**1. Explain the difference between preemptive and nonpreemptive scheduling.**

**2. Suppose that the following processes arrive for execution at the times indicated. Each process will run for the amount of time listed. In answering the questions, use nonpreemptive scheduling, and base all decisions on the information you have at the time the decision must be made.**

**Process Arrival Time Burst Time**

***P*1 0.0 8**

***P*2 0.4 4**

***P*3 1.0 1**

**a. What is the average turnaround time for these processes with the FCFS scheduling algorithm?**

**b. What is the average turnaround time for these processes with the SJF scheduling algorithm?**

**c. The SJF algorithm is supposed to improve performance, but notice that we chose to run process *P*1 at time 0 because we did not know that two shorter processes would arrive soon. Compute what the average turnaround time will be if the CPU is left idle for the first 1 unit and then SJF scheduling is used. Remember that processes *P*1 and *P*2 are waiting during this idle time, so their waiting time may increase. This algorithm could be known as future-knowledge scheduling.**

**3.假设要在一台处理机上执行以下作业,且假定这些作业在时刻0以1,2,3,4,5的顺序到达。（题中时间单位均为s）.**

**表 作业执行时间和优先级**

|  |  |  |
| --- | --- | --- |
| **作业** | **执行时间（s）** | **优先级** |
| **1** | **10** | **3** |
| **2** | **1** | **1** |
| **3** | **2** | **3** |
| **4** | **1** | **4** |
| **5** | **5** | **2** |

**（1）给出分别使用FCFS（先来先服务）、RR（时间片轮转算法，时间片是1）、SJF（最短作业优先）以及非抢占优先调度算法（1的优先级最高），这些作业的执行顺序。画出甘特图。**

1. **针对上述每种调度算法，分别给出平均周转时间。**

**4.What (if any) relation holds between the following pairs of algorithm sets?**

**a. Priority and SJF**

**b. Multilevel feedback queues and FCFS**

**c. Priority and FCFS**

**d. RR and SJF**

**5. 下面哪些算法会引起饥饿**

**a.先来先服务**

**b.最短工作优先调度**

**c.轮换法调度**

**d.优先级调度**

**6 Distinguish between PCS and SCS scheduling.**