AI ASSISTED CODING:

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BATCH-11
CSE-GEN

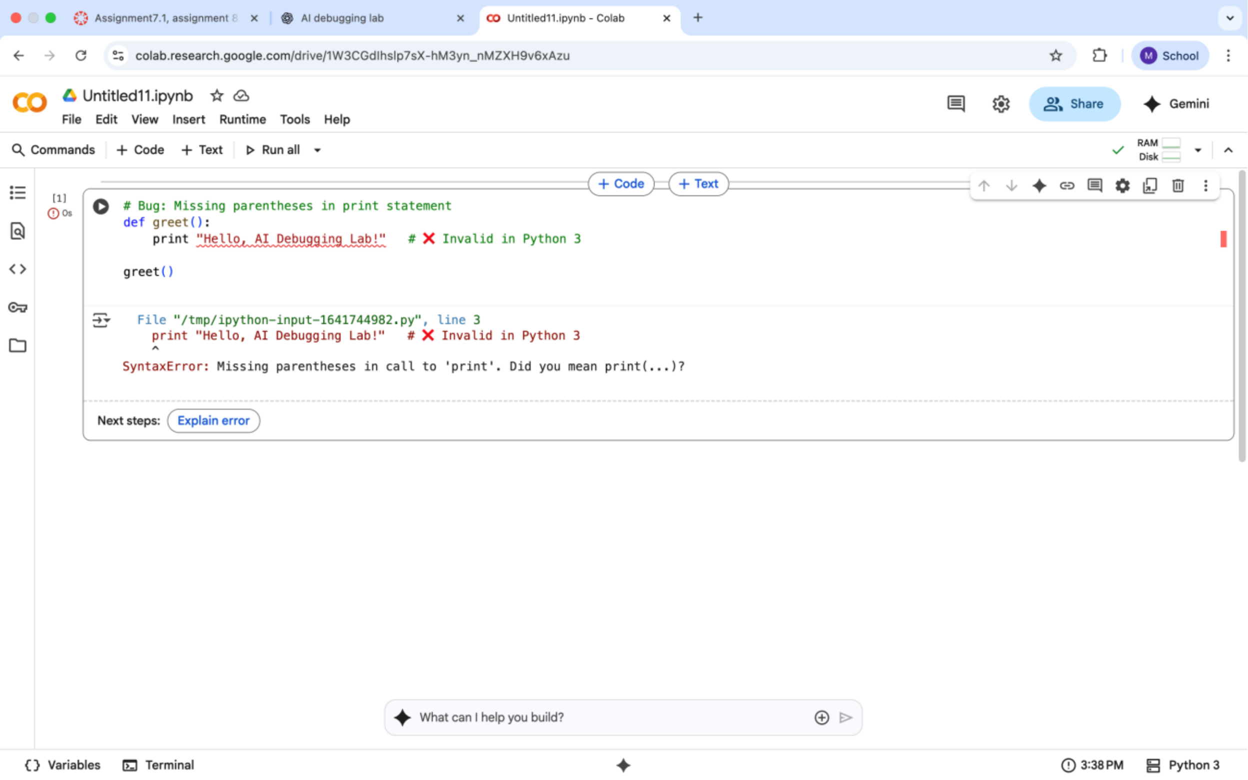
EXPERIMENT-7.1:

TASK1:

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()
```

GIVEN CODE:



Assignment7.1, assignment 8
AI debugging lab
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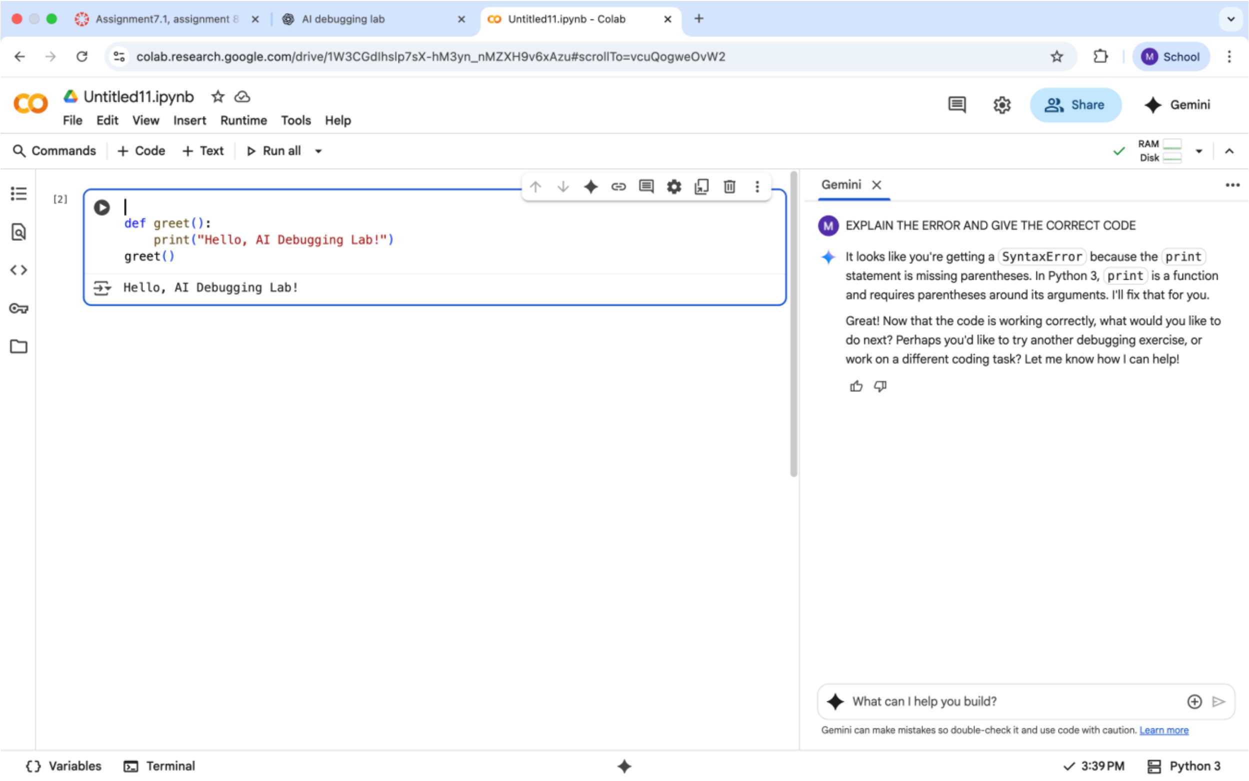
```
# Bug: Missing parentheses in print statement
def greet():
    print "Hello, AI Debugging Lab!"    # ❌ Invalid in Python 3

