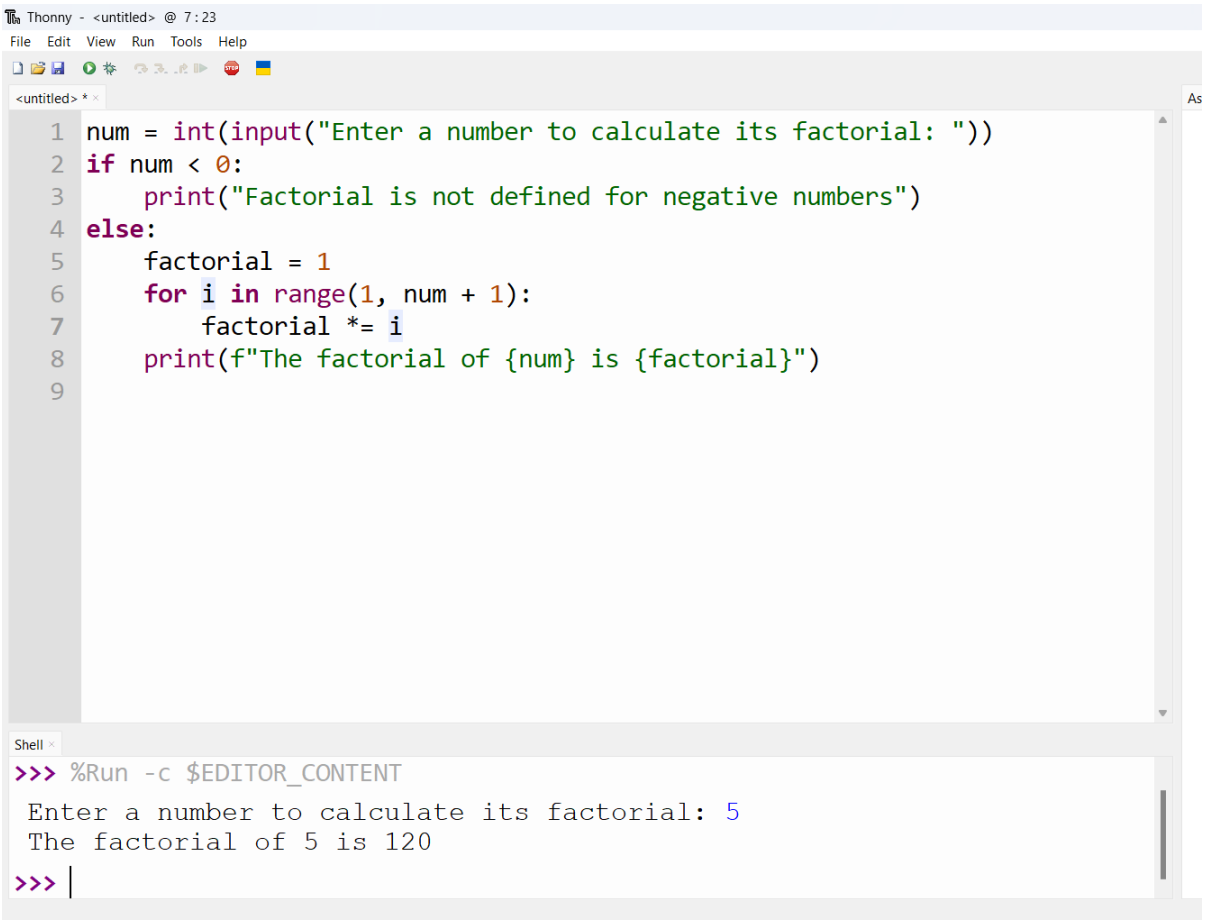
ASSIGNMENT-1

NAME:-K Ujwal

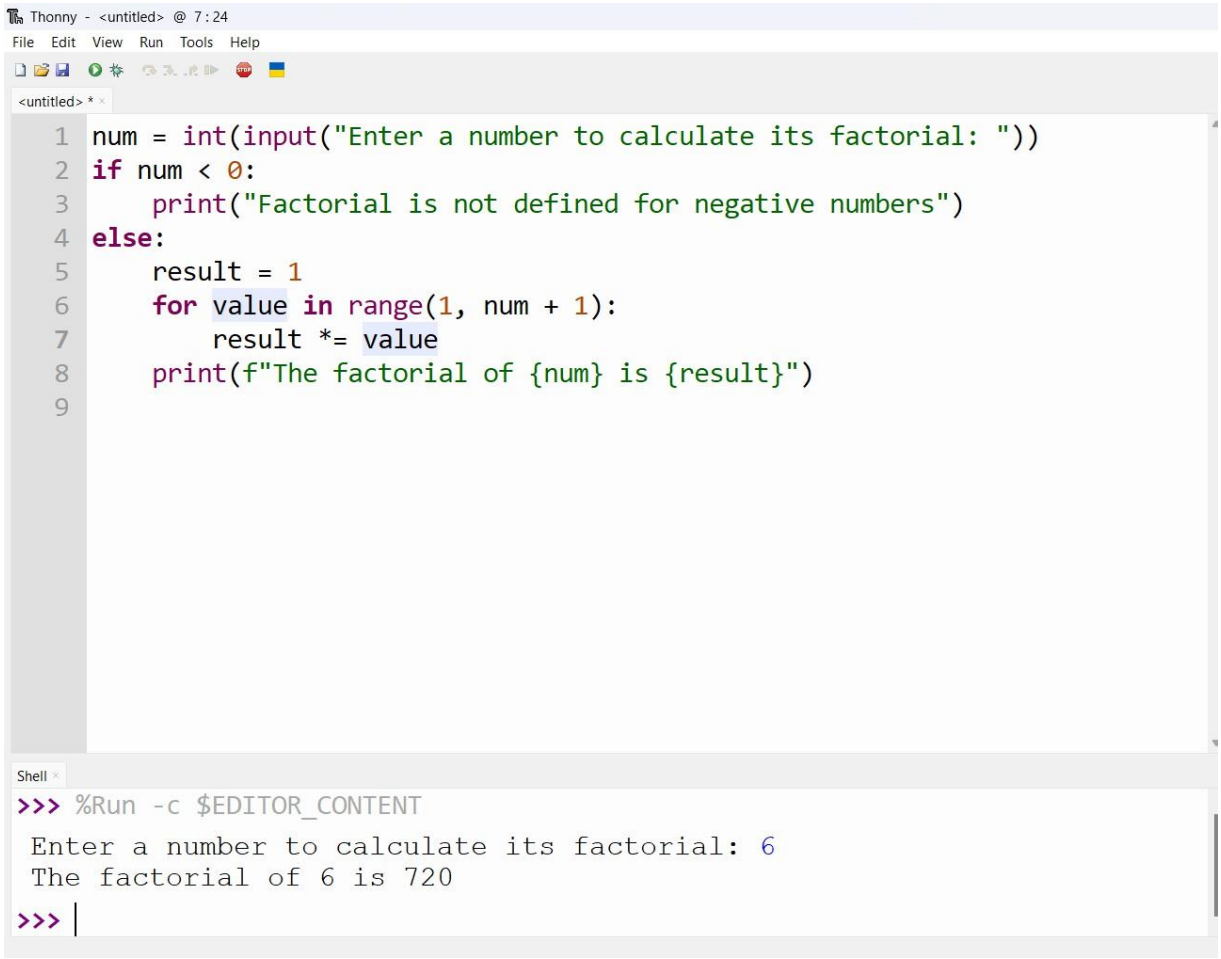
