**Name Hasnain Ali**

**Reg FA21-bcs-005**  
  
lab Terminal  
  
**Question # 1**   
Draw a class of Sequence Diagram?

**Answer**

Actors:

* User
* MiniCompilerApp

**Steps**:

1. **User Input**

User enters code in the input box and clicks the **Compile** button.

1. **Lexical Analysis**

The **Lexer** tokenizes the input into tokens.

1. **Syntax Parsing**

The **Parser** checks the tokens for grammatical correctness using defined rules.

1. **Semantic Analysis**

Variable names are validated for correctness (e.g., reserved keywords, naming rules).

1. **Symbol Table Update**

If valid, the symbol table is updated with variable details (name, type, value).

1. **Output Result**

Display "Compilation Successful" or "Syntax Error/Invalid Variable Name."

