1	Design suitable data structures and implement Pass-I of a two-pass macro-processor. The output of Pass-I (MNT, MDT and intermediate code file without any macro definitions) should be input for Pass-II.
	MACRO
	INCR &X, &Y, &REG1 = AREG
	MOVER &REG1, &X
	ADD &REG1, &Y
	MOVEM &REG1, &X
	MEND
	MACRO
	DECR &A, &B, &REG2 = BREG
	MOVER &REG2 ,&A
	SUB &REG2, &B
	MOVEM &REG2, &A
	MEND
	START 100
	READ N1
	READ N2
	DECR N1, N2
	INCR N1, N2
	STOP
	N1 DS 1
	N2 DS 2
	END	

2	Design suitable data structures and implement Pass-I and Pass-II of a two-pass macro-processor. The output of Pass-I (MNT, MDT and intermediate code file without any macro definitions) should be input for Pass-II.

Input.txt	MDT.txt	MNT.txt		ARG.txt

MACRO
INCR &X, &Y, &REG1
MOVER &REG1, &X
ADD &REG1, &Y
MOVEM &REG1, &X
MEND
MACRO
DECR &A, &B, &REG2
MOVER &REG2, &A
SUB &REG2, &B
MOVEM &REG2, &A
MEND
START 100
READ N1
READ N2
INCR N1, N2
DECR N1, N3
STOP
N1 DS 1
N2 DS 2
N3 DS 1
END
	INCR &X &Y &REG1 = AREG
	MOVER #3 #1
	ADD #3 #2
	MOVEM #3 #1
	MEND
	DECR &A &B &REG2 = BREG
	MOVER #6 #4
	SUB #6 #5
	MOVEM #6 #4
	MEND
		INCR 0 3
		DECR 5 3
				&X
				&Y
				&REG1 AREG
				&A
				&B
				&REG2 BREG

3	Write a program to create a Dynamic Link Library for any mathematical operation and write an application program to test it. (Java Native Interface / Use VB or VC++)
4	Write a program to solve Classical Problems of Synchronization using Mutex and Semaphore (Reader Writer)
5	Design a Paper Prototyping for any Banking Website or App.
6	Design Paper Prototyping for any ERP system.

	7	Write a program to simulate CPU Scheduling Algorithms: FCFS, SJF (Preemptive) Process AT BT P1 10 2 P2 0 10 P3 8 4 P4 5 5
	8	Write a program to simulate CPU Scheduling Algorithms: FCFS, Priority (Non-Preemptive). Process AT BT P1 10 2 P2 0 10 P3 8 4 P4 5 5

	9	Write a program to simulate CPU Scheduling Algorithms: FCFS and Round Robin. Process AT BT P1 10 2 P2 0 10 P3 8 4 P4 5 5
	10	Write a program to simulate Memory placement strategies – best fit, first fit.
	11	Write a program to simulate Memory placement strategies – best fit, worst fit.
	12	Write a program to simulate Page replacement algorithm. 1. FIFO 2. LRU Input reference String :- 2 3 2 1 5 2 4 5 3 2 5 2 No. of frames are:- 3
	13	Write a program to simulate Page replacement algorithm. 1. FIFO 2. OPTIMAL Input reference String :- 2 3 2 1 5 2 4 5 3 2 5 2 No. of frames are:- 3
	14	Write a program to implement Deadlock Avoidance Algorithm

No. of Resources 4 No. of Process 3	Max Matrix 3 3 2 2 1 1 3 4 1 3 5 0	Allocation Matrix 1 2 2 1 1 0 3 3 1 2 1 0	Available 3 1 1 2

| | 15 | Design suitable data structures and implement pass-I of a two-pass assembler for pseudo-machine in Java using object oriented feature.
start 100
movr ax 05
mover bx 10
up: add ax bx
movem a ='5'
mul ax a
origin up
ltorg
movem b ='8'
movem c ='8'
ltorg
movem b ='7'
movem c ='8'
ds a 02
dc b 10
ds c 09
next equ up
end |

	16	Implement Pass-II of two pass assembler for pseudo-machine in Java using object oriented features. The output of assignment-1 (intermediate file and symbol table) should be input for this assignment.

	SYMBOL ADDRESS	LITERAL ADDRESS
(AD,1) (C,100)		
100 (IS,5) (RG,1) (C,05)	up 102	5 102
101 (IS,5) (RG,2) (C,10)	a 109	8 105
102 (S,1) (IS,2) (RG,1) (RG,2)	b 110	8 106
103 (IS,6) (S,2) (L,1)	c 111	7 113
104 (IS,4) (RG,1) (S,1)	next 102	8 114
105 (AD,3) (C,102)		
102 (DL,1) (C,5)		
103 (IS,6) (S,3) (L,2)		
104 (IS,6) (S,4) (L,3)		
105 (DL,1) (C,8)		
106 (DL,1) (C,8)		
107 (IS,6) (S,2) (L,4)		
108 (IS,6) (S,3) (L,5)		
109 (DL,1) (C,02)		
110 (DL,2) (C,10)		
111 (DL,1) (C,09)		
112 (S,5) (AD,4) (S,1)		
113 (AD,2)		
(DL,1) (C,7)		
114 (DL,1) (C,8)		