SPOS & IOT Lab Assignments

1	Design suitable Data structures and implement Pass-I of a two-pass assembler for pseudo-machine. Implementation should consist of a few instructions from each category and few assembler directives.
2	Design suitable Data structures and implement Pass-II of a two-pass assembler for pseudo-machine. Implementation should consist of a few instructions from each category and few assembler directives. Intermediate code file and symbol table should be input for Pass-II.
3	Design suitable data structures and implement Pass-I of a two-pass macro processor.
4	Design suitable data structures and implement Pass-II of a two-pass macro processor. MNT, MDT and intermediate code file without any macro definitions should be input for Pass-II.
5	Write a program to simulate CPU Scheduling Algorithms: Priority (Preemptive) and Round Robin (Preemptive).
6	Write a program to simulate CPU Scheduling Algorithms: FCFS(Non-Preemptive), SJF (non -Preemptive)
7	Write a program to simulate CPU Scheduling Algorithms: FCFS, SJF (Preemptive), Priority (Non-Preemptive) and Round Robin (Preemptive).
8	Write a program to simulate Memory placement strategies – best fit, first fit, next fit and worst fit
9	Write a program to simulate Memory placement strategies – best fit, first fit
10	Write a program in python for LED blinking on Raspberry-Pi.
11	Understanding the connectivity of Raspberry-Pi / Adriano with IR sensor. Write an application to detect obstacle and notify user using LEDs
12	Understanding the connectivity of Raspberry-Pi /Beagle board circuit with temperature sensor. Write an application to read the environment temperature. If temperature crosses a threshold value, generate alerts using LEDs.
13	Understanding and connectivity of Raspberry-Pi /Beagle board with camera. Write an application to capture and store the image.
14	Create a small dashboard application to be deployed on cloud. Different publisher devices can publish their information and interested application can subscribe.