BATCH-16

HTNO:-2303A51058

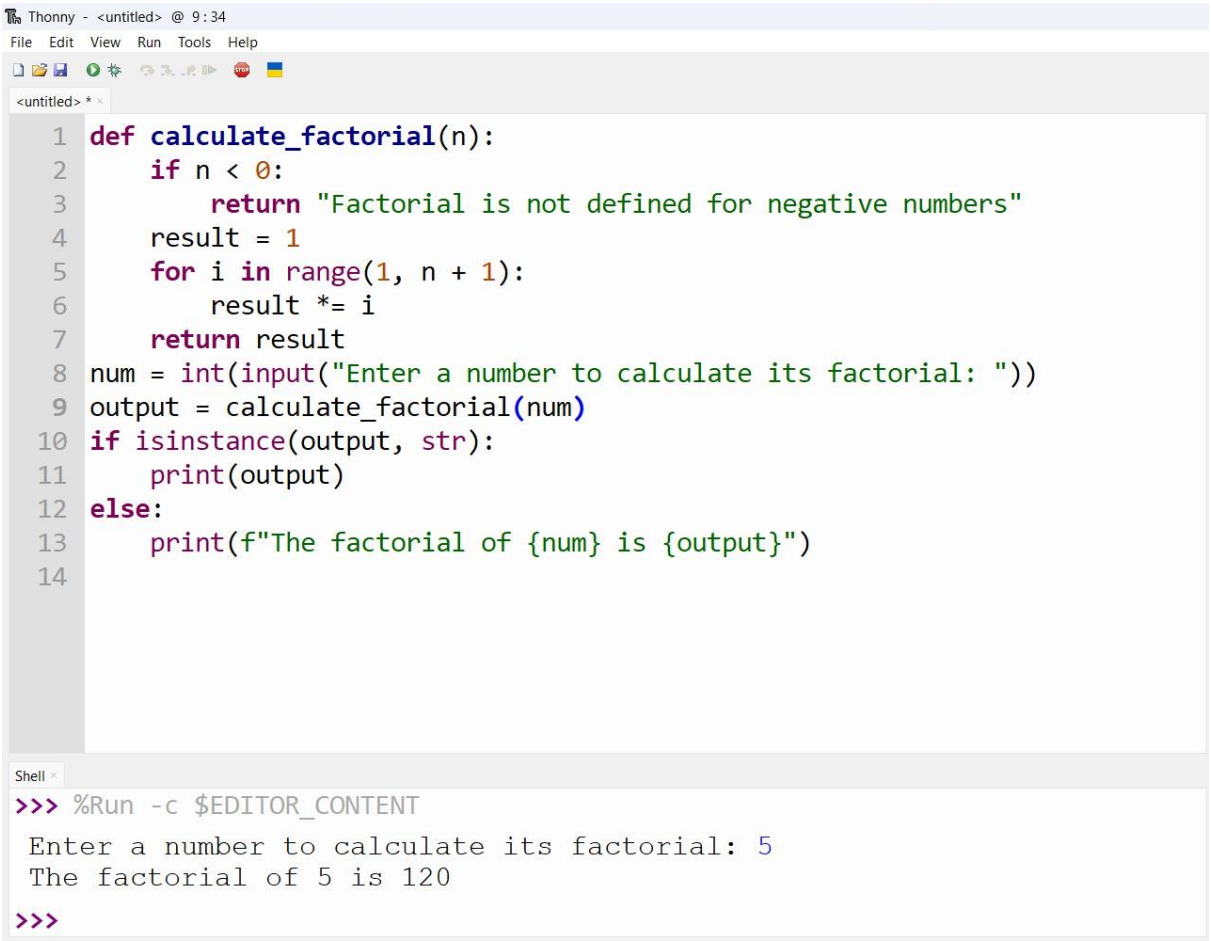
Task 1: AI-Generated Logic Without Modularisation *(Factorial without Functions)*



Task 2: AI Code Optimization & Cleanup (Improving Efficiency and Readability)

