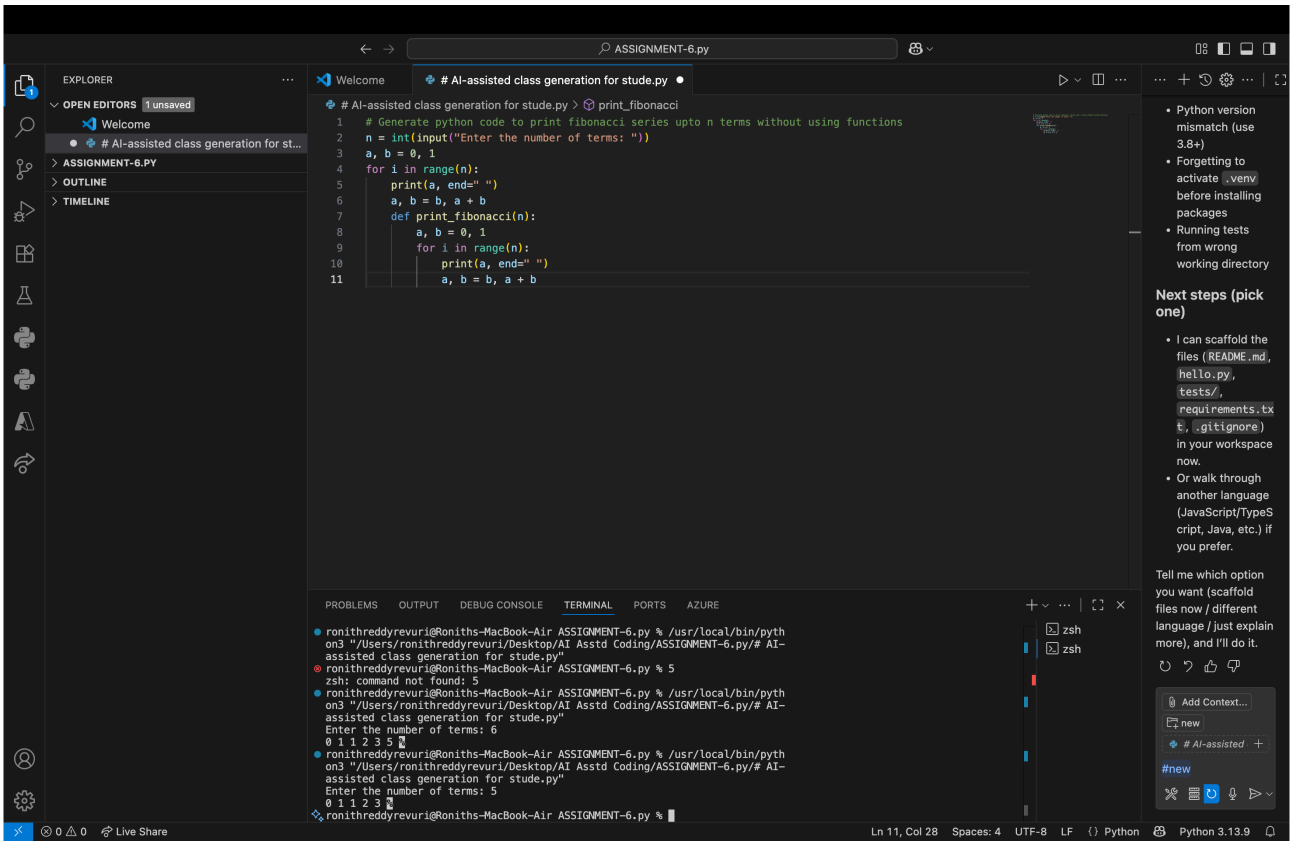


```python
# Generate python code to print fibonacci series upto n terms without using functions
n = int(input("Enter the number of terms: "))
a, b = 0, 1
for i in range(n):
    print(a, end=" ")
    a, b = b, a + b
    def print_fibonacci(n):
        a, b = 0, 1
        for i in range(n):
            print(a, end=" ")
            a, b = b, a + b
```

