# LAB ASSIGNMENT-7.4

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BATCH:12

* Task – 1:

Introduce a buggy Python function that calculates the factorial of a number using recursion. Use  
Copilot or Cursor AI to detect and fix the logical or syntax errors.

Output:

def factr(n):

if n == 0:

return 1

elif n == 1:

return 1

else:

return n \* factr(n - 1)

print(factr(5))

explanation:

logical error: its n\*factr(n-1)

syntax error:we should pass an integer no a string.

* Task – 2:

Provide a list sorting function that fails due to a type error (e.g., sorting list with mixed integers  
and strings). Prompt AI to detect the issue and fix the code for consistent sorting

Output:

If we convert to string:

def sort\_list(data):

return sorted(data)

items = ["3", "apple", "1", "banana", "2"]

print(sort\_list(items))

if we convert to integer:

def sort\_list(data):

return sorted(data)

items = [3, 1, 2] # "apple" and "banana" are removed as they are strings

print(sort\_list(items))

explanation: In python a sort() function elements should consist of same data type.

* Task – 3:

Write a Python snippet for file handling that opens a file but forgets to close it. Ask Copilot or  
Cursor AI to improve it using the best practice (e.g., with open() block).

Output for code-1:

with open("example.txt", "w") as f:

f.write("Hello, world!")

explanation: it is already correct.because of with before the open() which ensures you closed the file automatically.

Output for code-2:

with open("data1.txt", "w") as f1:

f1.write("First file content\n")

with open("data2.txt", "w") as f2:

f2.write("Second file content\n")

print("Files written successfully")

explanation: corrected the code by using with before the open().

Output for code-3:

with open("input.txt", "r") as input\_file:

data = input\_file.readlines()

with open("output.txt", "w") as output\_file:

for line in data:

output\_file.write(line.upper())

print("Processing done")

Explanation: corrected the code by using with before the open().

output for code-4:

with open("input.txt", "r") as input\_file:

data = input\_file.readlines()

with open("output.txt", "w") as output\_file:

for line in data:

output\_file.write(line.upper())

print("Processing done")

Explanation: corrected the code by using with before the open().