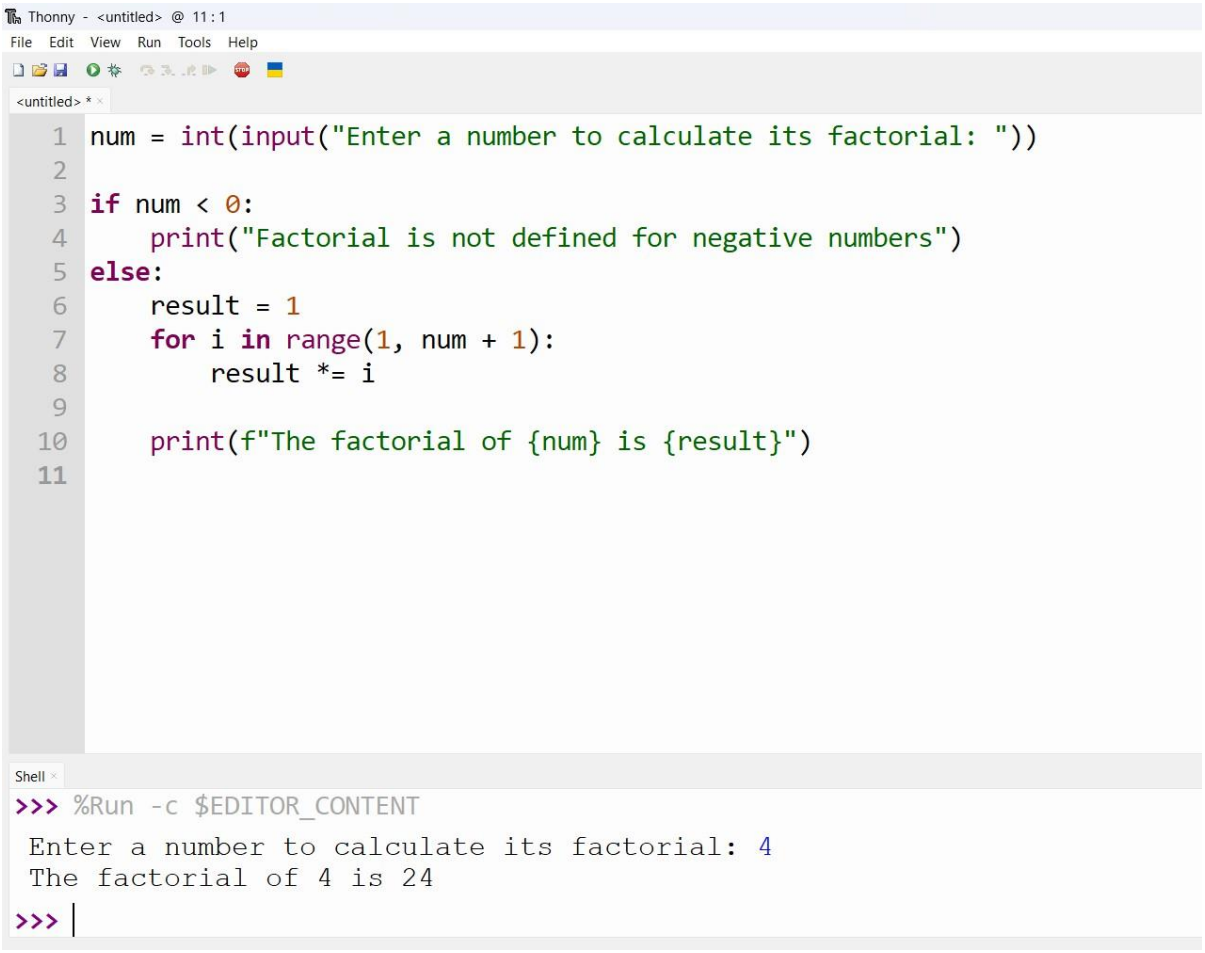


Task 3: Modular Design Using AI Assistance (Factorial with Functions)

