ASSIGNMENT-7.1

Name: P.Bharath

Hall No:2303A52237

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.

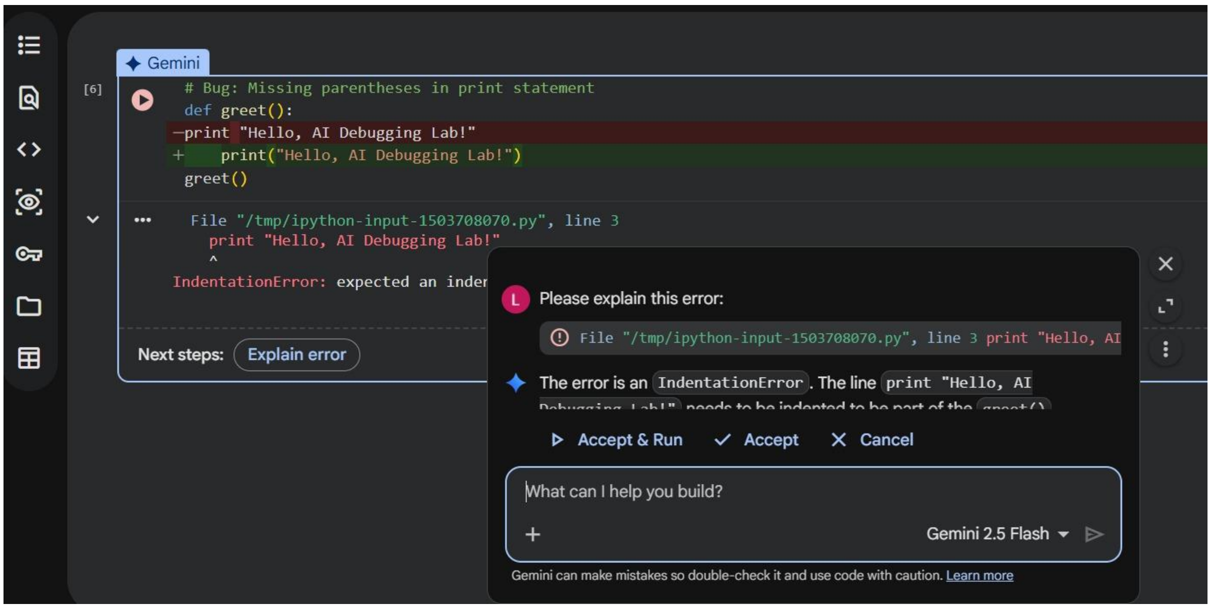
• Apply AI suggestions to correct the syntax.

• 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:



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

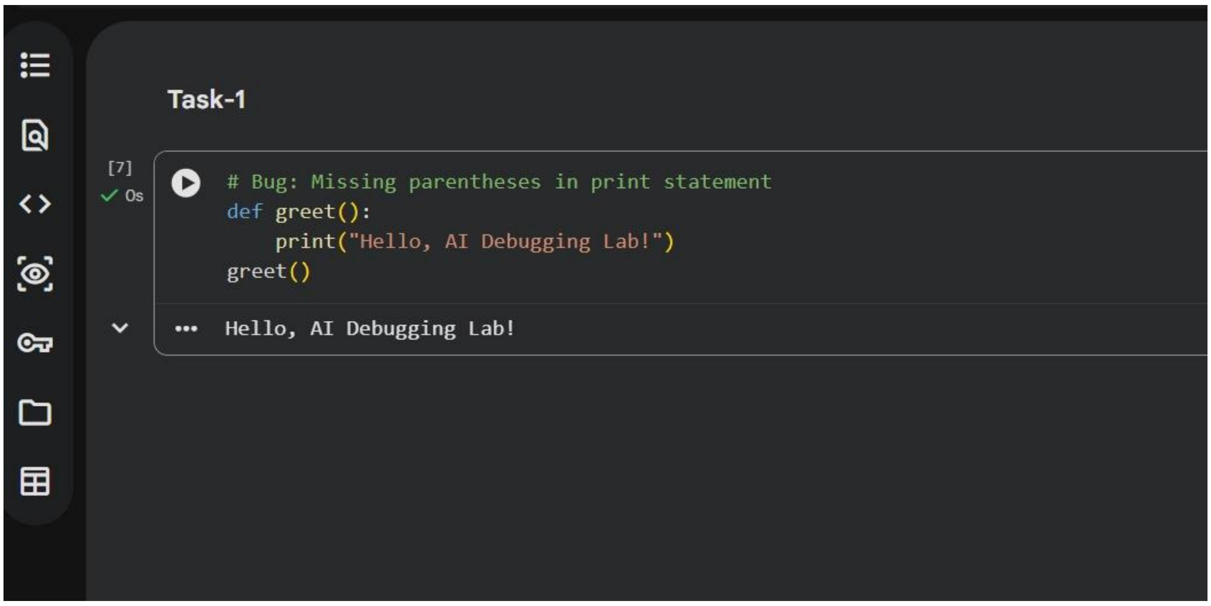
```
  File "/tmp/ipython-input-1503708070.py", line 3
    print "Hello, AI Debugging Lab!"
    ^
IndentationError: expected an inden
```

