Assignment-7.1

Ch.Sanhith reddy

2303A52251

Batch-43

Task Description #1 (Syntax Errors – Missing Parentheses in Print Statement)

Task: Provide a Python snippet with a missing parenthesis in a print statement (e.g., print "Hello"). Use AI to detect and fix the syntax error.

Bug: Missing parentheses in print statement

def greet(): print "Hello, AI Debugging Lab!"

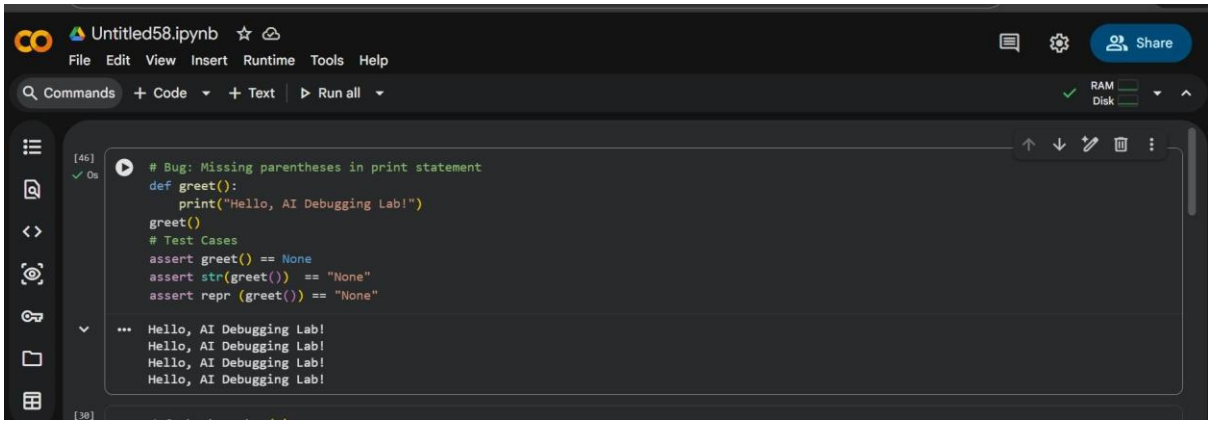
greet()

Requirements:

- Run the given code to observe the error.
- Apply AI suggestions to correct the syntax.
- Use at least 3 assert test cases to confirm the corrected code works.

Expected Output #1:

- Corrected code with proper syntax and AI explanation.



Task Description #2 (Incorrect condition in an If Statement)

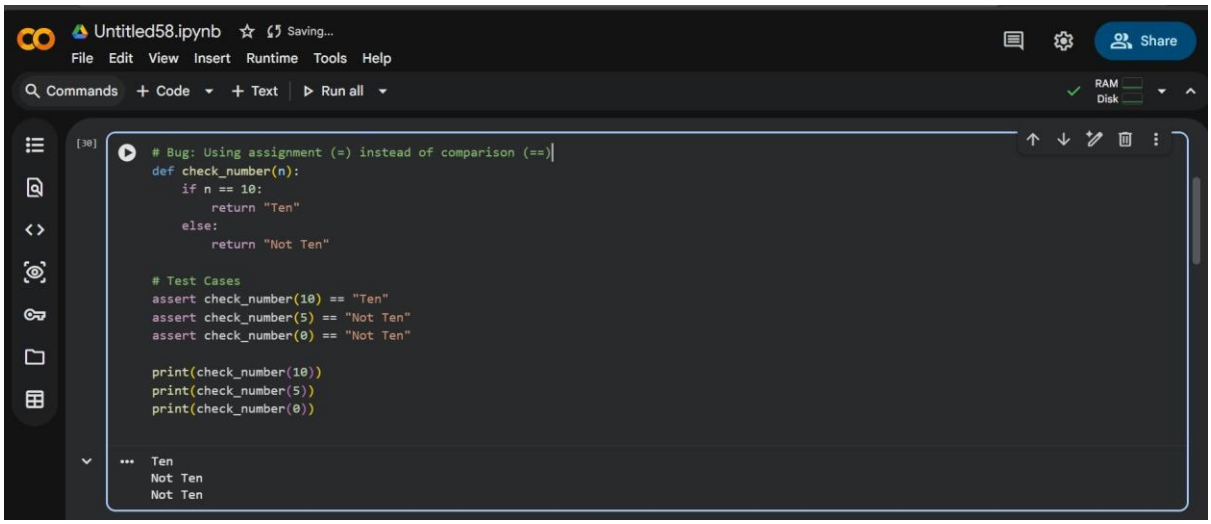
Task: Supply a function where an if-condition mistakenly uses = instead of ==. Let AI identify and fix the issue. # Bug: Using assignment (=) instead of comparison (==) def check_number(n): if n = 10: return "Ten" else: return "Not Ten"

Requirements:

- Ask AI to explain why this causes a bug.
- Correct the code and verify with 3 assert test cases.

Expected Output #2:

- Corrected code using == with explanation and successful test execution.



