

LP-I List of Lab Assignments for Mock Practical

Sr. No.	Expt. No.	Problem Statement
1	A1_1	Design suitable data structures and implement Pass-I of a two-pass assembler for pseudo-machine. Consider following assembler directives in the input test case, (i) ORIGIN, (ii) EQU
2	A1_2	Design suitable data structures and implement Pass-I of a two-pass assembler for pseudo-machine. Consider following assembler directives in the input test case, (i) LTORG, (ii) EQU
3	A1_3	Design suitable data structures and implement Pass-II of a two-pass assembler for pseudo-machine. [The output of Pass-I (intermediate code file and symbol table, Literal Table) should be input for Pass-II.]
4	A2_1	Design suitable data structures and implement Pass-I of a two-pass macro-processor.
5	A2_2	Design suitable data structures and implement 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.]
6	B1	Write a program to solve Classical Problems of Synchronization using Mutex and Semaphore. [Producer-Consumer Problem/ Readers and Writers Problem/ Dining-Philosopher Problem]
	B2	OR Write a program to simulate CPU Scheduling Algorithms. (i) FCFS, (ii) Round Robin (Preemptive)
7	B1	Write a program to solve Classical Problems of Synchronization using Mutex and Semaphore. [Producer-Consumer Problem/ Readers and Writers Problem/ Dining-Philosopher Problem]
	B2	OR Write a program to simulate CPU Scheduling Algorithms. (i) SJF (Preemptive), (ii) Priority (Non-Preemptive)
8	B3	Write a program to simulate Memory placement strategies, (i) best fit, (ii) first fit, (iii) next fit
	B4	OR Write a program to simulate Page replacement algorithms, (i) FIFO (ii) OPTIMAL
9	B3	Write a program to simulate Memory placement strategies, (i) best fit, (ii) first fit, (iii) worst fit
	B4	OR Write a program to simulate Page replacement algorithms, (i) LRU (ii) FIFO
10	ELE_1	[IoT & ES] Write an application to capture and store the image. [Connectivity of Raspberry-Pi /Beagle board with camera.] [DS] Implementation of Inter-process communication using socket programming: implementing multithreaded echo server. OR Implementation of RPC Mechanism. [HCI] Design a User Interface in Python.

11	ELE_2	<p>[IoT & ES] Create a small dashboard application to be deployed on cloud. Different publisher devices can publish their information and interested application can subscribe.]</p> <p>[DS] Simulation of election algorithms (Ring and Bully).</p> <p>OR Implementation of Clock Synchronization: (i) NTP (ii) Lamport's clock</p> <p>[HCI] To redesign existing Graphical User Interface with screen complexity.</p>
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