Please explain this error:

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

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

Gemini can make mistakes so double-check it and use code with caution. Learn more



Task-1

```
# 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:

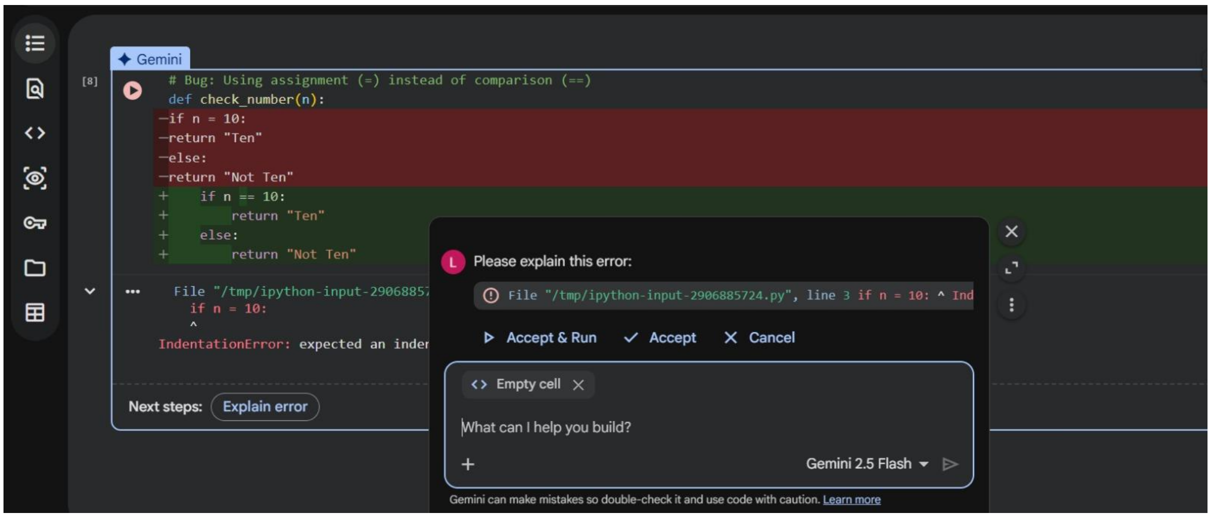
• Ask AI to explain why this causes a bug.

• Correct the code and verify with 3 assert test cases.

Expected Output #2:

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

Output:



```
# 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"
```

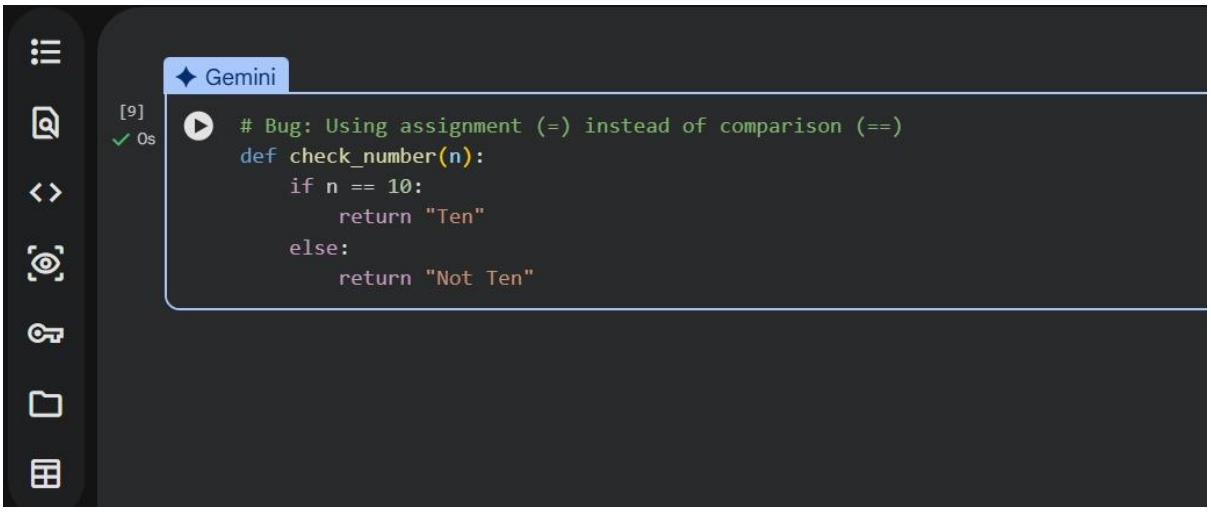
```
File "/tmp/ipython-input-29068857
  if n = 10:
  ^
IndentationError: expected an inder
```

Please explain this error:

```
File "/tmp/ipython-input-2906885724.py", line 3 if n = 10: ^ Ind
```

What can I help you build?

Gemini can make mistakes so double-check it and use code with caution. Learn more



```
# 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.

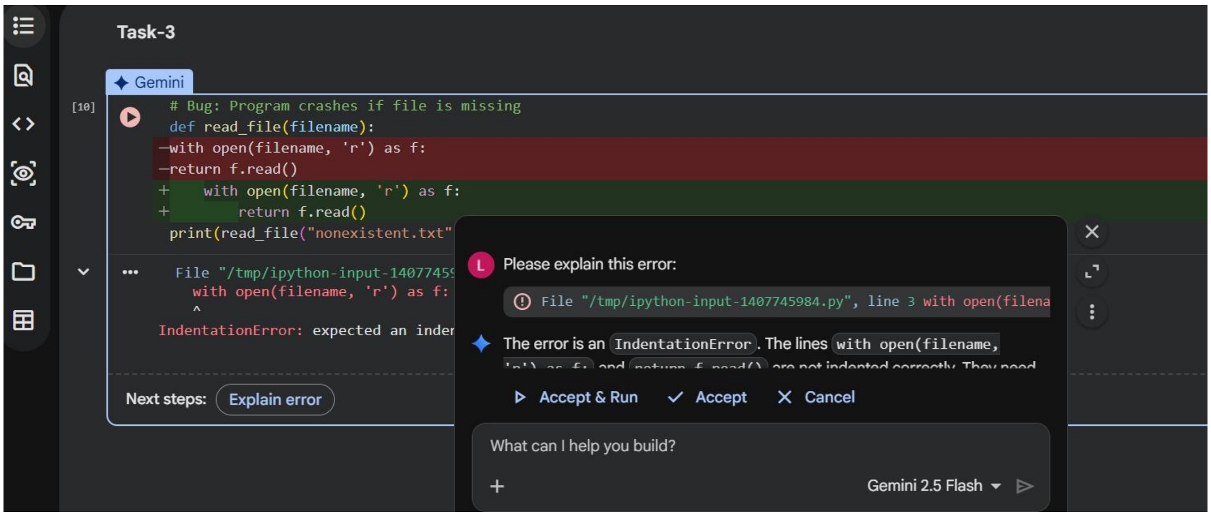
• Add a user-friendly error message.

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

Expected Output #3:

• Safe file handling with exception management.

