**EX 2:** **Develop a lexical Analyzer to identify whether a given line is a comment or not.**

**Aim:**

To develop a lexical analyzer to identify whether a given line in a C program is a comment or not.

**Algorithm:**

1. **Start.**
2. Read the input line from the user.
3. Check if the input starts with // or contains /\* followed by \*/:
   * **Case 1 (//):** If the line starts with //, classify it as a single-line comment.
   * **Case 2 (/\* ... \*/):** If the line contains /\* and closes with \*/, classify it as a multi-line comment.
4. Display the appropriate message:
   * "Single-line comment detected."
   * "Multi-line comment detected."
   * "Not a comment."
5. **End.**

**CODE**

def check\_comment(line: str):

line = line.strip()

if line.startswith("//"):

print("Single-line comment detected.")

elif line.startswith("/\*") and line.endswith("\*/"):

print("Multi-line comment detected.")

else:

print("Not a comment.")

if \_\_name\_\_ == "\_\_main\_\_":

print("Enter a line of code (or comment):")

input\_line = input() # Take user input

check\_comment(input\_line)