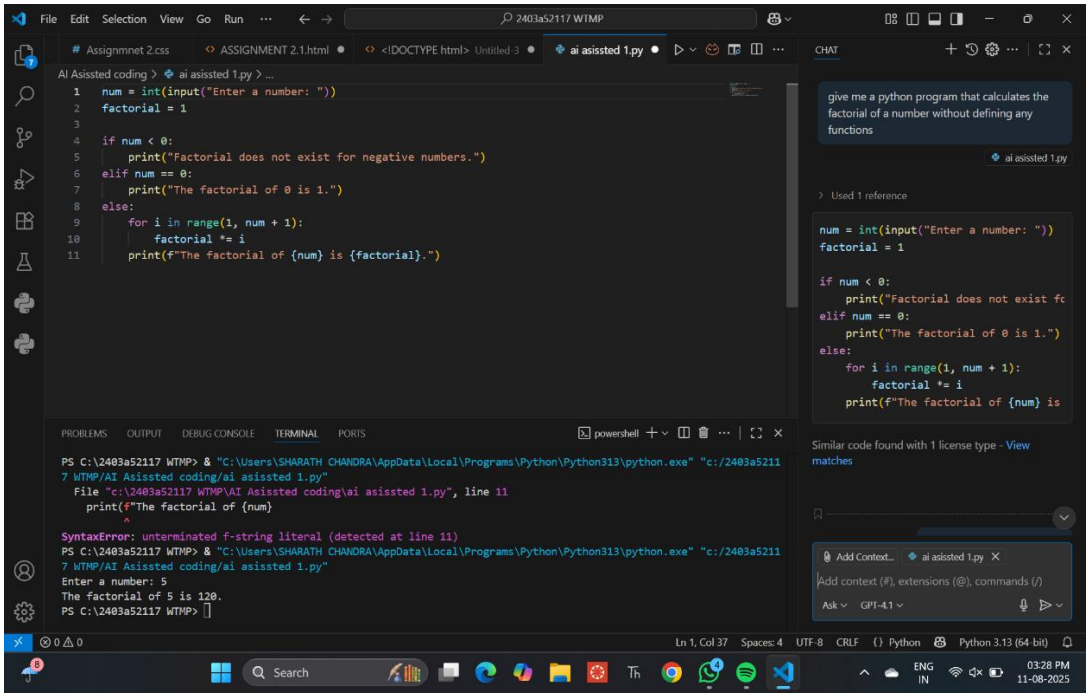
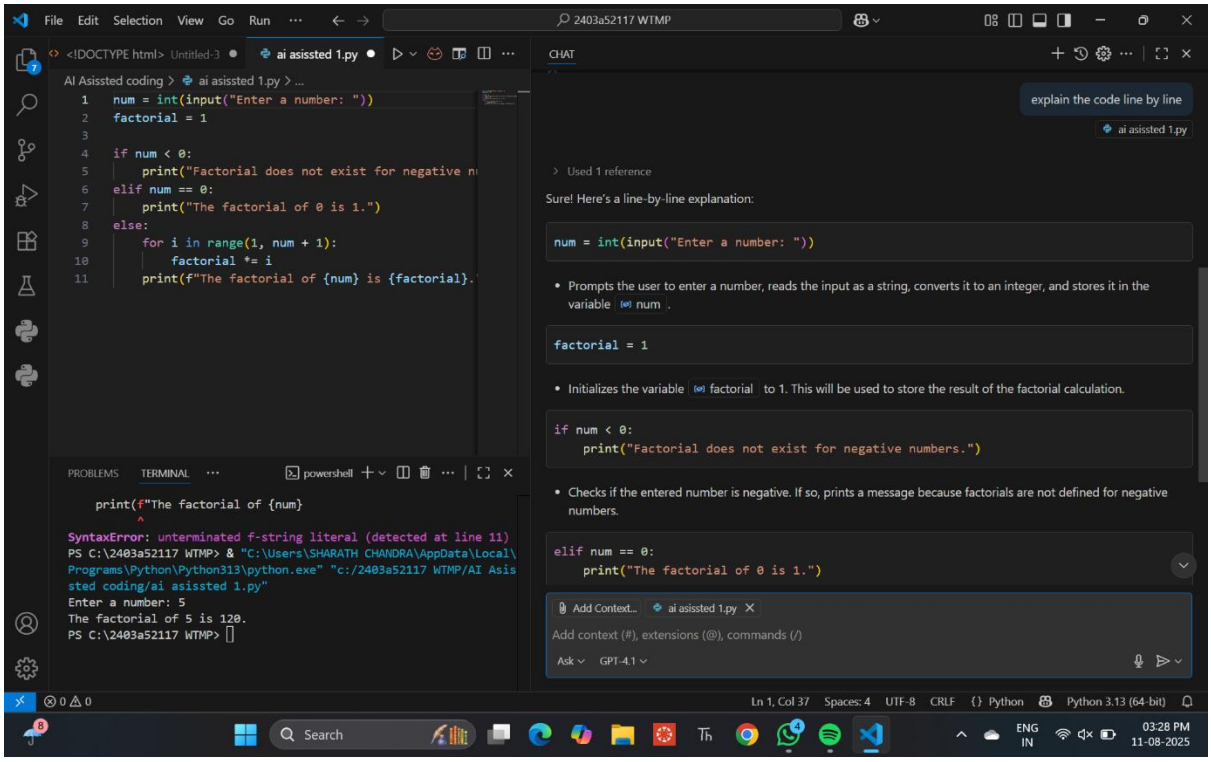
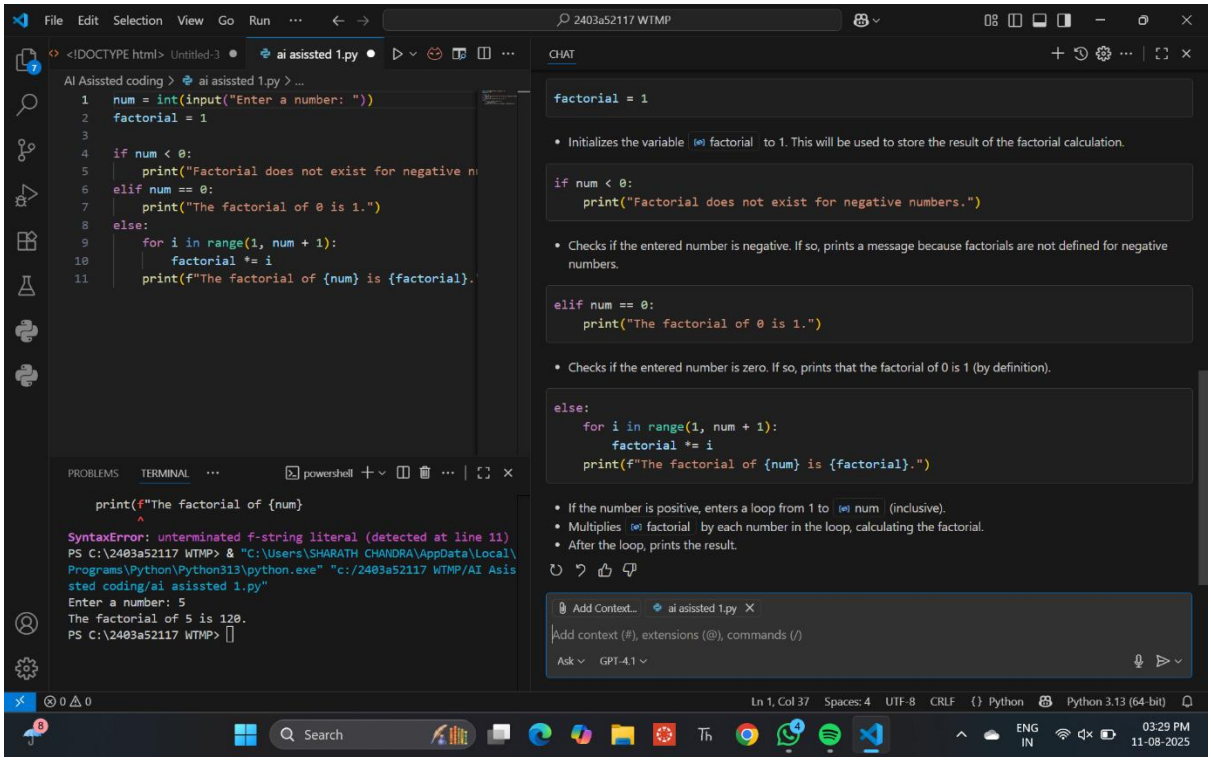
ASSIGNMENT 1

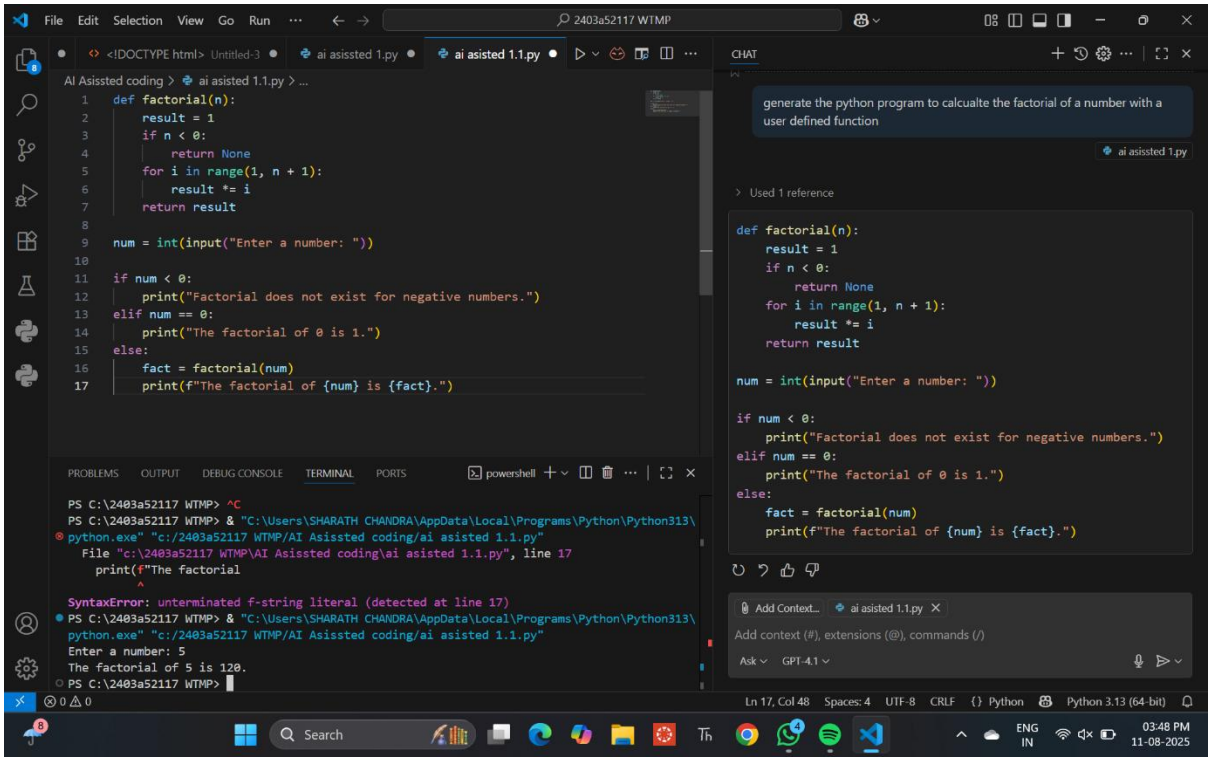
TASK 1:

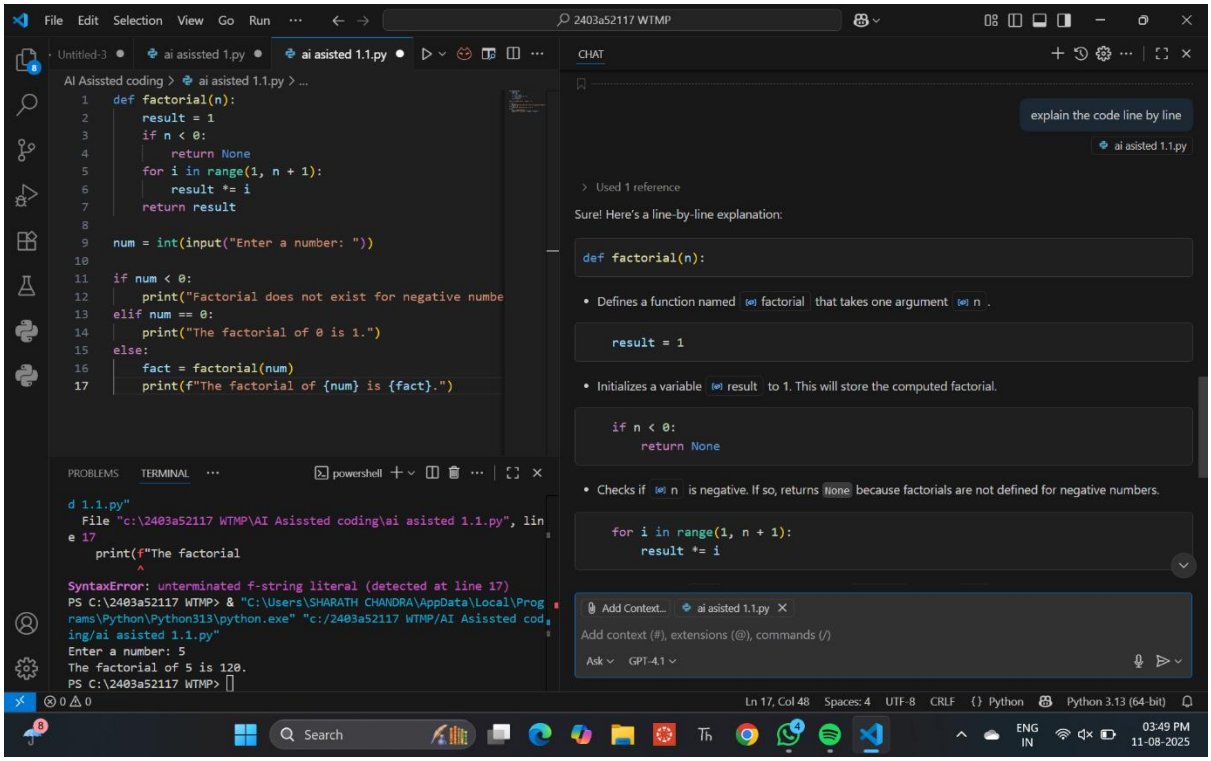


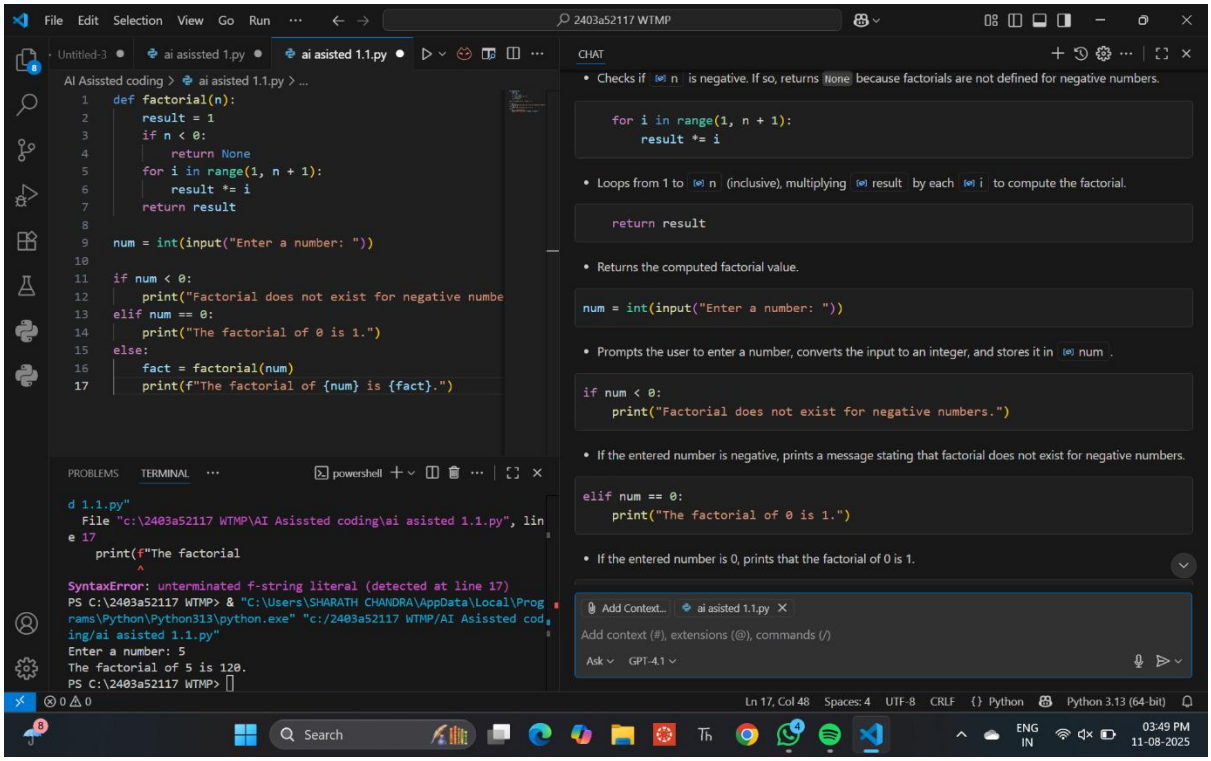
TASK 3:

