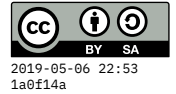


Quiz 5

22 April 2019



Time limit is 20 minutes. You may use a calculator, but no book, notes, or communication.

Both questions are about how an operating system may schedule tasks to run on the CPU.

1. In this question, we'll use **batch** processing, which means that once we start a task, we will run it to completion without interruption. There are two ways to select the next task to run: First-Come, First-Served (FCFS) and Shortest Job First (SJF).

Draw timelines and calculate the **average turnaround time** for scheduling the following jobs using both FCFS and SJF.

Task	Duration (sec)
T1	5
T2	2
T3	6
T4	3

(over)

2. Now, we'll consider a **preemptive** "Round-Robin" scheduling. In this operating environment, we are allowed to interrupt long-running tasks so that other tasks have a chance to run. (When an interrupted task is resumed, it is able to continue where it left off.)

Using the same sequence of tasks, draw a timeline and calculate the **average turnaround time** for Round-Robin scheduling where a each task is preempted **after 3 seconds** on the CPU.

Task	Duration (sec)
T1	5
T2	2
T3	6
T4	3