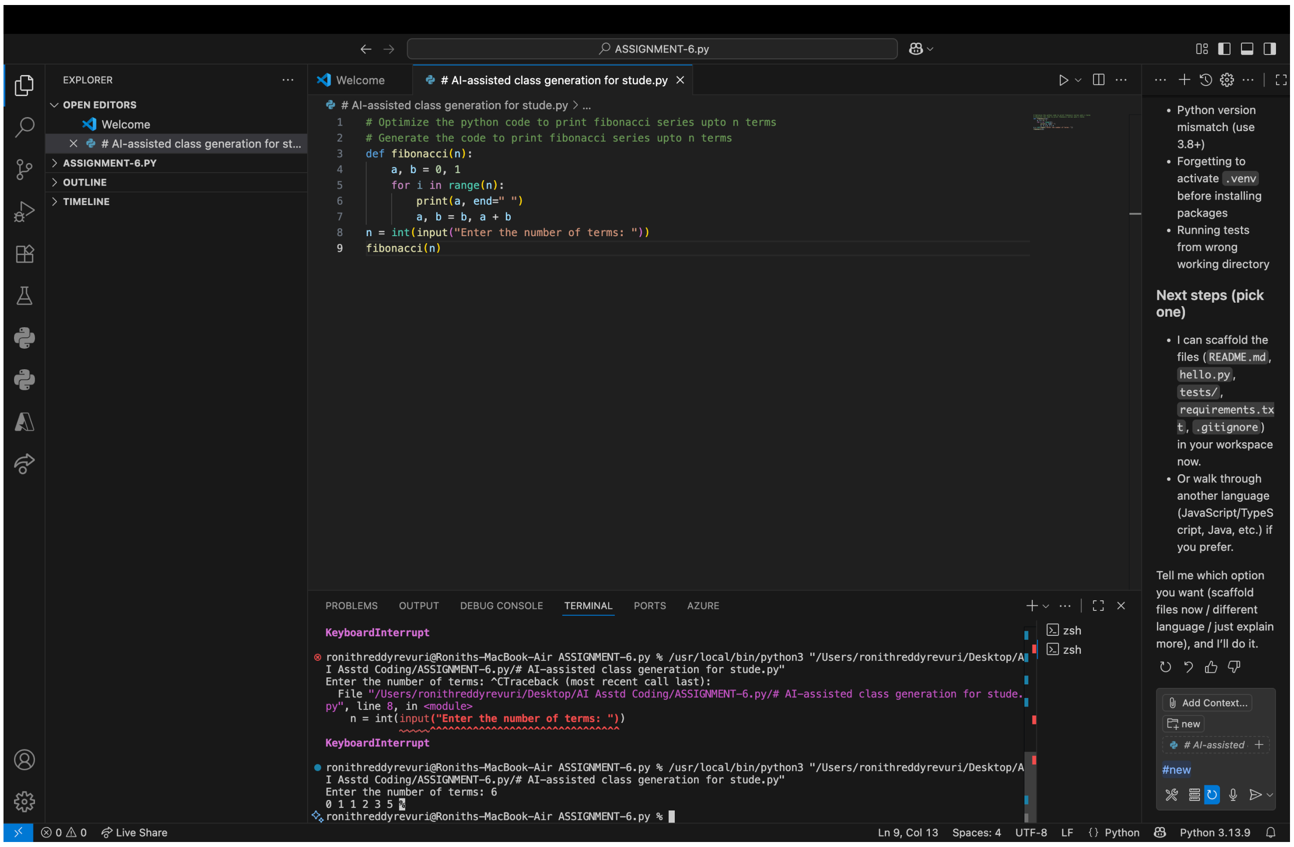
```
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % 5
zsh: command not found: 5
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
Enter the number of terms: 6
0 1 1 2 3 5 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
Enter the number of terms: 5
0 1 1 2 3 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py %
```

- Python version mismatch (use 3.8+)
- Forgetting to activate `.venv` before installing packages
- Running tests from wrong working directory

Next steps (pick one)

- I can scaffold the files (`README.md`, `hello.py`, `tests/`, `requirements.txt`, `.gitignore`) in your workspace now.
- Or walk through another language (JavaScript/TypeScript, Java, etc.) if you prefer.

