Operating Systems– Homework for Lectures 1, 2 and 3:
Please submit answers as **hardcopy** in **handwritten**.

Lecture 1
Q1\   Draw the diagram of the Computer System Components
Q2\   List only the Operating System Services
Q3\   List only the Operating System Functions
Q4\   Draw the diagram of System Call – OS Relationship.
Q5\   Draw a typical Single-Task OS Memory Map
Q6\   Draw a typical Multi-Task OS Memory Map
Q7\   Draw the diagram for Computer Startup Operation

Lecture 2
Q1\   Draw the diagram of the process parts in memory
Q2\   Draw the Diagram of Process States
Q3\   Draw the Diagram of Process Scheduling Queues Diagram
Q4\   Draw the diagram of inter-processes communications models
Q5\   Draw the diagram for Multithreaded Server Architecture Example
Q6\   Draw a diagram shows the difference between parallelism and concurrency.
Q7\   Using Amdahl's Law, calculate the speed up factor for moving from single processor to five
        processors with an algorithm that has %80 parallel part.
Q8\   Using Amdahl's Law, calculate the speed up factor for moving from single processor to ten
        processors with an algorithm that has %40 serial part.

Lecture 3
Q1\   Draw the diagram of Scheduling Criteria – in Time Axis
Q2\   List only the Six CPU Scheduling Algorithms.
Q3\   For below Processes table, calculate the average waiting time for the algorithms:
   A) First Come First Serve (FCFS)
   B) Shortest Job First (SJF) and
   C) Priority Scheduling

Process	Burst Time	Priority
P1	10	4
P2	4	7
P3	7	2
P4	18	6
P5	5	5
P6	4	8
P7	9	1
P8	13	3

Q4\   Draw the typical diagram for Multilevel Queue Scheduling
Q5\   For Multiple-Processor Systems DRAW the diagram for Single Scheduler Multiprocessing and
        Symmetrical Schedule multiprocessing
Q6\   For Symmetrical Schedule multiprocessing DRAW the diagram for Global Queue and Per CPU
        Queue.