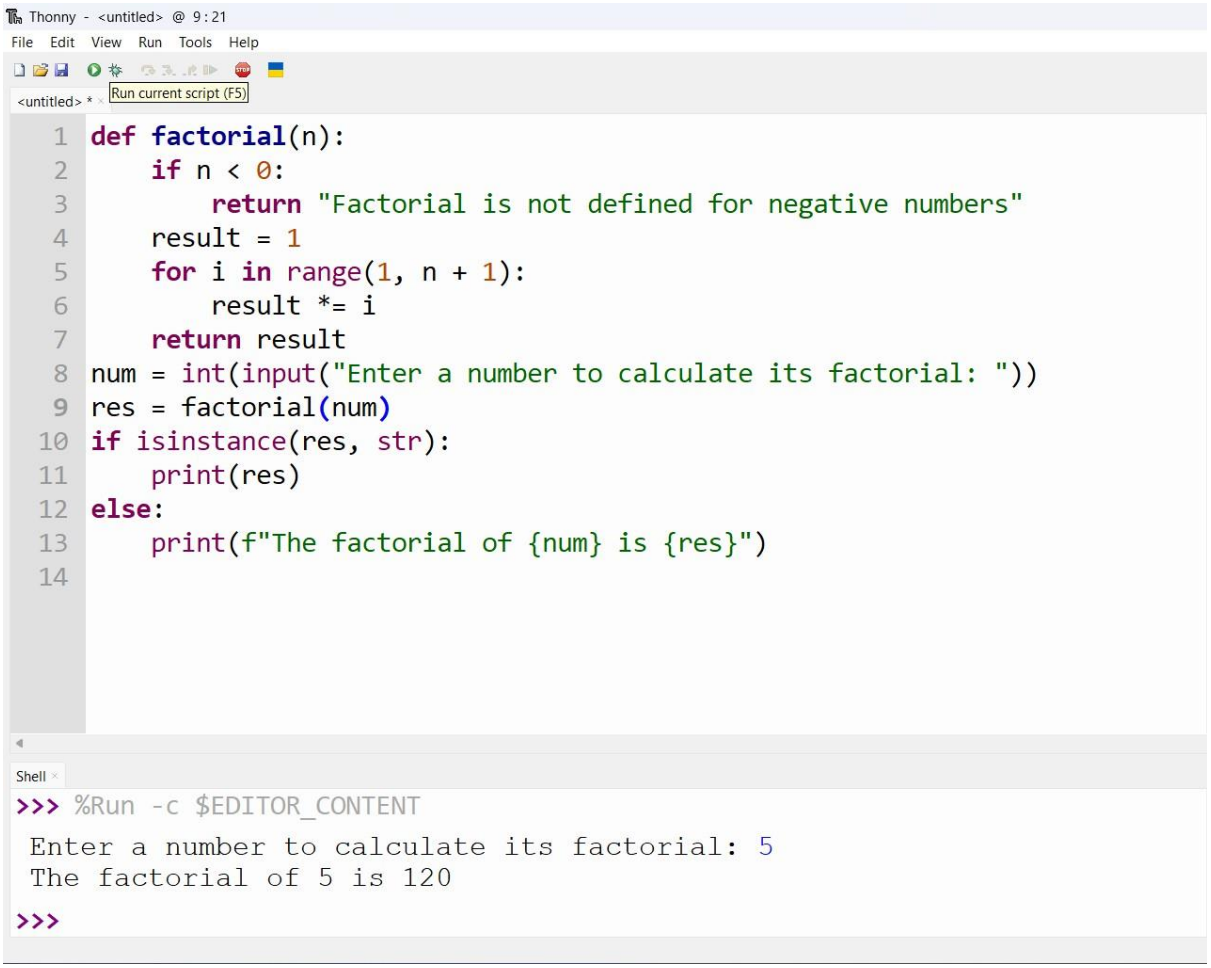


Task 4: Comparative Analysis – Procedural vs Modular AI Code