Tell me which option you want (scaffold files now / different language / just explain more), and I'll do it.



```python
# Optimize the python code to print fibonacci series upto n terms
# Generate the code to print fibonacci series upto n terms
def fibonacci(n):
    a, b = 0, 1
    for i in range(n):
        print(a, end=" ")
        a, b = b, a + b
n = int(input("Enter the number of terms: "))
fibonacci(n)
```

```
KeyboardInterrupt

ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/python3 "/Users/ronithreddyrevuri/Desktop/A
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: ^CTraceback (most recent call last):
  File "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.
py", line 8, in <module>
    n = int(input("Enter the number of terms: "))
            ~~~~~^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

KeyboardInterrupt

ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/python3 "/Users/ronithreddyrevuri/Desktop/A
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: 6
0 1 1 2 3 5 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py %
```

- Python version mismatch (use 3.8+)
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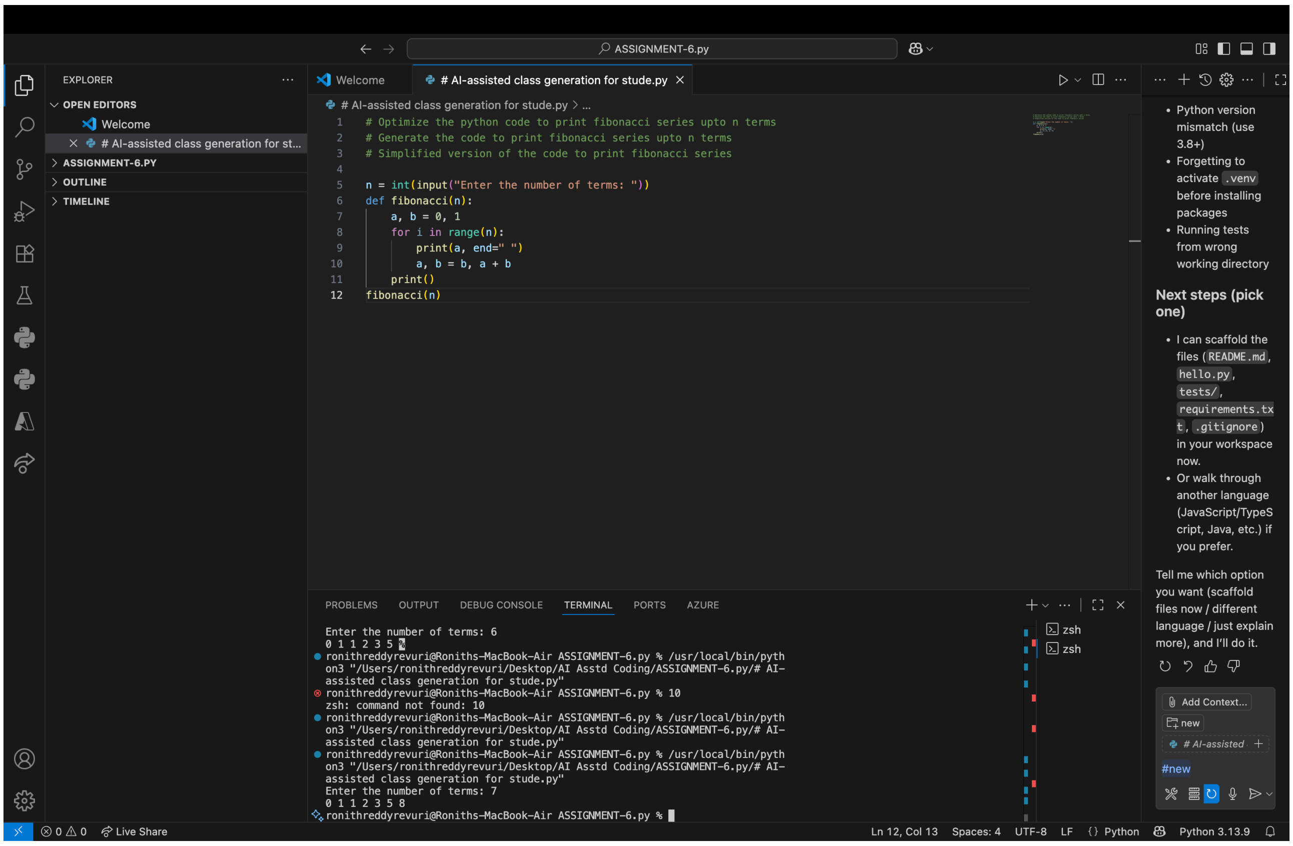

```python
# Optimize the python code to print fibonacci series upto n terms
# Generate the code to print fibonacci series upto n terms
# Simplified version of the code to print fibonacci series

n = int(input("Enter the number of terms: "))
def fibonacci(n):
    a, b = 0, 1
    for i in range(n):
        print(a, end=" ")
        a, b = b, a + b
    print()
fibonacci(n)
```

```
Enter the number of terms: 6
0 1 1 2 3 5 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % 10
zsh: command not found: 10
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
Enter the number of terms: 7
0 1 1 2 3 5 8
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py %
```