greet()
```

```
  File "/tmp/ipython-input-1641744982.py", line 3
    print "Hello, AI Debugging Lab!"    # ❌ Invalid in Python 3
    ^
SyntaxError: Missing parentheses in call to 'print'. Did you mean print(...)?
```

Next steps: Explain error
What can I help you build?
Variables
Terminal
3:38 PM
Python 3

AI CORRECTED CODE:



[2]

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

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

Gemini

EXPLAIN THE ERROR AND GIVE THE CORRECT CODE

It looks like you're getting a `SyntaxError` because the `print` statement is missing parentheses. In Python 3, `print` is a function and requires parentheses around its arguments. I'll fix that for you.

Great! Now that the code is working correctly, what would you like to do next? Perhaps you'd like to try another debugging exercise, or work on a different coding task? Let me know how I can help!

What can I help you build?

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EXPLANATION:

SyntaxError because the print statement is missing parentheses. In Python 3, print is a function and requires parentheses around its arguments.

PROMPT GIVEN TO FIX ERROR: Fix the error and give the corrected code

TASK2:

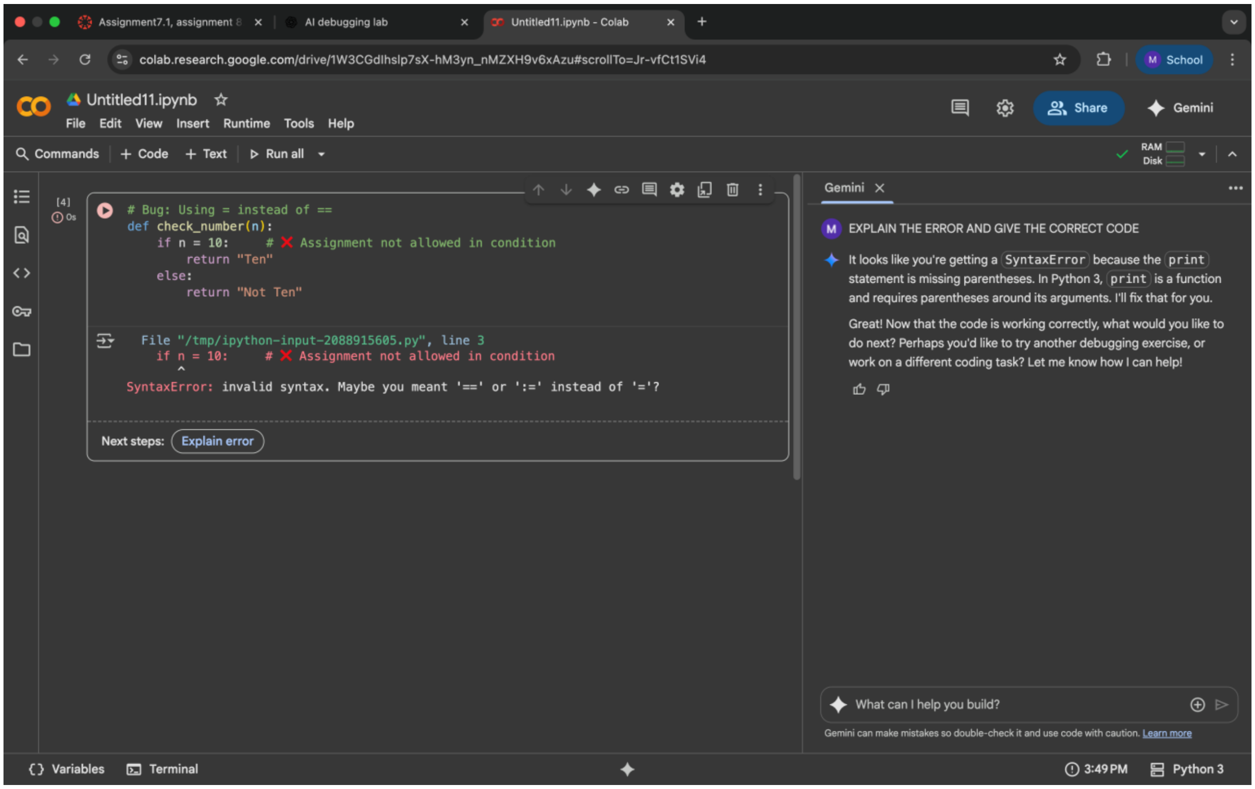
Supply a function where an if-condition mistakenly uses = instead of ==. Let AI identify and fix the issue.

```
# Bug: Using assignment (=) instead of comparison (==)

def check_number(n):
    if n = 10:
```

```
 return "Ten"
 else:
return "Not Ten"
```

GIVEN CODE:


Assignment7.1, assignment 8
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Gemini
Next steps:
Explain error
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Terminal
3:49 PM
Python 3