Output:



Task-3

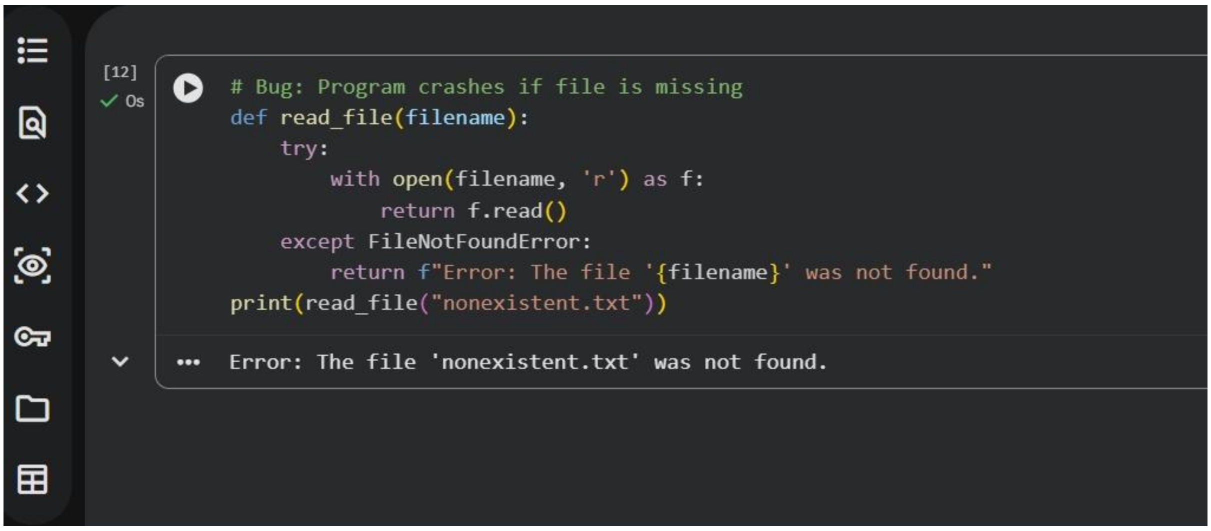
```
[10]
 # Bug: Program crashes if file is missing
 def read_file(filename):
-with open(filename, 'r') as f:
-return f.read()
+    with open(filename, 'r') as f:
+        return f.read()
 print(read_file("nonexistent.txt"

  File "/tmp/ipython-input-14077459
    with open(filename, 'r') as f:
    ^
IndentationError: expected an inder
```

Next steps: Explain error

Please explain this error:

```
File "/tmp/ipython-input-1407745984.py", line 3 with open(filena
```

The error is an `IndentationError`. The lines `with open(filename,`


```
# 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:

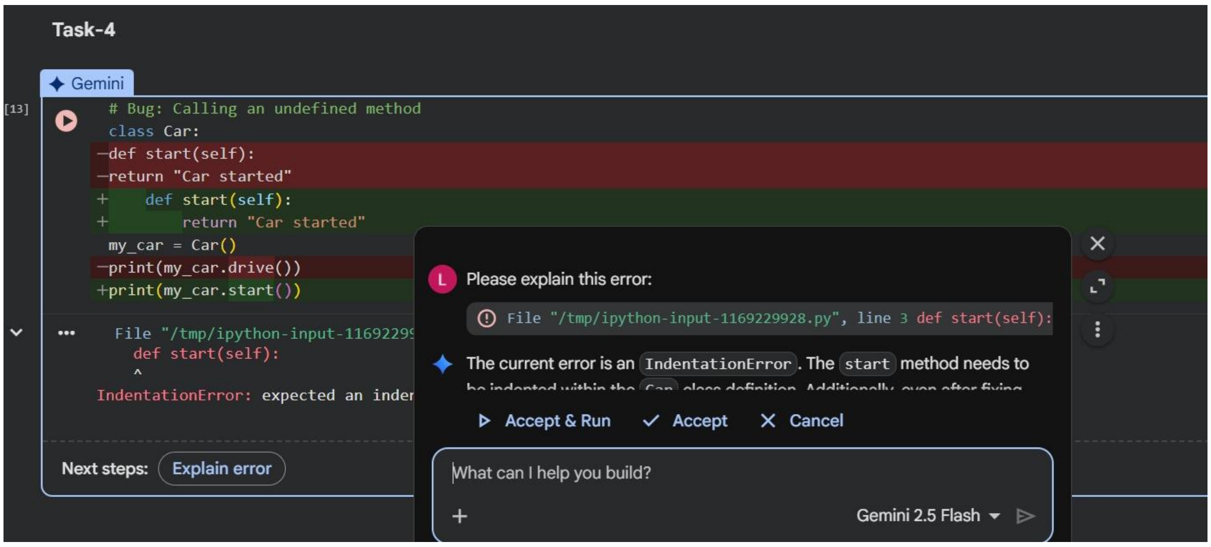
• Students must analyze whether to define the missing method or correct the method call.

• Use 3 assert tests to confirm the corrected class works.

Expected Output #4:

• Corrected class with clear AI explanation.

Output:



Task-4