- Python version mismatch (use 3.8+)
- Forgetting to activate `.venv` before installing packages
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Next steps (pick one)

- I can scaffold the files (`README.md`, `hello.py`, `tests/`, `requirements.txt`, `.gitignore`) in your workspace now.
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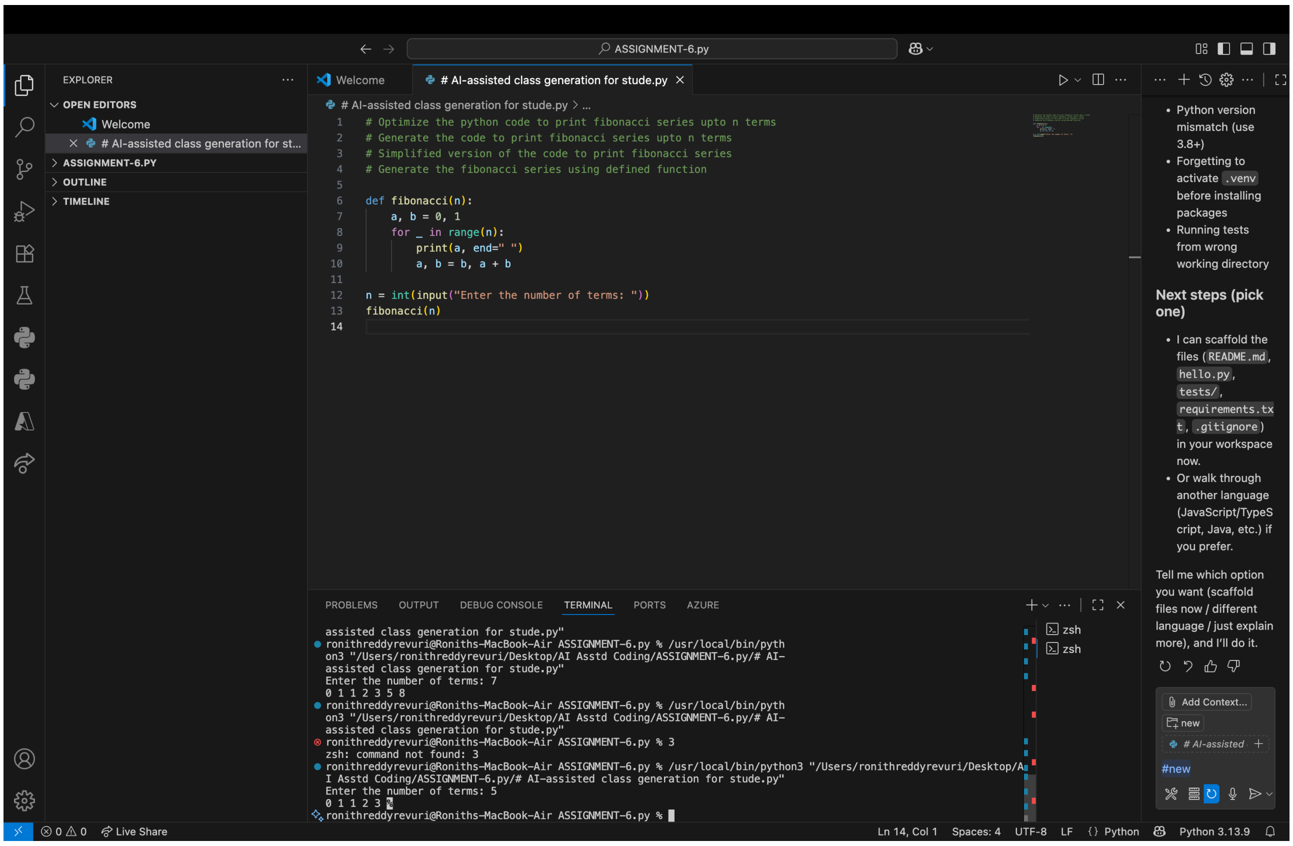


```python
# Optimize the python code to print fibonacci series upto n terms
# Generate the code to print fibonacci series upto n terms
# Simplified version of the code to print fibonacci series
# Generate the fibonacci series using defined function

def fibonacci(n):
    a, b = 0, 1
    for _ in range(n):
        print(a, end=" ")
        a, b = b, a + b

n = int(input("Enter the number of terms: "))
fibonacci(n)
```