Procedural (Without Function):-

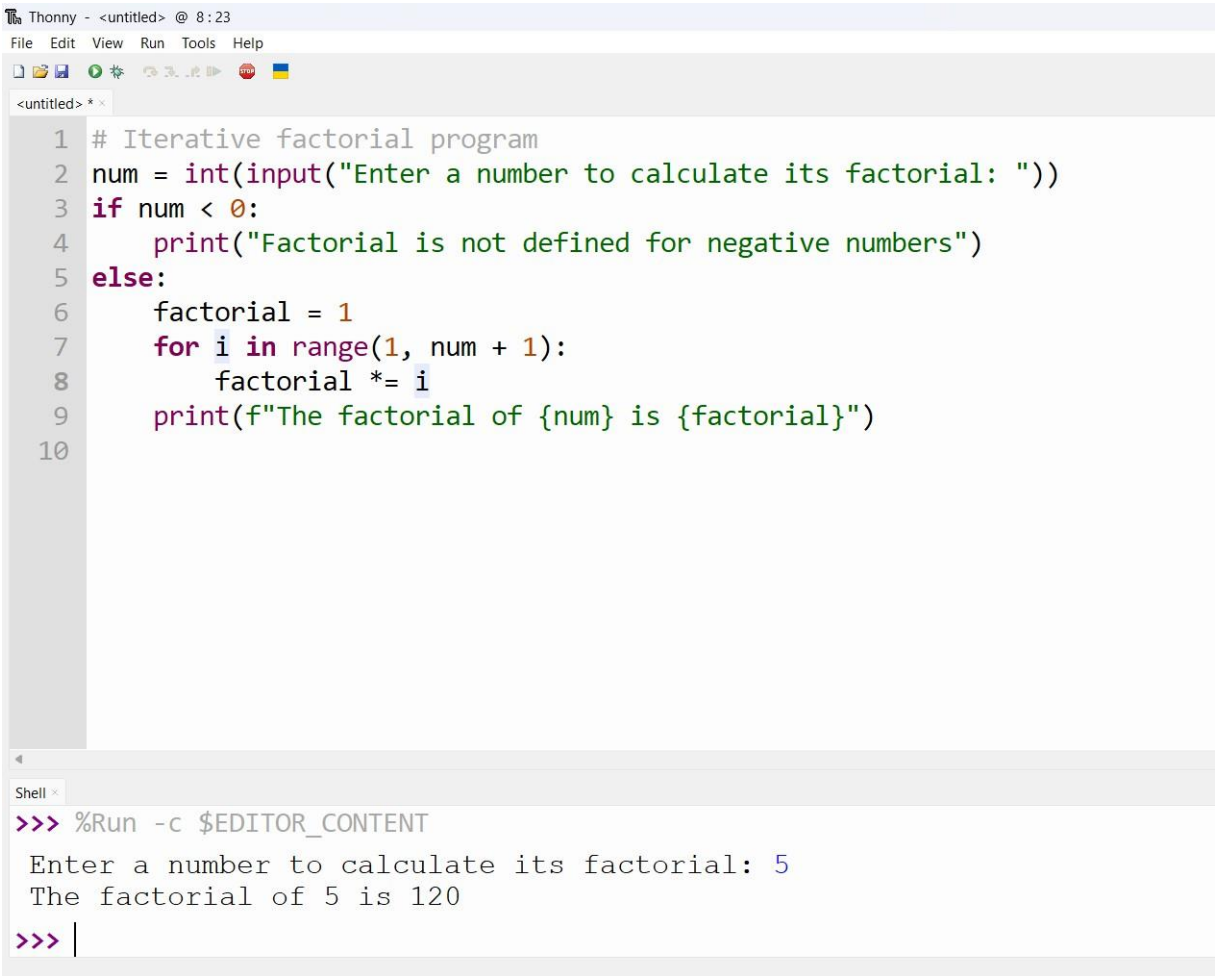


Modular (With Function)

