

**School of Computer Science & Engineering**

**Department of Computer Engineering & Technology**

**Final Year BTech**

**SSCD Lab Assignment No 1**

**Date of Submission: last week Jan 2025, (respective lab turn)**

**Assignment Title:** Design of Pass 1 of Two Pass Assembler.

**Aim:** Design suitable data structures and implement Pass 1 of 2 Pass Assembler for pseudo machine.

**Objective:** Design suitable data structures and implement Pass 1 of 2 Pass Assembler for pseudo machine. Subset should consist of a few instructions from each category & few assembler directives.

**Theory:**

1. Design Specification of an Assembler:

Analysis Phase

2. Design of a Two Pass Assembler:

Algorithm for Pass 1

*3.* Contents of OPTAB

4. Error Listing & Error Handling

**Input:** Assembly Language Program for pseudo machine with symbols as operand 2

**Output: O**pcode table**,** Symbol Table, Intermediate Code.

**FAQ:**

1. What errors are handled by the 2 pass assembler in Pass 1 and Pass2?
2. Explain SYMTAB and the Assembler directives EQU, START and ORIGIN.
3. Explain LITTAB, POOLTAB and the Assembler directives LTORG and END.

**Conclusion: Platform:** JAVA