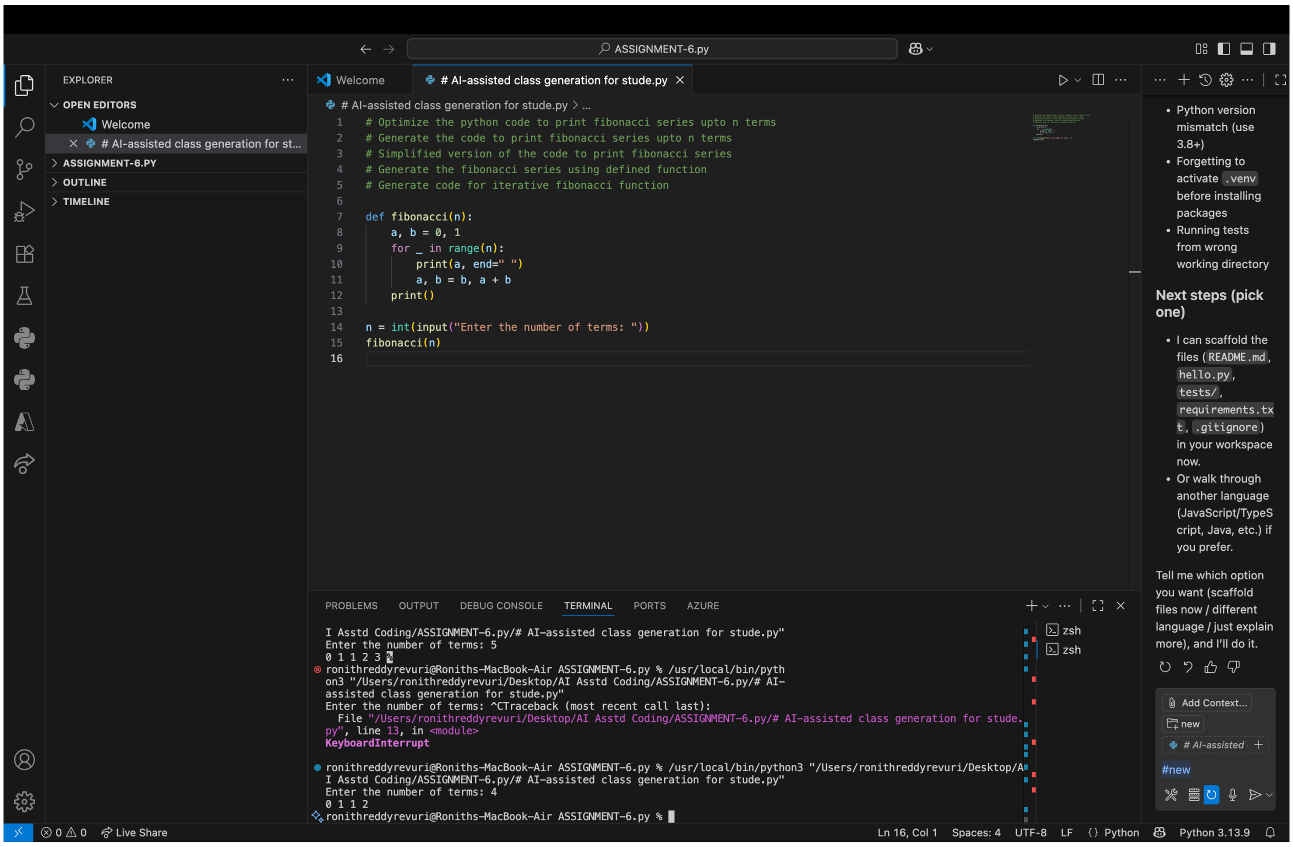
```
assisted class generation for stude.py"
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
Enter the number of terms: 7
0 1 1 2 3 5 8
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % 3
zsh: command not found: 3
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/python3 "/Users/ronithreddyrevuri/Desktop/A
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: 5
0 1 1 2 3 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py %
```

