Assignment 2

Pass 2 of a Two Pass Assembler

→ **Problem Statement :**

Write a Program to implement Pass 2 of 2 Pass Assembler for output of Assignment 1.

→ **Theory :**

Function of Synthesis Phase :

1. Obtain the machine code corresponding to the mnemonic operation code by searching the mnemonic table.
2. Obtain the address of the operand from the symbol table.
3. Synthesize the machine instruction or machine form of the constant as the case may be.

Data Structures Required

1. OPTAB : Table of mnemonics
2. SYMTAB : Symbol Table
3. LITTAB : Literal Table.
4. Intermediate code generated by Pass 1
5. Output file.

Ex. Input File

```
202) (IS, 04) (1) (L, 1)
203) (IS, 05) (1) (S, 1)
204) (IS, 04) (1) (S, 1)
205) (IS, 04) (3) (S, 3)
 .
 .
 .
221) (AD, 02) (221)
221) (DL, 02) (C, 1)
222) (AD, 05)
```

Output File

```
202) 04  1  210
203) 05  1  220
204) 04  1  220
205) 04  3  221
 .
 .
 .
221)
221)
222) 00  0  0001
```

→ Conclusion :

Topics Covered :

1. Study of Pass 2 of Two Pass Assembler
2. Implementation of Pass 2.