

AI ASSISTED CODING

ASSIGNMENT 7

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BATCH 11

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.

Code with error:

The screenshot shows a code editor window titled "TASK11.PY > greet". The code contains a function definition:

```
1 # Bug: Missing parentheses in print statement
2 def greet():
3     print "Hello, AI Debugging Lab!"
4
5 greet()
6
```

A red squiggly line underlines the string in the print statement on line 3. Below the code editor, the "TERMINAL" tab is active, displaying the command prompt output:

```
PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/TASK11.PY
File "c:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8\task11.py", line 3
    print "Hello, AI Debugging Lab!"
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
SyntaxError: Missing parentheses in call to 'print'. Did you mean print(...)?

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>
```

Prompt: Explain the error and fix it.

AI explanation:

The error is caused by using Python 2 style print syntax (print "Hello, AI Debugging Lab!").

In Python 3, print is a function and requires parentheses.

Corrected code:

```
task1.py > ...
1 def greet():
2     print("Hello, AI Debugging Lab!") # ✓ Correct Python 3 syntax
3
4 greet()
5
```

Task Description #2 (Logic Error – 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.

Code with error:

```
task2.py > check_number
1 # Bug: Using assignment (=) instead of comparison (==)
2 def check_number(n):
3     if n = 10:
4         return "Ten"
5     else:
6         return "Not Ten"
7
PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS
Python + v [icon] [icon] [icon] [icon] [icon] [icon] [icon] [icon]
PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/task2.py
File "c:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8\task2.py", line 3
    if n = 10:
        ^^^^^
SyntaxError: invalid syntax. Maybe you meant '==' or ':=' instead of '='?
PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>
```

Prompt: Explain the error and fix it.

Error Explanation:

The code uses the assignment operator = instead of the comparison operator == in the if statement.

In Python, = is used to assign values, while == checks for equality.

Using = in a conditional statement causes a SyntaxError.

CORRECTED CODE:

```
task2.py > check_number
1 def check_number(n):
2     if n == 10: # ✓ Use comparison operator
3         return "Ten"
4     else:
5         return "Not Ten"
```

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

Task: Provide code that attempts to open a non-existent file and crashes.

```
TASK3.PY > read_file
1 # Bug: Program crashes if file is missing
2 def read_file(filename):
3     with open(filename, 'r') as f: |
4         return f.read()
5
6 print(read_file("nonexistent.txt"))
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + - [] [X] ... [] [X]

```
PS C:\Users\siris\OneDrive\Documents\AI-Assigments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft
/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assigments/assignment7,8/TASK3.PY
Traceback (most recent call last):
  File "c:\Users\siris\OneDrive\Documents\AI-Assigments\assignment7,8\TASK3.PY", line 6, in <module>
    print(read_file("nonexistent.txt"))
          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
File "c:\Users\siris\OneDrive\Documents\AI-Assigments\assignment7,8\TASK3.PY", line 3, in read_file
    with open(filename, 'r') as f:
          ^^^^^^^^^^^^^^^^^^^^^
FileNotFoundError: [Errno 2] No such file or directory: 'nonexistent.txt'
PS C:\Users\siris\OneDrive\Documents\AI-Assigments\assignment7,8>
```

Prompt: Explain the error and fix it.

Error Explanation:

If "nonexistent.txt" does not exist, `open(filename, 'r')` raises a `FileNotFoundError`, causing the program to crash.

Fix:

Wrap the file opening code in a try...except block to handle missing files gracefully.

Corrected code:



The screenshot shows a Python IDE with a dark theme. The main editor displays a Python script named `TASK3.PY` with the following code:

```

1  # Bug: Program crashes if file is missing
2  def read_file(filename):
3      try:
4          with open(filename, 'r') as f:
5              return f.read()
6      except FileNotFoundError:
7          return "File not found."
8
9  print(read_file("nonexistent.txt"))
10

```

Below the editor is a toolbar with tabs for **PROBLEMS** (1), **OUTPUT**, **DEBUG CONSOLE**, **TERMINAL**, and **PORTS**. The **TERMINAL** tab is active, showing the command prompt output:

```

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft
/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/TASK3.PY
File not found.
PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>

```

Task Description #4 (AttributeError – 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.

```
task4.py > ...
1 # Bug: Calling an undefined method
2 class Car:
3     def start(self):
4         return "Car started"
5
6 my_car = Car()
7 print(my_car.drive())
8
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/task4.py

Traceback (most recent call last):

File "c:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8\task4.py", line 7, in <module>

print(my_car.drive())

^^^^^^^^^^^^^^^^

AttributeError: 'Car' object has no attribute 'drive'

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>

Prompt: Explain the error and fix it

Error Explanation:

The code tries to call `my_car.drive()`, but the `Car` class does not have a `drive` method defined.

This causes an `AttributeError`.

Corrected code:

```
task4.py > ...
1  # Bug: Calling an undefined method
2  class Car:
3      def start(self):
4          return "Car started"
5
6      def drive(self):
7          return "Car is driving"
8
9  my_car = Car()
10 print(my_car.drive())
11
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

Python + - [] [X] ... [] [X]

```
PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft
/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/task4.py
Car is driving
PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>
```

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.

```
task5.py > ...
1 # Bug: TypeError due to mixing string and integer
2 def add_five(value):
3     return value + 5 # ❌ Will fail if value is a string
4
5 print(add_five("10"))
6
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + v [] [] ... [] []

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/task5.py

Traceback (most recent call last):

File "c:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8\task5.py", line 5, in <module>

print(add_five("10"))

^^^^^^^^^^^^^^^^

File "c:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8\task5.py", line 3, in add_five

return value + 5 # ❌ Will fail if value is a string

^^^^^^^^^^^^

TypeError: can only concatenate str (not "int") to str

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>

Prompt: Explain the error and fix it

Error Explanation:

The code tries to add an integer (5) to a string ("10"), which causes a TypeError in Python.

Fix:

Convert the input to an integer before adding.

Corrected code:

```
task5.py > ...
1 # Bug: TypeError due to mixing string and integer
2 def add_five(value):
3     return int(value) + 5 # ✅ Convert value to integer
4
5 print(add_five("10"))
6
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS Python + v [] [] ... [] []

PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8> & C:/Users/siris/AppData/Local/Microsoft/WindowsApps/python3.11.exe c:/Users/siris/OneDrive/Documents/AI-Assignments/assignment7,8/task5.py

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PS C:\Users\siris\OneDrive\Documents\AI-Assignments\assignment7,8>