- Python version mismatch (use 3.8+)
- Forgetting to activate `.venv` before installing packages
- Running tests from wrong working directory

Next steps (pick one)

- I can scaffold the files (`README.md`, `hello.py`, `tests/`, `requirements.txt`, `.gitignore`) in your workspace now.
- Or walk through another language (JavaScript/TypeScript, Java, etc.) if you prefer.

Tell me which option you want (scaffold files now / different language / just explain more), and I'll do it.



```python
# Optimize the python code to print fibonacci series upto n terms
# Generate the code to print fibonacci series upto n terms
# Simplified version of the code to print fibonacci series
# Generate the fibonacci series using defined function
# Generate code for iterative fibonacci function

def fibonacci(n):
    a, b = 0, 1
    for _ in range(n):
        print(a, end=" ")
        a, b = b, a + b
    print()

n = int(input("Enter the number of terms: "))
fibonacci(n)
```

```
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: 5
0 1 1 2 3 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/pyth
on3 "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-
assisted class generation for stude.py"
Enter the number of terms: ^CTraceback (most recent call last):
  File "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.
py", line 13, in <module>
KeyboardInterrupt

ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/python3 "/Users/ronithreddyrevuri/Desktop/A
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: 4
0 1 1 2
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py %
```

- Python version mismatch (use 3.8+)
- Forgetting to activate `.venv` before installing packages
- Running tests from wrong working directory

Next steps (pick one)