Task Description #3 (Runtime Error – File Not Found)

Task: Provide code that attempts to open a non-existent file and crashes. Use AI to apply safe error handling. # Bug: Program crashes if file is missing def read_file(filename): with open(filename, 'r') as f:

return f.read()

print(read_file("nonexistent.txt"))

Requirements:

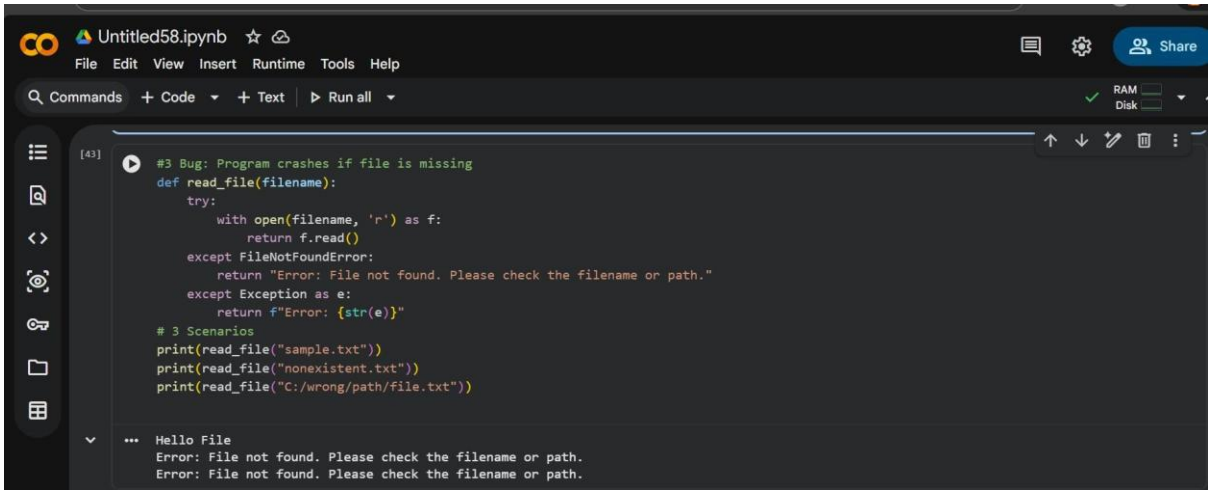
• Implement a try-except block suggested by AI.

• Add a user-friendly error message.

• Test with at least 3 scenarios: file exists, file missing, invalid path.

Expected Output #3:

• Safe file handling with exception management.



Task Description #4 (Calling a Non-Existent Method) Task:

Give a class where a non-existent method is called (e.g., obj.undefined_method()). Use AI to debug and fix.

Bug: Calling an undefined method

class Car: def

start(self):

return "Car started"

my_car = Car()

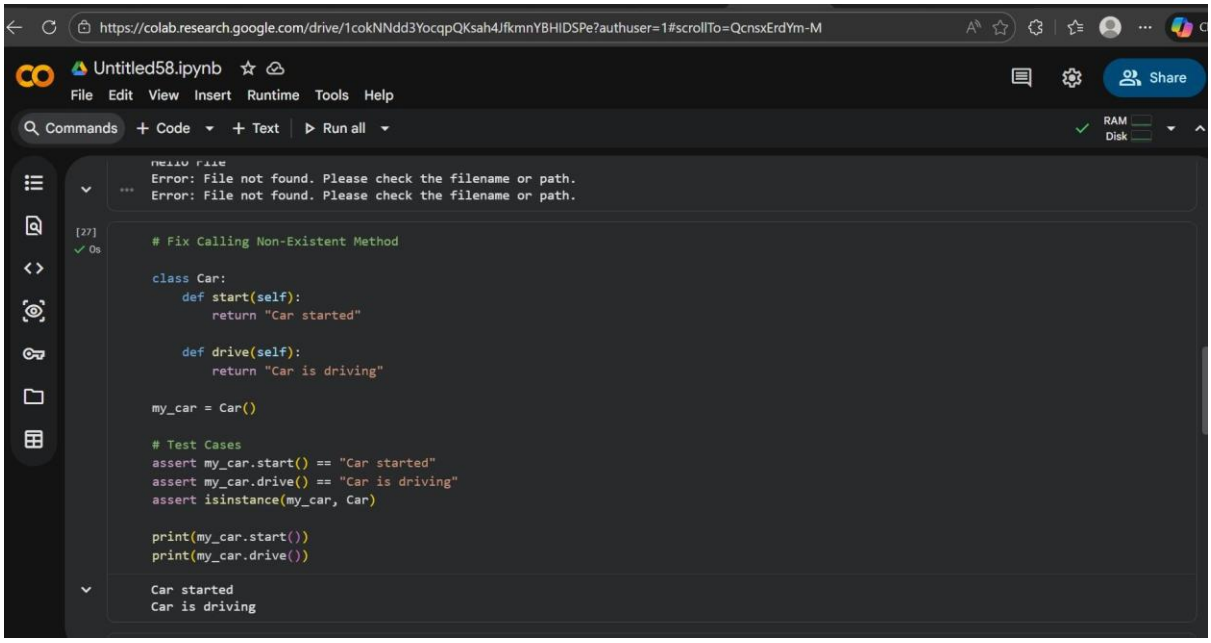
print(my_car.drive()) # drive() is not defined

Requirements:

- Students must analyze whether to define the missing method or correct the method call.
- Use 3 assert tests to confirm the corrected class works.

Expected Output #4:

- Corrected class with clear AI explanation.



Task Description #5 (TypeError – Mixing Strings and Integers in Addition)

Task: Provide code that adds an integer and string ("5" + 2) causing a TypeError. Use AI to resolve the bug.

Bug: TypeError due to mixing string and integer

def add_five(value):

return value + 5

print(add_five("10"))

Requirements:

- Ask AI for two solutions: type casting and string concatenation.
- Validate with 3 assert test cases.

Expected Output #5:

- Corrected code that runs successfully for multiple inputs.