```
# Bug: Using = instead of ==
def check_number(n):
    if n = 10:     # ❌ Assignment not allowed in condition
        return "Ten"
    else:
        return "Not Ten"
```

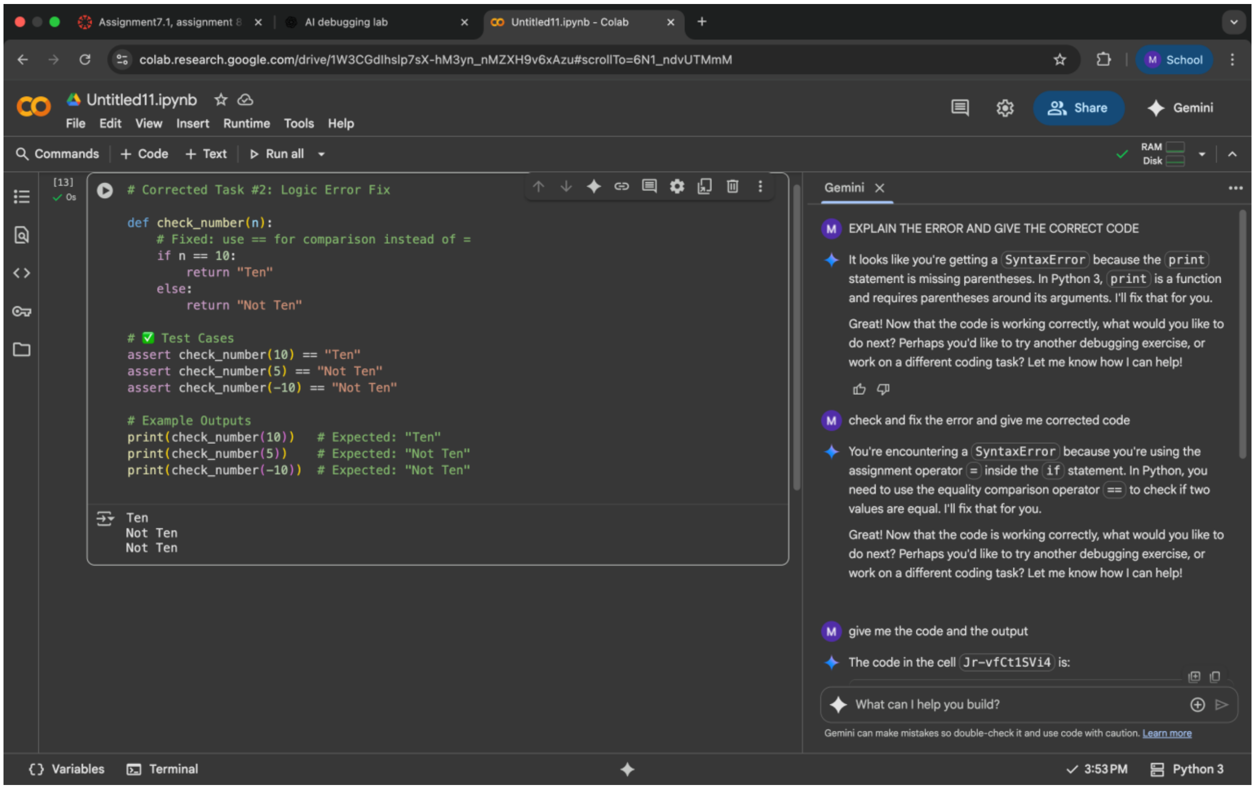
```
  File "/tmp/ipython-input-2088915605.py", line 3
    if n = 10:     # ❌ Assignment not allowed in condition
       ^
SyntaxError: invalid syntax. Maybe you meant '==' or ':=' instead of '='?
```

EXPLAIN THE ERROR AND GIVE THE CORRECT CODE

It looks like you're getting a `SyntaxError` because the `print` statement is missing parentheses. In Python 3, `print` is a function and requires parentheses around its arguments. I'll fix that for you.

Great! Now that the code is working correctly, what would you like to do next? Perhaps you'd like to try another debugging exercise, or work on a different coding task? Let me know how I can help!

AI CORRECTED CODE:


Assignment7.1, assignment
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Python 3

```
# Corrected Task #2: Logic Error Fix

def check_number(n):
    # Fixed: use == for comparison instead of =
    if n == 10:
        return "Ten"
    else:
        return "Not Ten"

# ✅ Test Cases
assert check_number(10) == "Ten"
assert check_number(5) == "Not Ten"
assert check_number(-10) == "Not Ten"

# Example Outputs
print(check_number(10))   # Expected: "Ten"
print(check_number(5))    # Expected: "Not Ten"
print(check_number(-10))  # Expected: "Not Ten"
```

```
Ten
Not Ten
Not Ten
```

Gemini

EXPLAIN THE ERROR AND GIVE THE CORRECT CODE

It looks like you're getting a `SyntaxError` because the `print` statement is missing parentheses. In Python 3, `print` is a function and requires parentheses around its arguments. I'll fix that for you.

Great! Now that the code is working correctly, what would you like to do next? Perhaps you'd like to try another debugging exercise, or work on a different coding task? Let me know how I can help!

check and fix the error and give me corrected code

You're encountering a `SyntaxError` because you're using the assignment operator `=` inside the `if` statement. In Python, you need to use the equality comparison operator `==` to check if two values are equal. I'll fix that for you.

Great! Now that the code is working correctly, what would you like to do next? Perhaps you'd like to try another debugging exercise, or work on a different coding task? Let me know how I can help!

give me the code and the output

The code in the cell `Jr-vfCt1SVi4` is:

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EXPLANATION:

SyntaxError because you're using the assignment operator = inside the if statement. In Python, you need to use the equality comparison operator == to check if two values are equal.

PROMPT GIVEN TO FIX ERROR:

Check and fix the error and give me corrected code

TASK3:

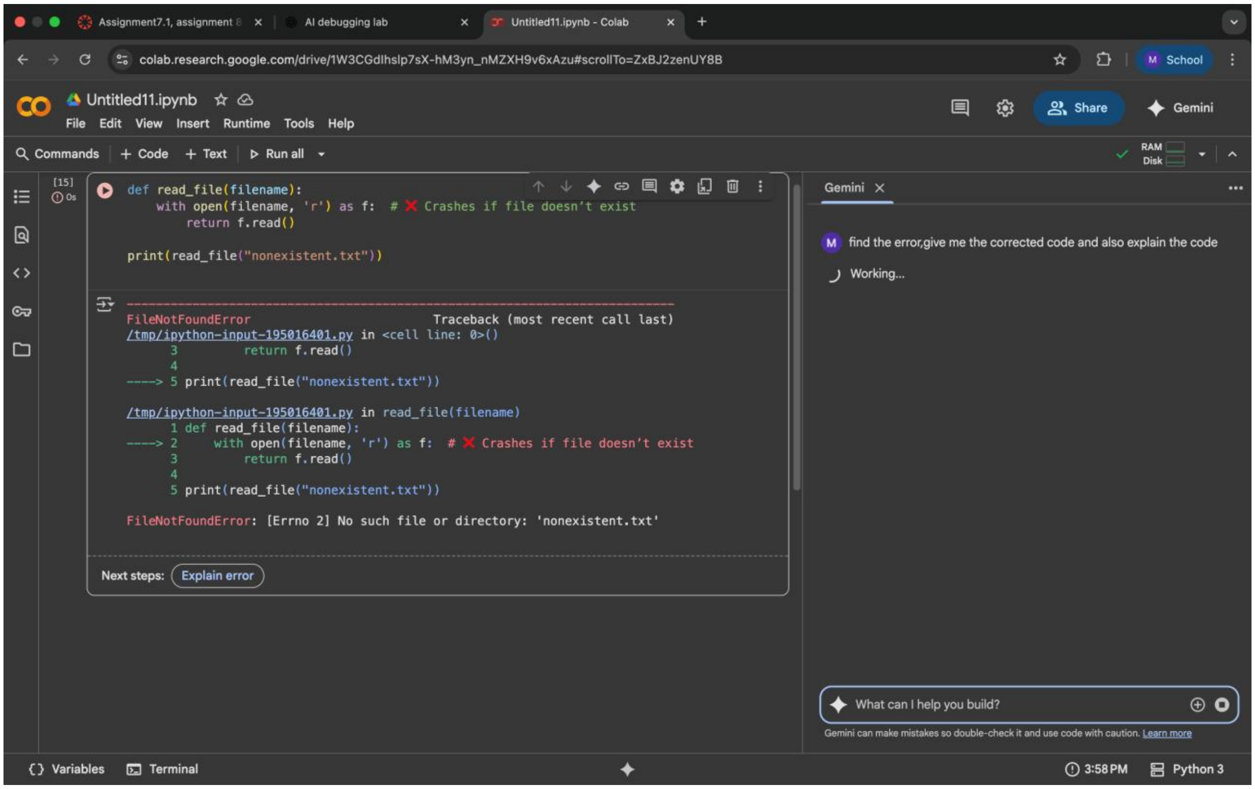
Provide code that attempts to open a non-existent file and crashes. Use AI to apply safe error handling.

# 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"))
```

