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: Opcode 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