- I can scaffold the files (`README.md`, `hello.py`, `tests/`, `requirements.txt`, `.gitignore`) in your workspace now.
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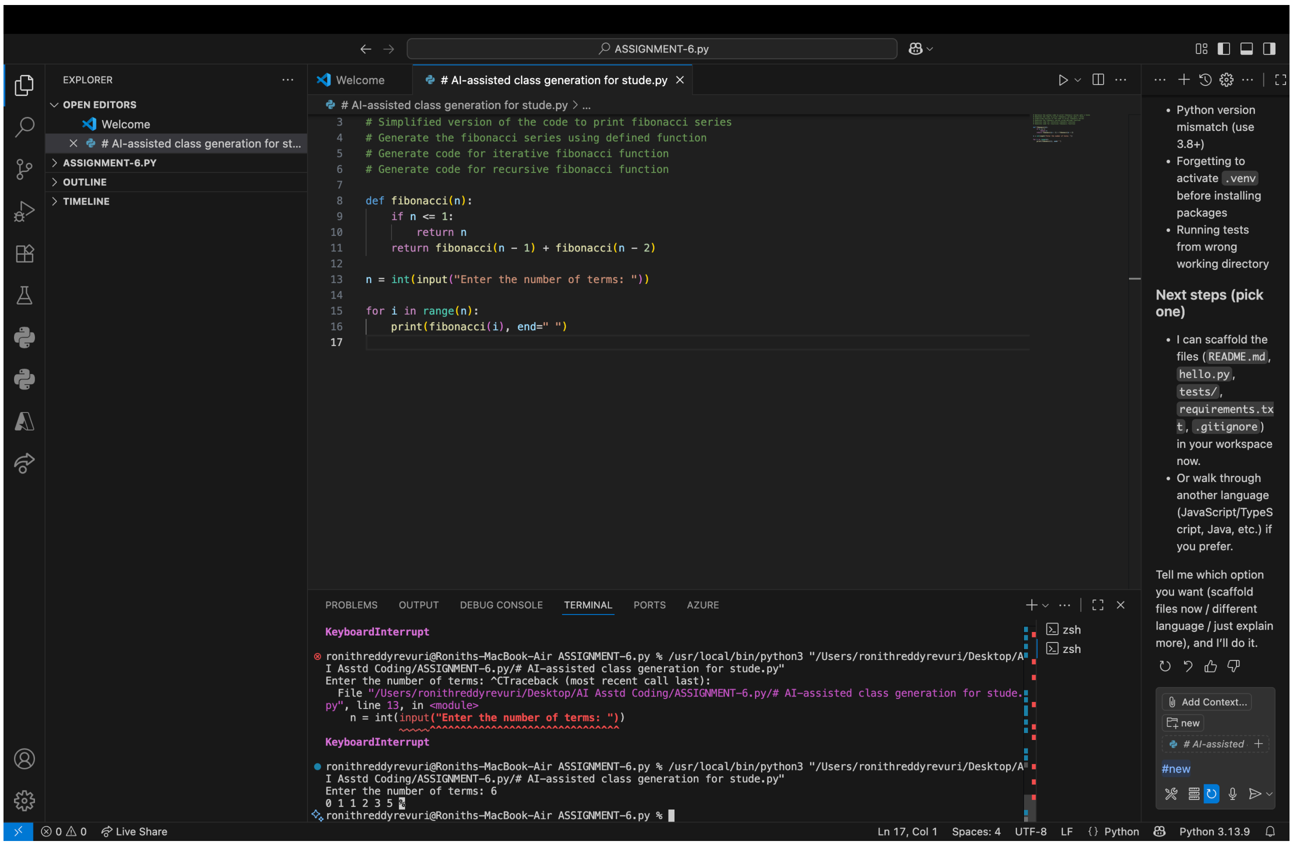

```python
# Simplified version of the code to print fibonacci series
# Generate the fibonacci series using defined function
# Generate code for iterative fibonacci function
# Generate code for recursive fibonacci function

def fibonacci(n):
    if n <= 1:
        return n
    return fibonacci(n - 1) + fibonacci(n - 2)

n = int(input("Enter the number of terms: "))

for i in range(n):
    print(fibonacci(i), end=" ")
```

```
KeyboardInterrupt

ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/python3 "/Users/ronithreddyrevuri/Desktop/A
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: ^CTraceback (most recent call last):
  File "/Users/ronithreddyrevuri/Desktop/AI Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.
py", line 13, in <module>
    n = int(input("Enter the number of terms: "))
            ~~~~~^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
KeyboardInterrupt

ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py % /usr/local/bin/python3 "/Users/ronithreddyrevuri/Desktop/A
I Asstd Coding/ASSIGNMENT-6.py/# AI-assisted class generation for stude.py"
Enter the number of terms: 6
0 1 1 2 3 5 %
ronithreddyrevuri@Roniths-MacBook-Air ASSIGNMENT-6.py %
```

- Python version mismatch (use 3.8+)
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- Or walk through another language (JavaScript/TypeScript, Java, etc.) if you prefer.

Tell me which option you want (scaffold files now / different language / just explain more), and I'll do it.

TIME AND SPACE COMPLEXITY COMPARISON

ABSTRACT

THE FIBONACCI SERIES IS ACHIEVED THROUGH AN ITERATIVE AND RECURSIVE APPROACH.

THE ITERATIVE SOLUTION FOLLOWS THE LOOP MECHANISM WITH A TIME COMPLEXITY OF O(N) AND SPACE COMPLEXITY OF O(1). IT IS VERY FAST WITH MINIMAL MEMORY REQUIREMENT, MAKING THE SOLUTION EFFICIENT FOR LARGE NUMBERS TOO.

TO BE SPECIFIC, IN THE RECURSIVE METHOD, THE FUNCTION IS CALLED MANY TIMES. AS A RESULT, THE TIME COMPLEXITY IS $O(2^n)$ AND THE SPACE COMPLEXITY IS O(N).

CONCLUSION

THE ITERATIVE METHOD IS EFFICIENT AND CAN BE USED WITH LARGER NUMBERS, WHILE THE RECURSIVE METHOD IS INEFFICIENT AND IS NOT RECOMMENDED FOR LARGER VALUES OF N.