

ASSIGNMENT-7.1

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Batch:36

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.

Output:

The screenshot shows the Gemini AI interface. A code editor window displays the following Python code:

```
# Bug: Missing parentheses in print statement
def greet():
    -print "Hello, AI Debugging Lab!"
    + print("Hello, AI Debugging Lab!")
    greet()

... File "/tmp/ipython-input-1503708070.py", line 3
        print "Hello, AI Debugging Lab!
               ^
IndentationError: expected an indent
```

A tooltip box is open over the error line, containing the following text:

L Please explain this error:

File "/tmp/ipython-input-1503708070.py", line 3 print "Hello, AI Debugging Lab!"

The error is an `IndentationError`. The line `print "Hello, AI Debugging Lab!"` needs to be indented to be part of the `greet()` function.

Next steps: Explain error

Accept & Run Accept Cancel

What can I help you build?

Gemini 2.5 Flash ▾ ▶

Gemini can make mistakes so double-check it and use code with caution. [Learn more](#)

The screenshot shows the Gemini AI interface with the title "Task-1". The code editor displays the following Python code, which has been corrected by the AI:

```
[7] ✓ 0s
# Bug: Missing parentheses in print statement
def greet():
    print("Hello, AI Debugging Lab!")
    greet()

... Hello, AI Debugging Lab!
```

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.

Output:

The screenshot shows the Gemini AI interface. On the left is a code editor window titled 'Gemini' with a status bar '[8]'. The code in the editor is:

```
# Bug: Using assignment (=) instead of comparison (==)
def check_number(n):
    if n = 10:
        return "Ten"
    else:
        return "Not Ten"
    +   if n == 10:
    +       return "Ten"
    +   else:
    +       return "Not Ten"

... File "/tmp/ipython-input-2906885724.py", line 3 if n = 10: ^ IndentationError: expected an indent

```

Below the code editor is a button 'Next steps: Explain error'. A modal window titled 'Please explain this error:' is open, containing the following text:

File "/tmp/ipython-input-2906885724.py", line 3 if n = 10: ^ IndentationError: expected an indent

With buttons: Accept & Run, Accept, Cancel.

At the bottom right of the modal is a message: 'Gemini can make mistakes so double-check it and use code with caution. Learn more'.

The screenshot shows the Gemini AI interface with a code editor window titled 'Gemini' and a status bar '[9]'. The code in the editor is:

```
# Bug: Using assignment (=) instead of comparison (==)
def check_number(n):
    if n == 10:
        return "Ten"
    else:
        return "Not Ten"
```

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.

Output:

The screenshot shows the Gemini 2.5 Flash interface with two code editor panes.

Top Pane:

```
[10] # Bug: Program crashes if file is missing
def read_file(filename):
    with open(filename, 'r') as f:
        return f.read()
+     with open(filename, 'r') as f:
+         return f.read()
print(read_file("nonexistent.txt"))

... File "/tmp/ipython-input-1407745984.py", line 3 with open(filename, 'r') as f:
      ^
IndentationError: expected an indent
```

A tooltip box is open over the indentation error, asking "Please explain this error:" and providing the explanation: "The error is an `IndentationError`. The lines `with open(filename, 'r') as f:` and `return f.read()` are not indented correctly. They need 4 spaces." It also includes "Accept & Run", "Accept", and "Cancel" buttons.

Bottom Pane:

```
[12] ✓ os
[12] # Bug: Program crashes if file is missing
def read_file(filename):
    try:
        with open(filename, 'r') as f:
            return f.read()
    except FileNotFoundError:
        return f"Error: The file '{filename}' was not found."
    print(read_file("nonexistent.txt"))

... Error: The file 'nonexistent.txt' was not found.
```

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.

Output:

Task-4

```
[13] Gemini
  # Bug: Calling an undefined method
  class Car:
    -def start(self):
    -return "Car started"
    + def start(self):
    +     return "Car started"
    my_car = Car()
    -print(my_car.drive())
    +print(my_car.start())

...
File "/tmp/ipython-input-1169229928.py", line 3
  def start(self):
^
IndentationError: expected an indent
```

Please explain this error:

① File "/tmp/ipython-input-1169229928.py", line 3 def start(self):
◆ The current error is an `IndentationError`. The `start` method needs to be indented within the `Car` class definition. Additionally, run after fixing.

▶ Accept & Run ✓ Accept ✕ Cancel

Next steps: Explain error

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+

Gemini 2.5 Flash ▶

Task-4

```
[14] Gemini
  # Bug: Calling an undefined method
  class Car:
    def start(self):
      return "Car started"
    my_car = Car()
    print(my_car.start())

...
Car started
```

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.

Output:

Task-5

[15] Gemini

```
# Bug: TypeError due to mixing string and integer
def add_five(value):
    -return value + 5
    + return int(value) + 5
    print(add_five("10"))

...
File "/tmp/ipython-input-95851105.py", line 3
    return value + 5
          ^
IndentationError: expected an indent
```

Next steps: Explain error

L Please explain this error:
File "/tmp/ipython-input-95851105.py", line 3 return value + 5

◆ The current error is an `IndentationError`. The line `return value + 5` needs to be indented under the `add_five` function. After fixing this there are no errors.

▶ Accept & Run ✓ Accept ✖ Cancel

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Task-5

[16] ✓ 0s Gemini

```
# Bug: TypeError due to mixing string and integer
def add_five(value):
    return int(value) + 5
    print(add_five("10"))

...
15
```