```
# 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-11692299
  def start(self):
  ^
IndentationError: expected an inder
```

Next steps: Explain error

Please explain this error:

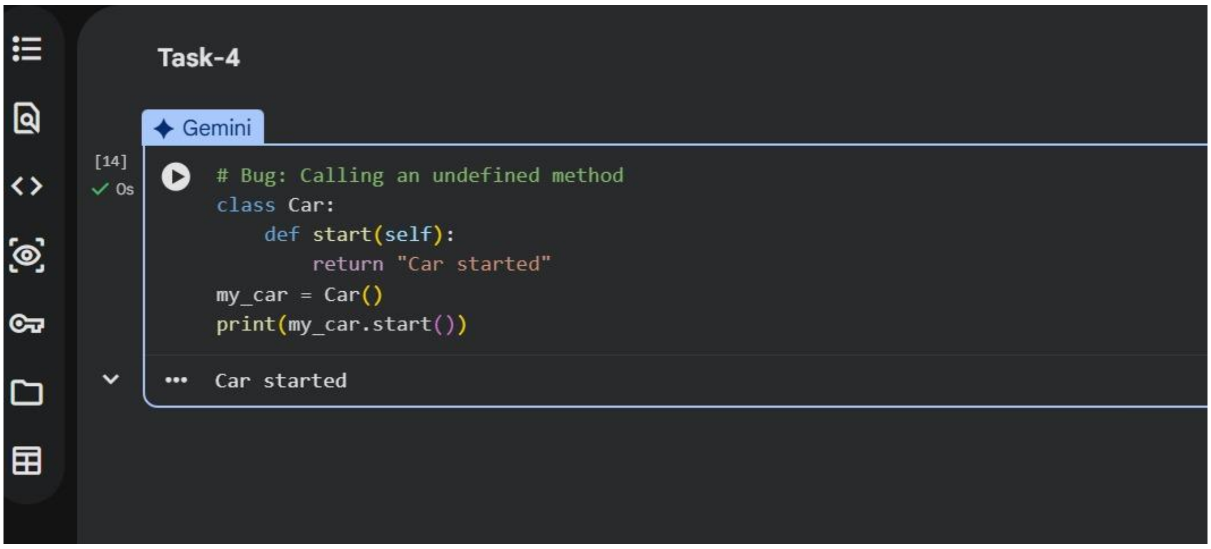
```
File "/tmp/ipython-input-1169229928.py", line 3 def start(self):
```

The current error is an `IndentationError`. The `start` method needs to

Accept & Run ✓ Accept ✕ Cancel

What can I help you build?

Gemini 2.5 Flash



Task-4

```
# 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:

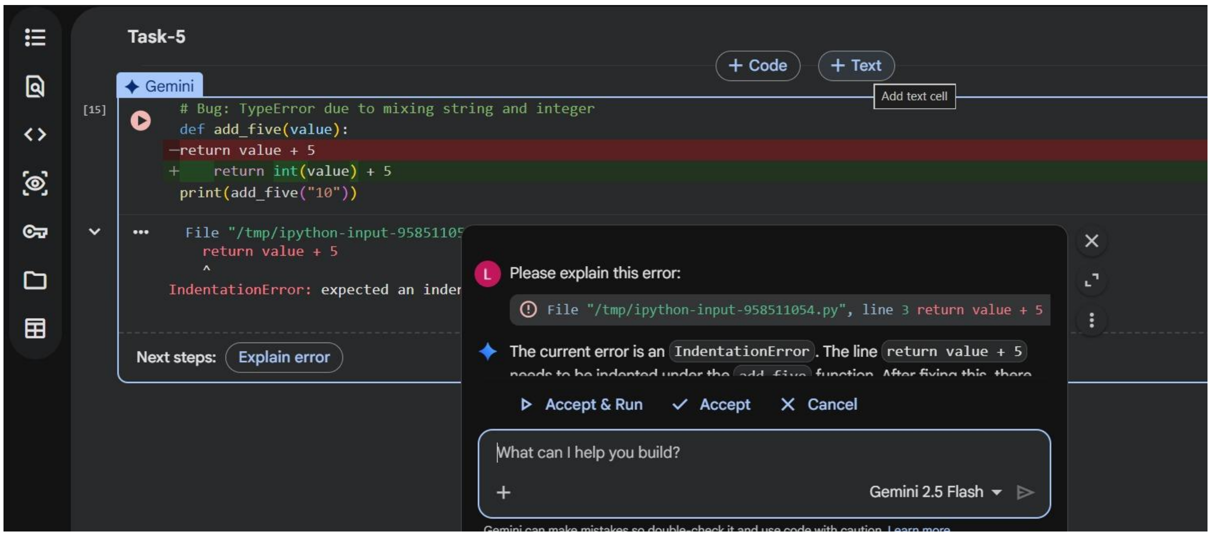
• Ask AI for two solutions: type casting and string concatenation.

• Validate with 3 assert test cases.

Expected Output #5:

• Corrected code that runs successfully for multiple inputs.

Output:



Task-5

```
[15]
# Bug: TypeError due to mixing string and integer
def add_five(value):
-return value + 5
+     return int(value) + 5
print(add_five("10"))
```

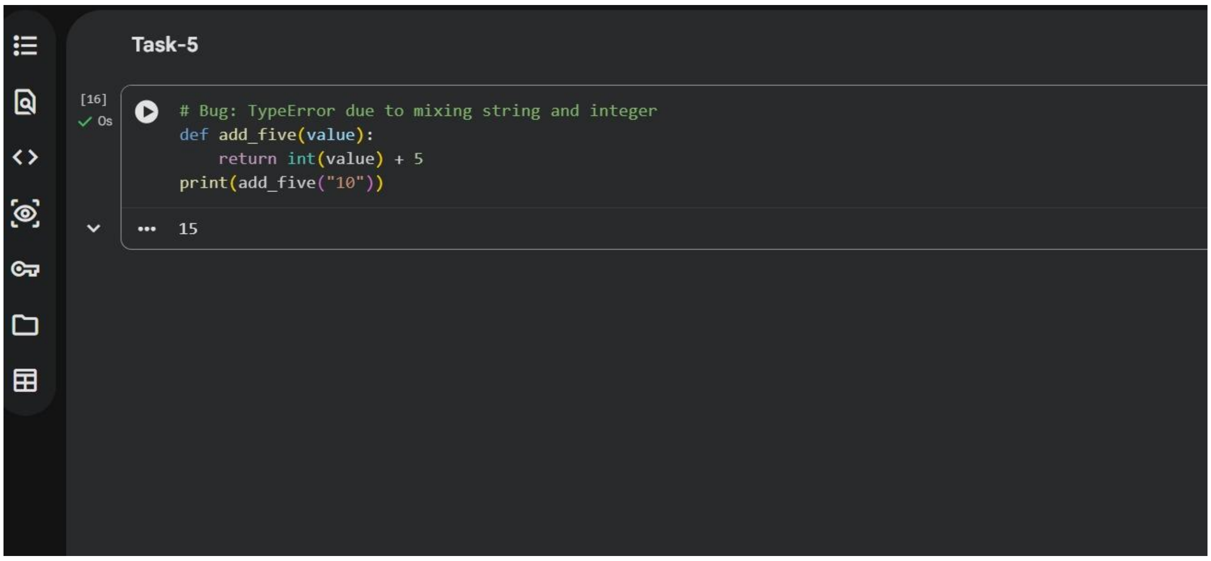
```
File "/tmp/ipython-input-95851105
  return value + 5
  ^
IndentationError: expected an inder
```

Please explain this error:

```
File "/tmp/ipython-input-958511054.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

+ Code
+ Text
Add text cell
Gemini
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



Task-5

```
[16]
# Bug: TypeError due to mixing string and integer
def add_five(value):
    return int(value) + 5
print(add_five("10"))
```

```
15
```