Part E

1. Consider the following processes with arrival times and burst times:

Process	Arrival Time	Burst Time
P1	0	5
P2	1	3
P3	2	6

Calculate the average waiting time using First-Come, First-Served (FCFS) scheduling.

Process	Arrival Time	Burst Time	Complition Time	TAT	Wait Time	Response Time
P1	0	5	5	5	0	0
P2	1	3	8	7	4	5
P3	2	6	14	12	6	8
					3.33	

Gantt's chart	P1	P2	P3	
	0	5	8	14

Average wait Time	3.33

2. Consider the following processes with arrival times and burst times:

Process	Arrival Time	Burst Time
P1	0	3
P2	1	5
P3	2	1
P4	3	4

Calculate the average turnaround time using Shortest Job First (SJF) scheduling.

Process	Arrival Time	Burst Time	Complition Time	TAT	Wait Time	Response Time
P1	0	3	3	3	0	0
P2	1	5	13	12	7	8
P3	2	1	4	2	1	3
P4	3	4	8	5	1	4
				5.5		

Gantt's chart	P1	P3	P4	P2	
	0	3	4	8	13

Average TAT	5.50

3. Consider the following processes with arrival times, burst times, and priorities (lower number indicates higher priority):

Process	Arrival Time	Burst Time	Priority
P1	0	6	3
P2	1	4	1
P3	2	7	4
P4	3	2	2

Calculate the average waiting time using Priority Scheduling.

Process	Arrival Time	Burst Time	Priority	Complition Time	TAT	Wait Time	Response Time
P1	0	6	3	6	6	0	0
P2	1	4	1	10	9	5	6
P3	2	7	4	19	17	10	12
P4	3	2	2	12	9	7	10
						5.50	

Gantt's chart	P1	P2	P4	P3	
	0	6	10	12	19

Average TAT	5.50

4. Consider the following processes with arrival times and burst times, and the time quantum for Round Robin scheduling is 2 units:

Process	Arrival Time	Burst Time
P1	0	4
P2	1	5
P3	2	2
P4	3	3

Calculate the average turnaround time using Round Robin scheduling.

Process	Arrival Time	Burst Time	Complition Time	TAT	Wait Time	Response Time
P1	0	4	8	8	4	0
P2	1	5	14	13	8	2
P3	2	2	6	4	2	4
P4	3	3	13	10	7	8
				8.75		

Gantt's chart	P1		P2		P3		P1		P4		P2		P4		P2	
	0		2		4		6		8		10		12		13	14

Average TAT	8.75

5. Consider a program that uses the fork() system call to create a child process. Initially, the parent process has a variable x with a value of 5. After forking, both the parent and child processes increment the value of x by 1.
   What will be the final values of x in the parent and child processes after the fork() call?

Child - 6
Parent - 6

Submission Guidelines:

- Document each step of your solution and any challenges faced.
- Upload it on your GitHub repository

Additional Tips:

- Experiment with different options and parameters of each command to explore their functionalities.
- This assignment is tailored to align with interview expectations, CCEE standards, and industry demands.
- If you complete this then your preparation will be skyrocketed.