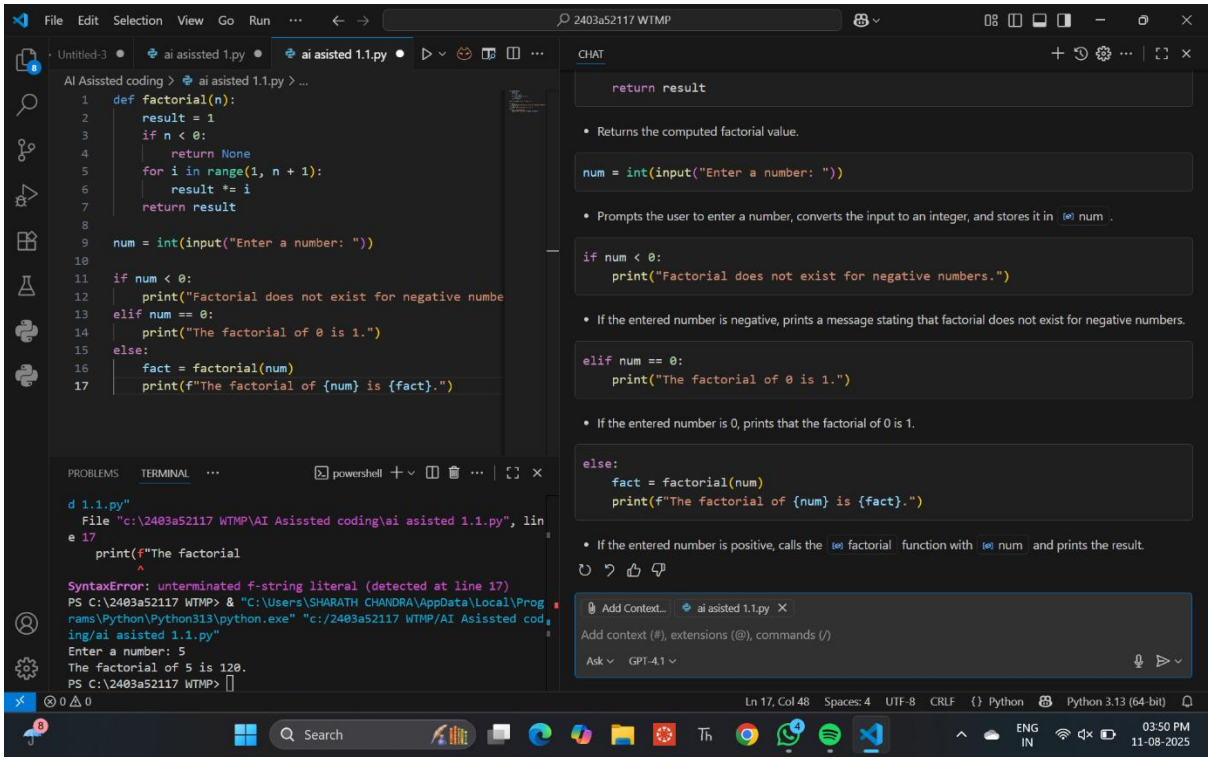



File Edit Selection View Go Run
2403a52117 WTMP
ai asissted 1.py
AI Asissted coding > ai asissted 1.py > ...
num = int(input("Enter a number: "))
factorial = 1
if num < 0:
print("Factorial does not exist for negative n
elif num == 0:
print("The factorial of 0 is 1.")
else:
for i in range(1, num + 1):
factorial *= i
print(f"The factorial of {num} is {factorial}.
PROBLEMS TERMINAL powershell
print(f"The factorial of {num}
SyntaxError: unterminated f-string literal (detected at line 11)
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Programs\Python\Python313\python.exe" "c:/2403a52117 WTMP/AI Asissted coding/ai asissted 1.py"
Enter a number: 5
The factorial of 5 is 120.
PS C:\2403a52117 WTMP>
CHAT
factorial = 1
Initializes the variable factorial to 1. This will be used to store the result of the factorial calculation.
if num < 0:
print("Factorial does not exist for negative numbers.")
Checks if the entered number is negative. If so, prints a message because factorials are not defined for negative numbers.
elif num == 0:
print("The factorial of 0 is 1.")
