

Pune Vidyarthi Griha's
COLLEGE OF ENGINEERING, NASHIK – 4
COMPUTER ENGINEERING DEPARTMENT

Subject : SPOS

ASSIGNMENT NO – 01

Unit : I

1. Define system programming & explain its all tool in details.
2. Explain in details design of Editor.
3. What is loader. & explain its function with example.
4. Explain Macro and its advantages & how they are different from function.
5. Compare Compiler and Interpreter. (min 6 points).
6. Explain the machine structure in details. (structure of CPU)
7. Explain in details assembly language programming.
8. Explain the different assembly language statement with examples.
9. Define Assembler Directive. Explain ORIGIN, EQU & LTORG with e. g.
10. How pass-I of an Assembler works with example.
11. What is forward reference ? How it is handled in single pass assembler ?
12. Difference between Literal & Immediate operand (Constant).
13. Explain the data structure & Algorithm required for pass – I assembler.
14. Explain the data structure & Algorithm required for pass – II assembler.
15. Explain Two pass assembler along with its diagram.
16. Enlist different types of error handled by PASS- I & II assembler.
17. Draw the Flowchart for one pass & two pass macroprocessor .
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Example 1.10.1

For the following assembly language code show the contents of symbol table, literal table and also generate intermediate and target code. [Assume suitable op-codes and instruction length and clearly indicate the assumptions made]

	START	1000
	READ	N
	MOVER	B, = "1"
	MOVEM	B, TERM
AGAIN	MUL	B, TERM
	MOVER	C, TERM
	COMP	C, N
	BC	LE, AGAIN
	MOVEM	B, RESULT
	LTORG	
	PRINT	RESULT
	STOP	
N	DS	1
RESULT	DS	20
TERM	DS	1
	END	

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Example 1.10.2

	START	100
	MOVER	AREG, = 5
	ADD	CREG, = 1
A	DS	3
L1	MOVER	AREG, B
	ADD	AREG, C
	MOVEM	AREG, D
	LTORG	
D	EQU	A + 1
L2	PRINT	D
	ORIGIN	A - 1
	SUB	AREG, = 1
	MULT	CREG, B
C	DC	'5'
	ORIGIN	L2 + 1
	STOP	
B	DC	19
	END	

- (i) Show the contents of symbol table, literal table and pool table at the end of pass I.
- (ii) Show the intermediate code generated for the program.
- (iii) Show the machine code generated for the program

***** Best of Luck *****