CO2017 — Scheduling Surgery, 2016–17

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Questions

The following jobs arrive in the scheduler's ready queue in the order given at the times given in the right column; the middle column gives the processor run time (user-mode plus kernel-mode combined) needed for each job.

Job	Estimated runtime (ms)	Arrival time (ms)
A	18	0
B	9	0
C	14	2
D	2	6
E	4	8

In what order would these jobs be scheduled under the following scheduling policies?

1. First Come First Served (FCFS)

2. Shortest Job First (SJF)

3. Shortest Remaining Time (SRT)

4. Round Robin (RR) with a time quantum of 5ms

For the purpose of this exercise, assume that the time taken for a context switch, addition to ready queue, *etc*, is zero.

In each case, calculate the completion time, turnaround time (aka elapsed/wall time), the runtime (time spent executing on the processor), the waiting time (time spent "idle" in the ready queue) and the ratio waiting time over runtime of each job.

Discuss the scheduling policies.