**NAME:- Laiba Adnan**

**Class:- BSDS 3A**

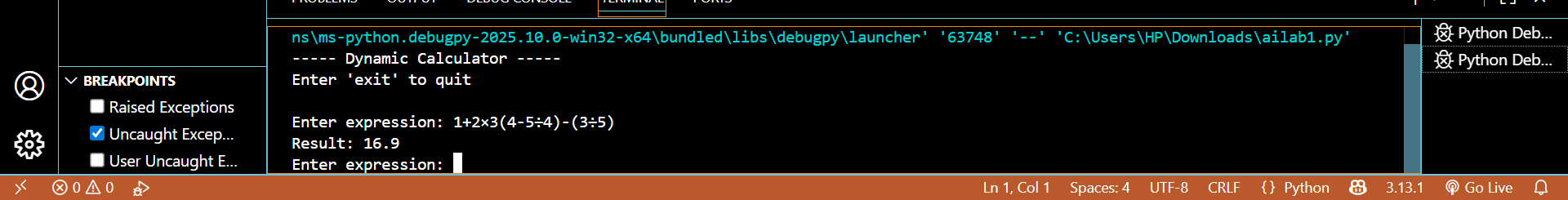
**Roll no:- 004**

**(AI LAB TASK ONE)**

### How it Works

1. **Program starts with a loop**
2. while True:
   * This keeps the calculator running again and again until the user types **exit**.
3. **Takes input from user**
4. expr = input("Enter expression: ")
   * User can type expressions like:  
     1+2×3(4-5÷4)-(3÷5)
5. **Exit condition**
6. if expr.lower() == "exit":
7. break
   * If the user types **exit**, the program ends.
8. **Fix symbols for Python**
9. expr = expr.replace("×", "\*").replace("÷", "/")
   * In math, we use × and ÷, but Python only understands \* and /.
   * That’s why we **replace them**.
10. **Handle implicit multiplication**
    * In math, writing 2(3+4) means 2 \* (3+4).
    * But Python gives an error unless we put \*.
    * So we add \* automatically if a number is followed by (:
11. if ch == "(" and (prev.isdigit() or prev == ")"):
12. new\_expr += "\*" + ch
13. **Evaluate the expression**
14. result = eval(new\_expr)
15. print("Result:", result)
    * eval() is a built-in Python function that can **calculate any mathematical expression** given as a string.
    * Example: eval("2\*(3+4)") → 14.
16. **Error handling**
17. except Exception as e:
18. print("Error:", e)
    * If the user types something wrong (like 2++3), instead of crashing, it shows an error message.

**OUTPUT:-**

****