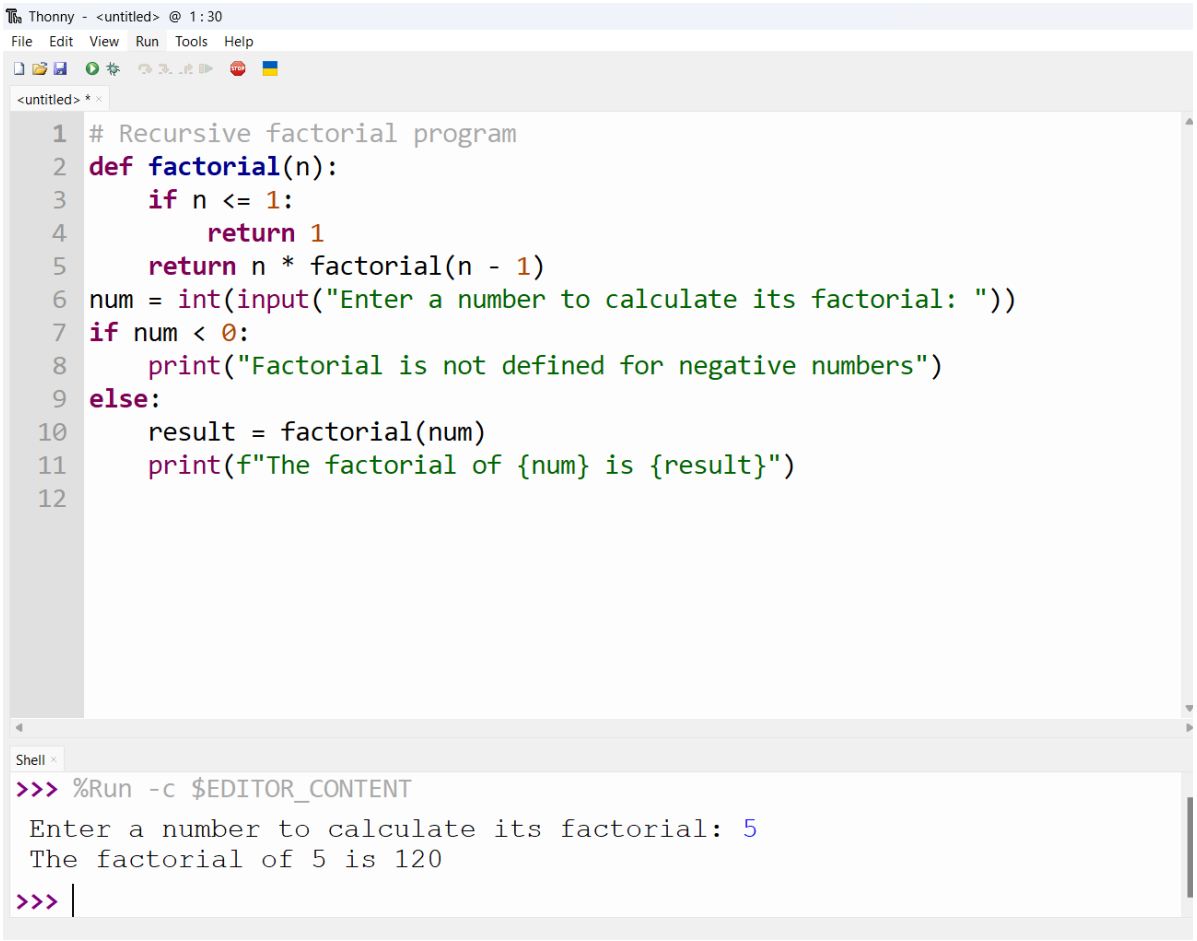


Task 5: AI-Generated Iterative vs Recursive Thinking

Iterative Approach



Recursive Approach


Thonny - <untitled> @ 1 : 30
File Edit View Run Tools Help
<untitled> *
1 # Recursive factorial program
2 def factorial(n):
3 if n <= 1:
4 return 1
5 return n * factorial(n - 1)
6 num = int(input("Enter a number to calculate its factorial: "))
7 if num < 0:
8 print("Factorial is not defined for negative numbers")
9 else:
10 result = factorial(num)
11 print(f"The factorial of {num} is {result}")
12
Shell
>>> %Run -c $EDITOR_CONTENT
Enter a number to calculate its factorial: 5
The factorial of 5 is 120
>>>