Checks if the entered number is zero. If so, prints that the factorial of 0 is 1 (by definition).
else:
for i in range(1, num + 1):
factorial *= i
print(f"The factorial of {num} is {factorial}.")
If the number is positive, enters a loop from 1 to num (inclusive).
Multiplies factorial by each number in the loop, calculating the factorial.
After the loop, prints the result.
Add Context... ai asissted 1.py
Add context (#), extensions (@), commands (/)
Ask GPT-4.1
Ln 1, Col 37 Spaces: 4 UTF-8 CRLF {} Python Python 3.13 (64-bit)
Search
ENG IN
03:29 PM 11-08-2025

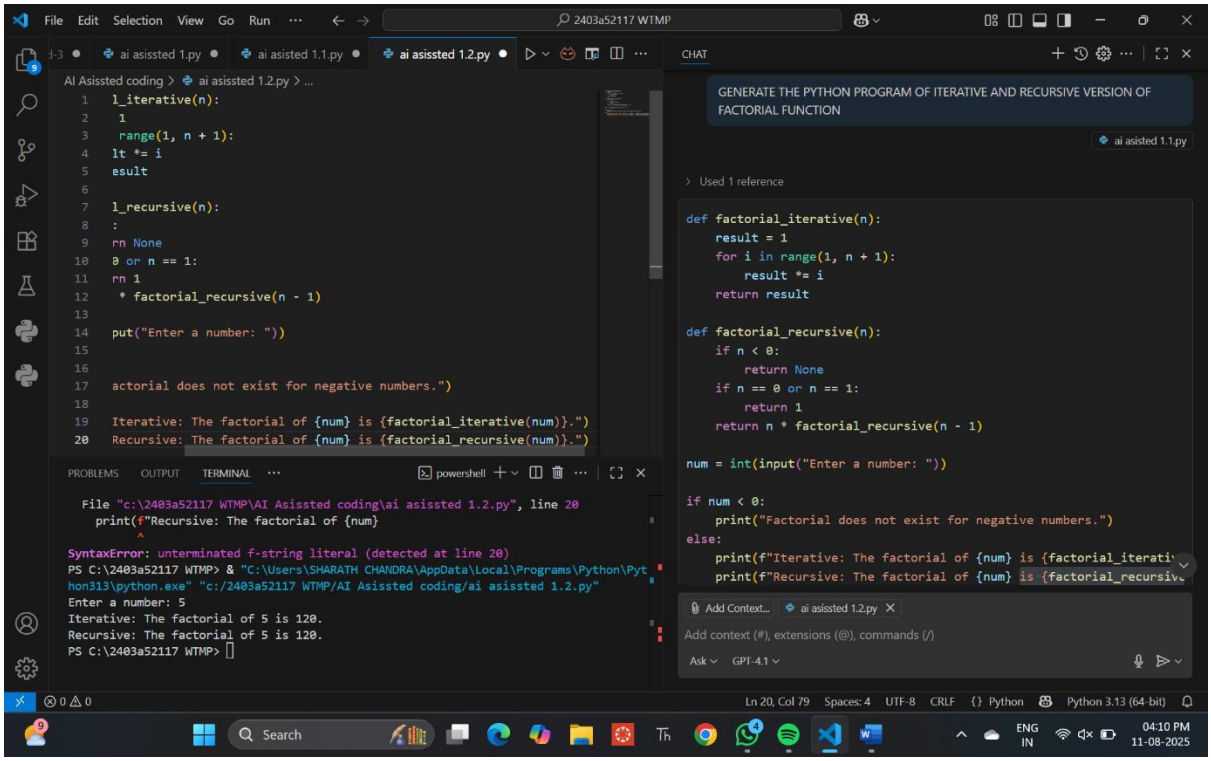

File Edit Selection View Go Run
2403a52117 WTMP
ai asissted 1.py
ai asisted 1.1.py
AI Asissted coding > ai asisted 1.1.py > ...
def factorial(n):
result = 1
if n < 0:
return None
for i in range(1, n + 1):
result *= i
return result
num = int(input("Enter a number: "))
if num < 0:
print("Factorial does not exist for negative numbers.")
elif num == 0:
print("The factorial of 0 is 1.")
else:
fact = factorial(num)
print(f"The factorial of {num} is {fact}.")