GIVEN CODE:



```
def read_file(filename):
    with open(filename, 'r') as f:  # ❌ Crashes if file doesn't exist
        return f.read()

print(read_file("nonexistent.txt"))
```

```
---------------------------------------------------------------------------
FileNotFoundError                         Traceback (most recent call last)
/tmp/ipython-input-195016401.py in <cell line: 0>()
      3         return f.read()
      4 
----> 5 print(read_file("nonexistent.txt"))

/tmp/ipython-input-195016401.py in read_file(filename)
      1 def read_file(filename):
----> 2     with open(filename, 'r') as f:  # ❌ Crashes if file doesn't exist
      3         return f.read()
      4 
      5 print(read_file("nonexistent.txt"))

FileNotFoundError: [Errno 2] No such file or directory: 'nonexistent.txt'
```

M find the error,give me the corrected code and also explain the code

Working...

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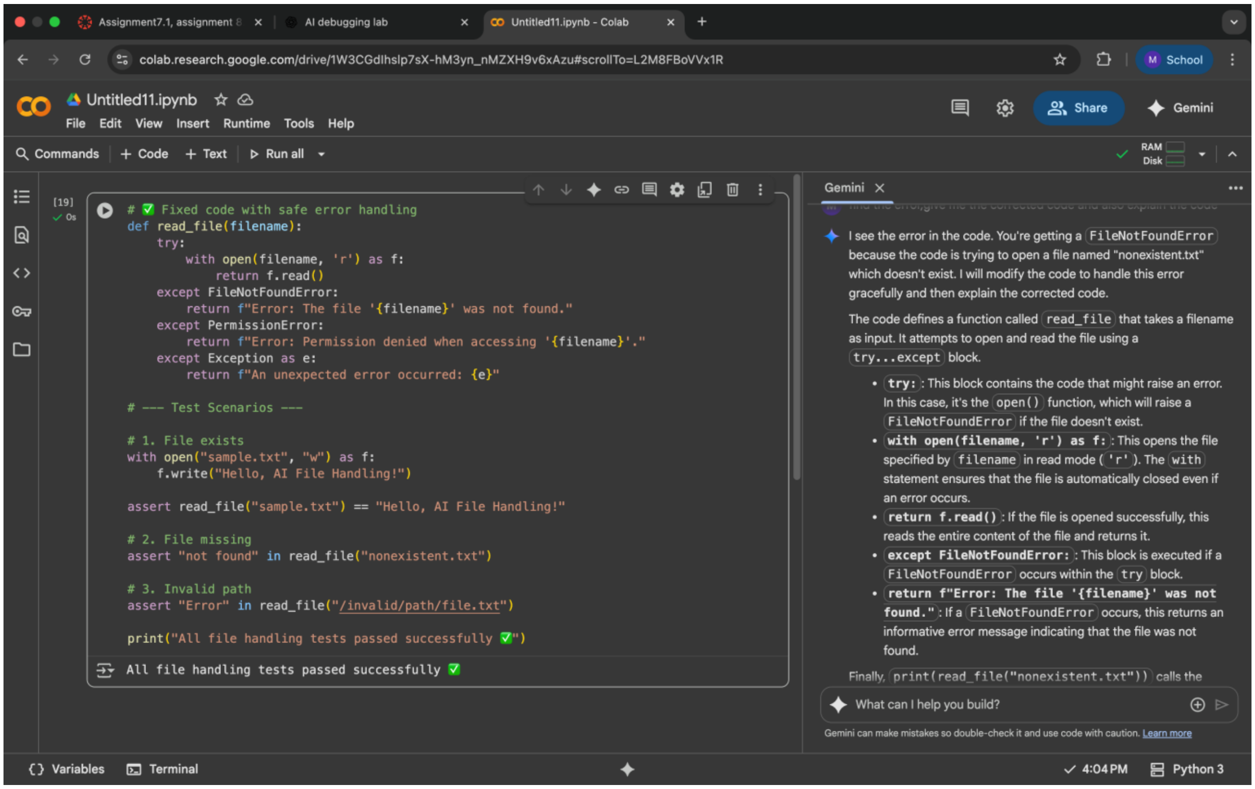
AI CORRECTED CODE:



```python
# ✅ Fixed code with safe error handling
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."
    except PermissionError:
        return f"Error: Permission denied when accessing '{filename}'."
    except Exception as e:
        return f"An unexpected error occurred: {e}"

# --- Test Scenarios ---

# 1. File exists
with open("sample.txt", "w") as f:
    f.write("Hello, AI File Handling!")

assert read_file("sample.txt") == "Hello, AI File Handling!"

# 2. File missing
assert "not found" in read_file("nonexistent.txt")

# 3. Invalid path
assert "Error" in read_file("/invalid/path/file.txt")

print("All file handling tests passed successfully ✅")
```

```
All file handling tests passed successfully ✅
```

Gemini

I see the error in the code. You're getting a `FileNotFoundError` because the code is trying to open a file named "nonexistent.txt" which doesn't exist. I will modify the code to handle this error gracefully and then explain the corrected code.

