

ASSIGNMENT 2Title: Pass-2 of two pass assemblerProblem statement: Write a program to implement pass 2 of two pass assembler for output of assignment 1Objective: To study basic translation process of assembly language to machine language using a hypothetical instruction set.

To study pass-2 of two pass assembler using variant 1

Theory:Function of Synthesis Phase

Obtain the machine operations code corresponding to the mnemonic operation code by searching the mnemonic table

Data Structure Used by Pass 2

- 1) OPTAB: A table of mnemonic opcodes and related information
- 2) SYMTAB: The symbol table
- 3) LITTAB: A table of literals used in the program
- 4) Intermediate code generated by pass-I
- 5) Output file containing Target Code / Error Listing.

Algorithm:List of Hypothetical Instructions

Instruction Opcode	Assembly Mnemonic	Remarks
00	STOP	stop execution
01	ADD	first operand modified condition code set

33231

classmate

Date _____

Page _____

02	SUB	first operand modified condition code set
03	MULT	first operand modified condition code set
04	MOVER	register \rightarrow memory
05	MOVEM	memory \rightarrow register
06	COMP	set condition code
07	BC	branch on condition code
08	DIV	analogous to SUB
09	READ	1 st operand is not used
10	PRINT	1 st operand is not used

Conclusion : I learnt Pass - 2 assembler and also implemented it.