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell
PS C:\2403a52117 WTMP> ^C
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Programs\Python\Python313\python.exe" "c:/2403a52117 WTMP/AI Asissted coding/ai asisted 1.1.py"
File "c:\2403a52117 WTMP\AI Asissted coding\ai asisted 1.1.py", line 17
print(f"The factorial
SyntaxError: unterminated f-string literal (detected at line 17)
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Programs\Python\Python313\python.exe" "c:/2403a52117 WTMP/AI Asissted coding/ai asisted 1.1.py"
Enter a number: 5
The factorial of 5 is 120.
PS C:\2403a52117 WTMP>
CHAT
generate the python program to calcualte the factorial of a number with a user defined function
ai asissted 1.py
Used 1 reference
def factorial(n):
result = 1
if n < 0:
return None
for i in range(1, n + 1):
result *= i
return result
num = int(input("Enter a number: "))
if num < 0:
print("Factorial does not exist for negative numbers.")
elif num == 0:
print("The factorial of 0 is 1.")
else:
fact = factorial(num)
print(f"The factorial of {num} is {fact}.")
Add Context... ai asisted 1.1.py
Add context (#), extensions (@), commands (/)
Ask GPT-4.1
Ln 17, Col 48 Spaces: 4 UTF-8 CRLF {} Python Python 3.13 (64-bit)
Search
ENG IN
03:48 PM 11-08-2025


File Edit Selection View Go Run
2403a52117 WTMP
Untitled-3
ai assisted 1.1.py
ai asissted 1.py
AI Asissted coding > ai asisted 1.1.py > ...
def factorial(n):
result = 1
if n < 0:
return None
for i in range(1, n + 1):
result *= i
return result
num = int(input("Enter a number: "))
if num < 0:
print("Factorial does not exist for negative numbe
elif num == 0:
print("The factorial of 0 is 1.")
else:
fact = factorial(num)
print(f"The factorial of {num} is {fact}.")
PROBLEMS
TERMINAL
powershell
d 1.1.py"
File "c:\2403a52117 WTMP\AI Asissted coding\ai asisted 1.1.py", lin
e 17
print(f"The factorial
SyntaxError: unterminated f-string literal (detected at line 17)
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Prog
rams\Python\Python313\python.exe" "c:/2403a52117 WTMP/AI Asissted cod
ing/ai asisted 1.1.py"
Enter a number: 5
The factorial of 5 is 120.
PS C:\2403a52117 WTMP>
CHAT
explain the code line by line
ai asisted 1.1.py
Used 1 reference
Sure! Here's a line-by-line explanation:
def factorial(n):
Defines a function named factorial that takes one argument n .
result = 1
Initializes a variable result to 1. This will store the computed factorial.
if n < 0:
return None
Checks if n is negative. If so, returns None because factorials are not defined for negative numbers.
for i in range(1, n + 1):
result *= i
Add Context...
ai asisted 1.1.py
Add context (#), extensions (@), commands (/)
Ask
GPT-4.1
Ln 17, Col 48
Spaces: 4
UTF-8
CRLF
Python
Python 3.13 (64-bit)
Search
ENG
IN
03:49 PM
11-08-2025


File Edit Selection View Go Run
2403a52117 WTMP
Untitled-3
ai asisted 1.1.py
ai asissted 1.py
AI Asissted coding > ai asisted 1.1.py > ...
def factorial(n):
result = 1
if n < 0:
return None
for i in range(1, n + 1):
result *= i
return result
num = int(input("Enter a number: "))
if num < 0:
print("Factorial does not exist for negative numbe
elif num == 0:
print("The factorial of 0 is 1.")
else:
fact = factorial(num)
print(f"The factorial of {num} is {fact}.")
PROBLEMS
TERMINAL
powershell
d 1.1.py"
File "c:\2403a52117 WTMP\AI Asissted coding\ai asisted 1.1.py", lin
e 17
print(f"The factorial
SyntaxError: unterminated f-string literal (detected at line 17)
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Prog
rams\Python\Python313\python.exe" "c:/2403a52117 WTMP/AI Asissted cod
ing/ai asisted 1.1.py"
Enter a number: 5
The factorial of 5 is 120.
PS C:\2403a52117 WTMP>
CHAT
Checks if n is negative. If so, returns None because factorials are not defined for negative numbers.
for i in range(1, n + 1):
result *= i
Loops from 1 to n (inclusive), multiplying result by each i to compute the factorial.
return result
Returns the computed factorial value.
num = int(input("Enter a number: "))
Prompts the user to enter a number, converts the input to an integer, and stores it in num .
if num < 0:
print("Factorial does not exist for negative numbers.")