The code defines a function called `read_file` that takes a filename as input. It attempts to open and read the file using a `try...except` block.

- **`try:`**: This block contains the code that might raise an error. In this case, it's the `open()` function, which will raise a `FileNotFoundError` if the file doesn't exist.
- **`with open(filename, 'r') as f:`**: This opens the file specified by `filename` in read mode (`'r'`). The `with` statement ensures that the file is automatically closed even if an error occurs.
- **`return f.read()`**: If the file is opened successfully, this reads the entire content of the file and returns it.
- **`except FileNotFoundError:`**: This block is executed if a `FileNotFoundError` occurs within the `try` block.
- **`return f"Error: The file '{filename}' was not found."`**: If a `FileNotFoundError` occurs, this returns an informative error message indicating that the file was not found.

Finally, `print(read_file("nonexistent.txt"))` calls the

What can I help you build?

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EXPLANATION:

The program crashes if the file is missing.

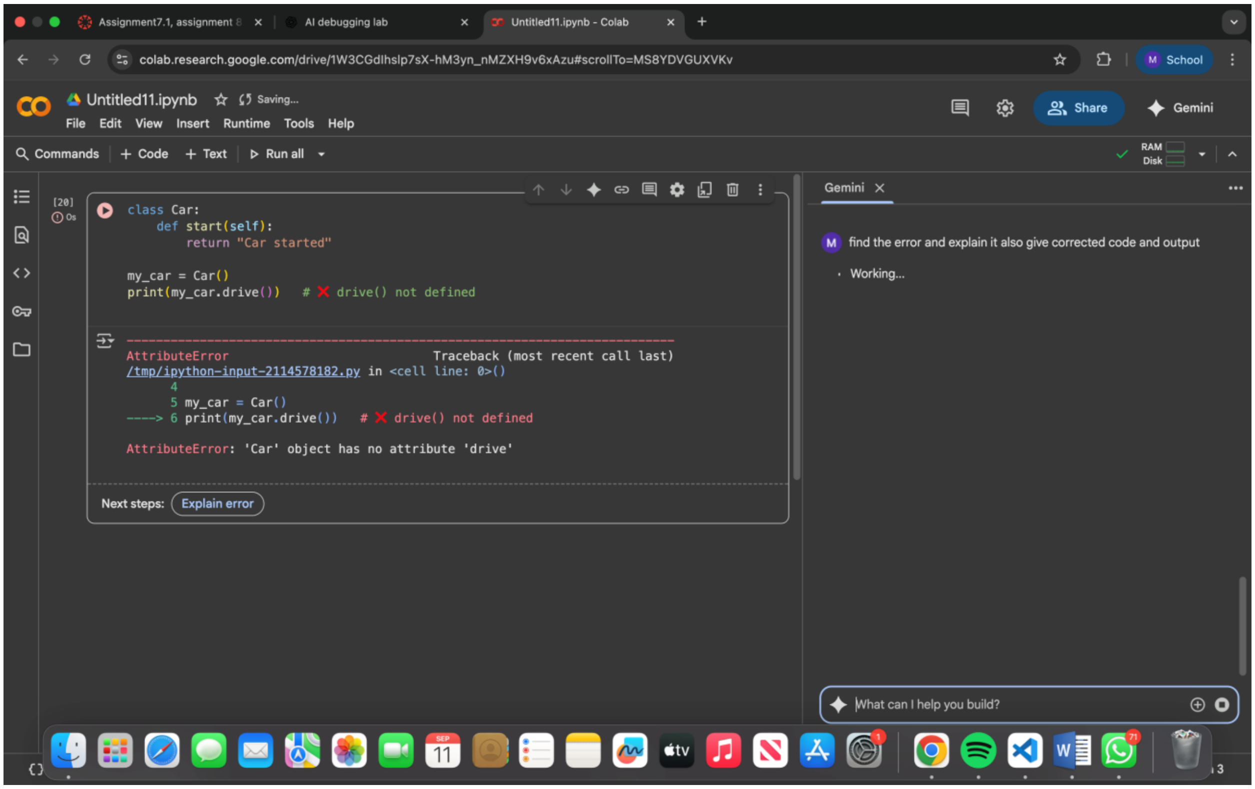
Use a **TRY-EXPECT** block to handle errors gracefully.

PROMPT GIVEN TO FIX ERROR:

find the error,give me the corrected code and also explain the error

TASK4:

GIVEN CODE:



```
class Car:
    def start(self):
        return "Car started"

my_car = Car()
print(my_car.drive())   # ❌ drive() not defined
```

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
/tmp/ipython-input-2114578182.py in <cell line: 0>()
      4
      5 my_car = Car()
----> 6 print(my_car.drive())   # ❌ drive() not defined

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

find the error and explain it also give corrected code and output

Working...

