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Operating Systems

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Chapter 4 Exercise

1. CPU bound is a job that will perform a great deal of nonstop computation before issuing an I/O request. It conflicts with a I/O bound. I/O bound is a job that requires many input/output operations, resulting in substantial free time for the CPU.
2. Device error, device error on windows, and device error on external hard drive/USB drive in port.
3. FCFS is the process scheduling policy that handles jobs according to arrival time.
   1. A, E, D, B, C - total time is 30 m/s
   2. SJN process scheduling policy selects the waiting job with the shortest CPU cycle time. A, E, D, B, C - total time is 30 m/s
4. I would assume the job waiting for the printer would be the next in the queue because it only must wait for one thing at the is the printer. When it is waiting to access the disk there are many steps that go into that. There also might not be enough time or space to access the disk.
5. Approximately 24 m/s will need to be spent in each queue
6. 7 times to complete the first execution.
7. Timeline
8. Jobs
   1. E, B, D, C, A
   2. A, C, D, B, E
   3. A, E, C, B, D
9. Timeline
   1. D, B, A, C, E
   2. A, C, D, E, B

Shortest remaining time is a process scheduling policy that is like the SJN algorithm that allocates the processor to the job closest to completion.

1. Timeline
   1. A, C, D, E, B
   2. B, E, D, C, A
2. Jobs
   1. E, D, C, B, F, A