > Users > slp13801 > Downloads > # Function to count the number of vowels.py > ...
1 # Function to count the number of vowels in each string
2 def count_vowels(string):
3     vowels = 'aeiou'
4     count = 0
5     for char in string:
6         if char in vowels:
7             count += 1
8     return count
9
10 print(count_vowels("hello")) # Expected output: 2
11 print(count_vowels("Simplilearn")) # Expected output: 4
12 print(count_vowels("Python")) # Expected output: 1
13 print(count_vowels("AI-powered coding")) # Expected output: 5
```

3.2 Click the play button on the top-right corner to run the Python file in VS Code

The screenshot shows the VS Code interface with a Python file named 'Function to count the number of vowels.py' open in the editor. The code defines a function 'count_vowels' that iterates through each character in a string and increments a counter if the character is a vowel ('aeiou'). The script then prints the count for several test strings: "hello", "Simplilearn", "Python", and "AI-powered coding".

```
# Function to count the number of vowels.py
C: > Users > slp13801 > Downloads > # Function to count the number of vowels.py > ...
1  # Function to count the number of vowels in each string
2  def count_vowels(string):
3      vowels = 'aeiou'
4      count = 0
5      for char in string:
6          if char in vowels:
7              count += 1
8      return count
9
10 print(count_vowels("hello")) # Expected output: 2
11 print(count_vowels("Simplilearn")) # Expected output: 4
12 print(count_vowels("Python")) # Expected output: 1
13 print(count_vowels("AI-powered coding")) # Expected output: 5
```

The terminal window below shows the execution of the script and its output:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER COMMENTS
PS C:\Users\slp13801\OneDrive - Simplilearn Solutions Pvt Ltd\Desktop\PythonGame> & C:/Users/slp13801/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/slp13801/Downloads/# Function to count the number of vowels.py"
2
4
1
5
PS C:\Users\slp13801\OneDrive - Simplilearn Solutions Pvt Ltd\Desktop\PythonGame>
```

Note: The output in the terminal window should match the expected result.

By following these steps, you have successfully created a vowel-counting function using GitHub Copilot in VS Code. This demo showcased how Copilot can assist in auto-generating function logic, reducing coding time, and improving efficiency. You also learned how to test and validate AI-generated code to ensure accuracy. You can now experiment with Copilot by modifying the function to count consonants, detect special characters, or handle multilingual text, further enhancing your AI-assisted coding skills.