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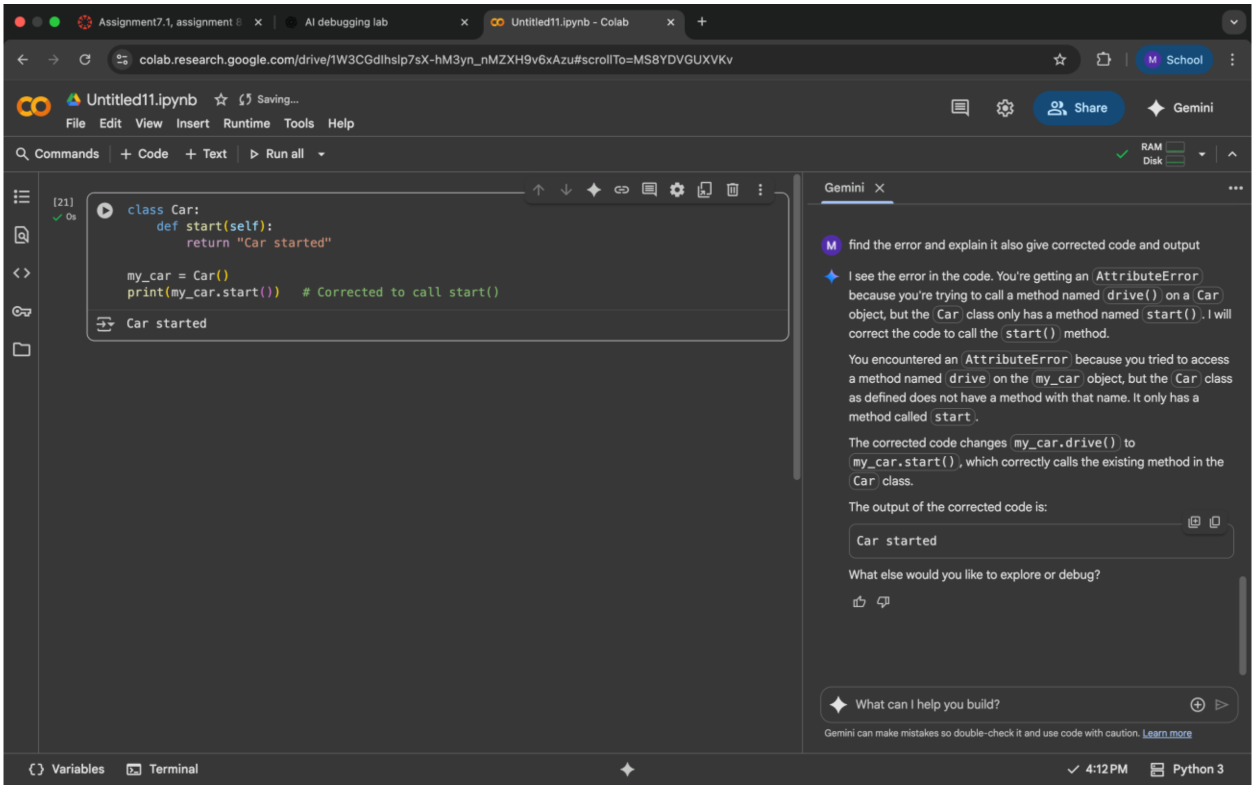
What can I help you build?

AI CORRECTED CODE: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Terminal
4:12 PM
Python 3

```
class Car:
    def start(self):
        return "Car started"

my_car = Car()
print(my_car.start())   # Corrected to call start()
```

```
Car started
```

find the error and explain it also give corrected code and output

I see the error in the code. You're getting an `AttributeError` because you're trying to call a method named `drive()` on a `Car` object, but the `Car` class only has a method named `start()`. I will correct the code to call the `start()` method.

You encountered an `AttributeError` because you tried to access a method named `drive` on the `my_car` object, but the `Car` class as defined does not have a method with that name. It only has a method called `start`.

The corrected code changes `my_car.drive()` to `my_car.start()`, which correctly calls the existing method in the `Car` class.

The output of the corrected code is:

```
Car started
```

What else would you like to explore or debug?

What can I help you build?

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EXPLANATION:

AttributeError because you're trying to call a method named drive() on a Car object, but the Car class only has a method named start(). I will correct the code to call the start() method.

You encountered an AttributeError because you tried to access a method named drive on the my_car object, but the Car class as defined does not have a method with that name. It only has a method called start.

The corrected code changes my_car.drive() to my_car.start(), which correctly calls the existing method in the Car class.

PROMPT GIVEN TO FIX ERROR:

Find the error and explain it ,also give corrected code and output

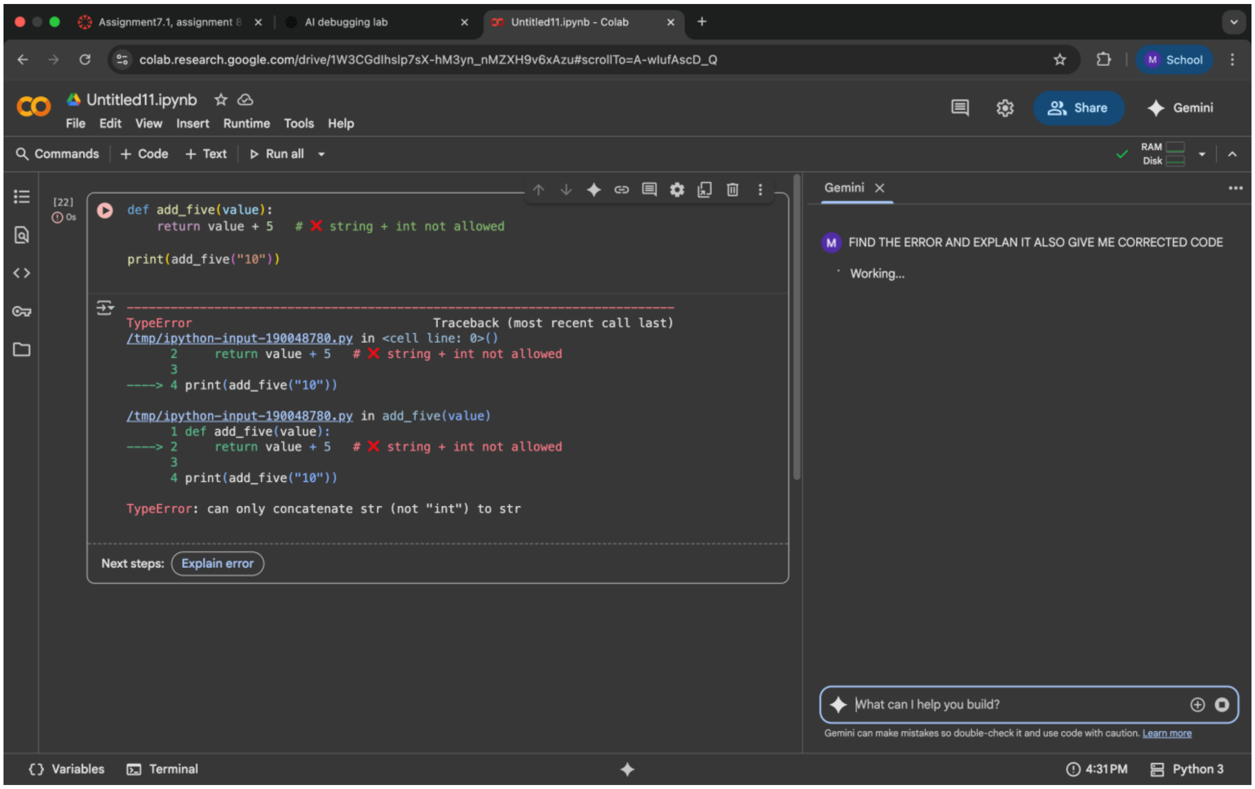
TASK5:

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"))
```

CODE:



```
def add_five(value):
    return value + 5   # ❌ string + int not allowed

print(add_five("10"))
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
/tmp/ipython-input-190048780.py in <cell line: 0>()
      2     return value + 5   # ❌ string + int not allowed
      3 
----> 4 print(add_five("10"))

/tmp/ipython-input-190048780.py in add_five(value)
      1 def add_five(value):
----> 2     return value + 5   # ❌ string + int not allowed
      3 
      4 print(add_five("10"))

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

FIND THE ERROR AND EXPLAN IT ALSO GIVE ME CORRECTED CODE

Working...

