

School of Computer Science and Artificial Intelligence

Lab Assignment # 7.2

Program : B. Tech (CSE)
Specialization :
Course Title : AI Assisted Coding
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Task 1 – Runtime Error Due to Invalid Input Type

(Buggy Code):

```
num = input("Enter a number: ")
result = num + 10
print(result)
```

The screenshot shows a Jupyter Notebook cell with the following code:

```
[1] ①  num = input("Enter a number: ")
      result = num + 10
      print(result)

  ... Enter a number: 2
```

A tooltip indicates a **TypeError** has occurred. The traceback shows the error happened in the cell, line 0, where the user entered '2'. The error message is: **TypeError: can only concatenate str (not "int") to str**. A button labeled **Explain error** is visible at the bottom.

Output:

The screenshot shows a Jupyter Notebook cell with the following corrected code:

```
② -num = input("Enter a number: ")
+num = int(input("Enter a number: "))
  result = num + 10
  print(result)
```

The screenshot shows the execution output of the corrected code. The user enters '2' when prompted, and the output shows the result '12'.

```
Enter a number: 2
12
```

Task 2 – Incorrect Function Return Value

(Buggy Code):

```
def square(n):
    result = n * n
```

The screenshot shows a code editor window with the following code:

```
def square(n):
    result = n * n
...     File "/tmp/ipython-input-3910404483.py", line 2
        result = n * n
        ^
IndentationError: expected an indented block after function definition on line 1
```

Below the code, there is a button labeled "Next steps: Explain error".

Output:

The screenshot shows a code editor window with the following code:

```
[10] 0s  def square(n):
        result = n * n
```

Below the code, there is a button labeled "Next steps: Explain error".

Task-3 Index Error in List Traversal

(Buggy Code):

```
numbers = [10, 20, 30]
for i in range(0, len(numbers)+1):
    print(numbers[i])
```

The screenshot shows a code editor window with the following code:

```
[11] 0s  numbers = [10, 20, 30]
    for i in range(0, len(numbers)+1):
        print(numbers[i])
...     File "/tmp/ipython-input-726334973.py", line 3
            print(numbers[i])
            ^
IndentationError: expected an indented block after 'for' statement on line 2
```

Below the code, there is a button labeled "Next steps: Explain error".

Output:

The screenshot shows a code editor window with the following code:

```
[1]  def Gemini
    numbers = [10, 20, 30]
    for i in range(0, len(numbers)+1):
        print(numbers[i])
    +for i in range(len(numbers)):
        print(numbers[i])
```

Below the code, there is a button labeled "Next steps: Explain error".

The output window shows the following results:

```
... 10
20
30
```

Task 4 – Uninitialized Variable Usage

(Buggy Code):

```
if True:  
    pass  
    print(total)
```

A screenshot of an IDE interface showing a Python script. The code is:

```
[13] ① 0s  
if True:  
    pass  
    print(total)  
... File "/tmp/ipython-input-1170978020.py", line 2  
        pass  
        ^  
IndentationError: expected an indented block after 'if' statement on line 1
```

The line with the error is highlighted in red. A tooltip "Next steps: Explain error" is visible at the bottom.

Output:

Two screenshots of an IDE interface showing the same Python script after modification. The first screenshot shows the initial state with the error:

```
[13] ① Gemini  
if True:  
-pass  
+ pass  
print(total)  
-
```

The second screenshot shows the code after adding an initialization line:

```
[13] ① Gemini  
if True:  
    pass  
+total = 0 # Or any other initial value  
    print(total)
```

The output window below shows the result of running the script:

```
[13] ... 0
```

Task 5 – Logical Error in Student Grading System

(Buggy Code):

```
marks = 85
if marks >= 90: grade = "A"
elif marks >= 80:
grade = "C"
else:
grade ="B"
print(grade)
```

The screenshot shows a code editor interface with a dark theme. On the left, there's a sidebar with a play button icon and the number '16'. The main area contains the following Python code:

```
marks = 85
if marks >= 90:
grade = "A"
elif marks >= 80:
grade = "C"
else:
grade = "B"
print(grade)
```

Below the code, an error message is displayed:

```
...   File "/tmp/ipython-input-2691675298.py", line 3
      grade = "A"
      ^
IndentationError: expected an indented block after 'if' statement on line 2
```

At the bottom of the editor, there is a button labeled "Next steps: Explain error".

Output:

The screenshot shows a code editor interface with a dark theme. At the top, it says "Gemini". The main area displays the same Python code as before, but the output below it shows the result:

```
...   C
```