If the entered number is negative, prints a message stating that factorial does not exist for negative numbers.
elif num == 0:
print("The factorial of 0 is 1.")
If the entered number is 0, prints that the factorial of 0 is 1.
Add Context...
ai asisted 1.1.py
Add context (#), extensions (@), commands (/)
Ask
GPT-4.1
Ln 17, Col 48
Spaces: 4
UTF-8
CRLF
Python
Python 3.13 (64-bit)
Search
ENG
IN
03:49 PM
11-08-2025


def factorial(n):
result = 1
if n < 0:
return None
for i in range(1, n + 1):
result *= i
return result
num = int(input("Enter a number: "))
if num < 0:
print("Factorial does not exist for negative numbe
elif num == 0:
print("The factorial of 0 is 1.")
else:
fact = factorial(num)
print(f"The factorial of {num} is {fact}.")
CHAT
return result
Returns the computed factorial value.
num = int(input("Enter a number: "))
Prompts the user to enter a number, converts the input to an integer, and stores it in num .
if num < 0:
print("Factorial does not exist for negative numbers.")
If the entered number is negative, prints a message stating that factorial does not exist for negative numbers.
elif num == 0:
print("The factorial of 0 is 1.")
If the entered number is 0, prints that the factorial of 0 is 1.
else:
fact = factorial(num)
print(f"The factorial of {num} is {fact}.")
If the entered number is positive, calls the factorial function with num and prints the result.
Add Context...
ai asisted 1.1.py
Add context (#), extensions (@), commands (/)
Ask
GPT-4.1
PROBLEMS
TERMINAL
powershell
d 1.1.py"
File "c:\2403a52117 WTMP\AI Asissted coding\ai asisted 1.1.py", lin
e 17
print(f"The factorial
SyntaxError: unterminated f-string literal (detected at line 17)
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Prog
rams\Python\Python313\python.exe" "c:/2403a52117 WTMP/AI Asissted cod
ing/ai asisted 1.1.py"
Enter a number: 5
The factorial of 5 is 120.
PS C:\2403a52117 WTMP>
Ln 17, Col 48
Spaces: 4
UTF-8
CRLF
Python
Python 3.13 (64-bit)
Search
ENG
IN
03:50 PM
11-08-2025

TASK 5:


l_iterative(n):
1
range(1, n + 1):
lt *= i
esult
l_recursive(n):
:
rn None
0 or n == 1:
rn 1
* factorial_recursive(n - 1)
put("Enter a number: "))
actorial does not exist for negative numbers.")
Iterative: The factorial of {num} is {factorial_iterative(num)}.")
Recursive: The factorial of {num} is {factorial_recursive(num)}.")
CHAT
GENERATE THE PYTHON PROGRAM OF ITERATIVE AND RECURSIVE VERSION OF FACTORIAL FUNCTION
ai asisted 1.1.py
Used 1 reference
def factorial_iterative(n):
result = 1
for i in range(1, n + 1):
result *= i
return result
def factorial_recursive(n):
if n < 0:
return None
if n == 0 or n == 1:
return 1
return n * factorial_recursive(n - 1)
num = int(input("Enter a number: "))
if num < 0:
print("Factorial does not exist for negative numbers.")
else:
print(f"Iterative: The factorial of {num} is {factorial_iterati
print(f"Recursive: The factorial of {num} is {factorial_recursiv
Add Context...
ai asissted 1.2.py
Add context (#), extensions (@), commands (/)
Ask
GPT-4.1
PROBLEMS
OUTPUT
TERMINAL
powershell
File "c:\2403a52117 WTMP\AI Asissted coding\ai asissted 1.2.py", line 20
print(f"Recursive: The factorial of {num}
SyntaxError: unterminated f-string literal (detected at line 20)
PS C:\2403a52117 WTMP> & "C:\Users\SHARATH CHANDRA\AppData\Local\Programs\Python\Pyt
hon313\python.exe" "c:/2403a52117 WTMP/AI Asissted coding/ai asissted 1.2.py"
Enter a number: 5
Iterative: The factorial of 5 is 120.
Recursive: The factorial of 5 is 120.
PS C:\2403a52117 WTMP>
Ln 20, Col 79
Spaces: 4
UTF-8
CRLF
Python
Python 3.13 (64-bit)
Search
ENG
IN
04:10 PM
11-08-2025