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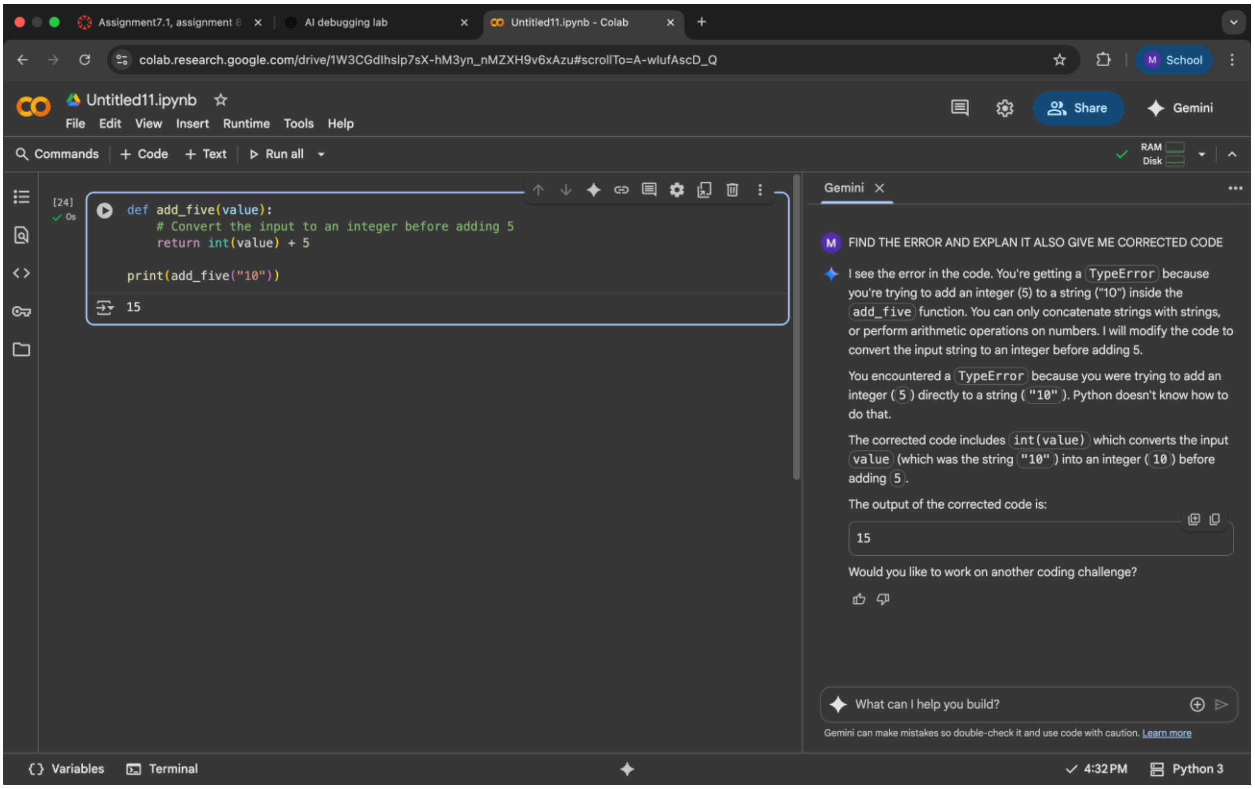
Python 3

AI CORRECTED CODE: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Variables
Terminal
4:32 PM
Python 3

```
def add_five(value):
    # Convert the input to an integer before adding 5
    return int(value) + 5

print(add_five("10"))
```

```
15
```

FIND THE ERROR AND EXPLAN IT ALSO GIVE ME CORRECTED CODE

I see the error in the code. You're getting a `TypeError` because you're trying to add an integer (5) to a string ("10") inside the `add_five` function. You can only concatenate strings with strings, or perform arithmetic operations on numbers. I will modify the code to convert the input string to an integer before adding 5.

You encountered a `TypeError` because you were trying to add an integer (`5`) directly to a string (`"10"`). Python doesn't know how to do that.

The corrected code includes `int(value)` which converts the input `value` (which was the string `"10"`) into an integer (`10`) before adding `5`.

The output of the corrected code is:

```
15
```

Would you like to work on another coding challenge?

