



3. Give the three different types of threading. Explain what kernel and user threads are and explain how one goes about creating kernel threads and user threads in Linux.

4. Given the following processes with burst times and arrival times, show the Gantt chart for the three algorithms, Shortest Remaining Time First, First Come First Served, and Round Robin with a quantum of 4.

<b>Process</b>	<b>Burst Time</b>	<b>Arrival Time</b>
P1	5	0
P2	3	3
P3	1	6
P4	5	7
P5	3	8



7. Suppose two processes A, and B share an integer variable Q without using any synchronization mechanisms. Q has an initial value of 12. After the following two statements execute, what are the possible values of Q, and how can they occur?

Process 1

...  
Q = Q + 10;  
...

Process 2

...  
Q = Q - 5;  
...

8. Explain the concept of memory protection, and why it is needed.