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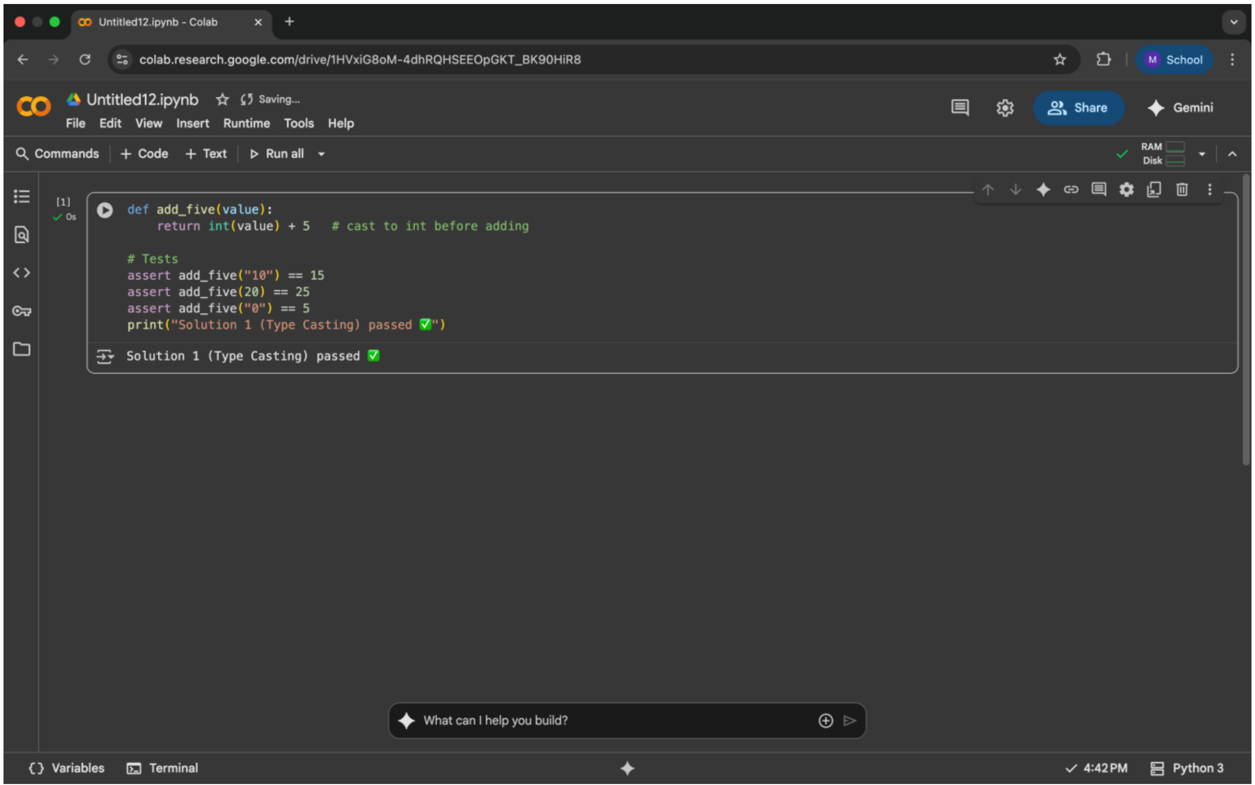
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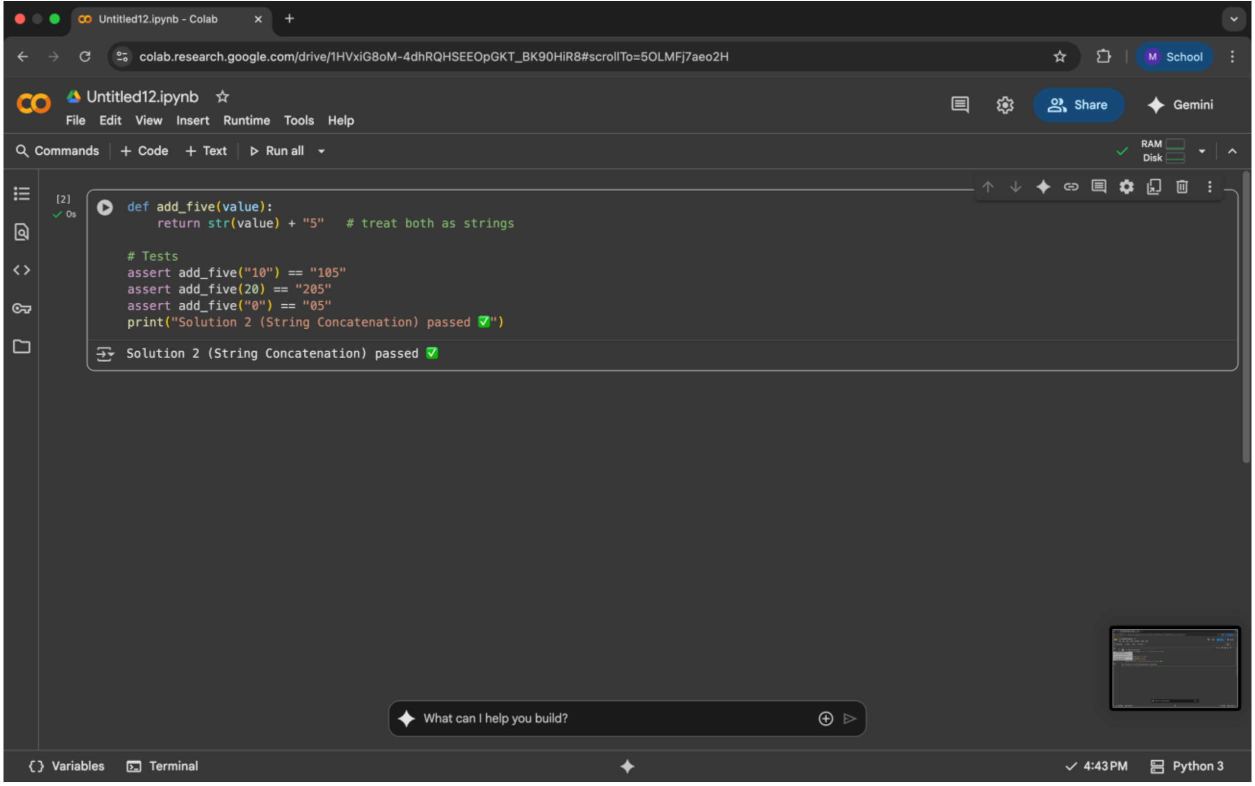
What can I help you build?
Variables
Terminal
4:42 PM
Python 3

```
def add_five(value):
    return int(value) + 5   # cast to int before adding

# Tests
assert add_five("10") == 15
assert add_five(20) == 25
assert add_five("0") == 5
print("Solution 1 (Type Casting) passed ✅")
```

```
Solution 1 (Type Casting) passed ✅
```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Python 3

```
def add_five(value):
    return str(value) + "5"   # treat both as strings

# Tests
assert add_five("10") == "105"
assert add_five(20) == "205"
assert add_five("0") == "05"
print("Solution 2 (String Concatenation) passed ✅")
```

```
Solution 2 (String Concatenation) passed ✅
```

EXPLANATION:

Two valid fixes exist depending on intent:
Type Casting → Convert input to int and perform numeric addition.
"10" → 10, then 10 + 5 = 15.
String Concatenation → Convert input to str and append "5".
"10" + "5" = "105".
Both versions now pass 3 assert test cases, ensuring correctness for different inputs.

TypeError because you're trying to add an integer (5) to a string ("10") inside the add_five function. You can only concatenate strings with strings, or perform arithmetic operations on numbers. I will modify the code to convert the input string to an integer before adding 5.
You encountered a TypeError because you were trying to add an integer (5) directly to a string ("10"). Python doesn't know how to do that.
The corrected code includes int(value) which converts the input value (which was the string "10") into an integer (10) before adding 5.

PROMPT GIVEN TO FIX ERROR:
FIND THE ERROR AND EXPLAN IT ALSO GIVE ME CORRECTED CODE