

1.
 - Total wait time: **23 time units**
 - Total runnint time: **20 time units**
 - Average wait time: **4.6 time units**
 - Average time to completion: **8.6 time units**

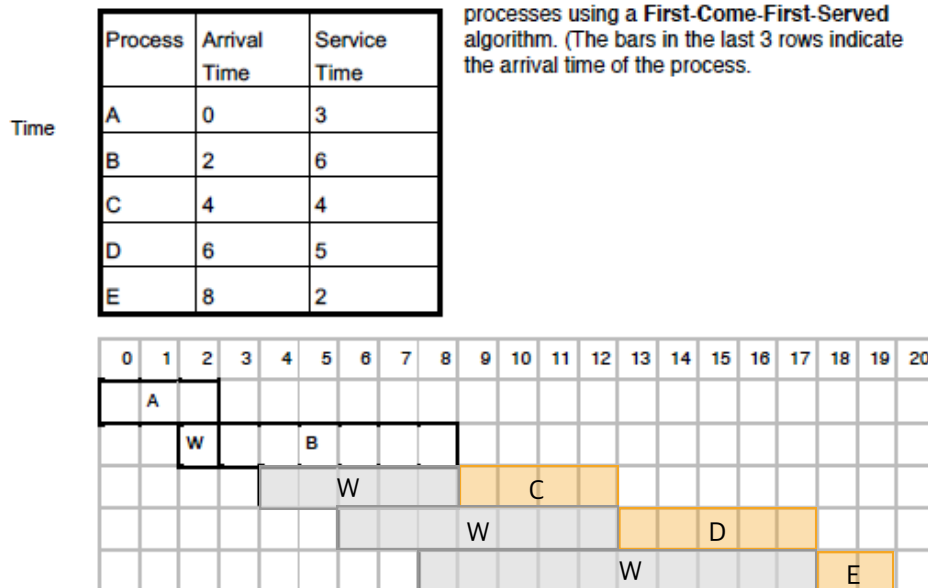
CSC 369: Exercise 11

Scheduling

Consider the following list of processes:

if time starts at 0, then A arrives at time 0 and gets 3 time units of service. At this point it is complete and leaves. B arrives at time 2, waits 1 time unit, and then runs for 6 time units. We assume that once a process has the CPU it runs to completion.

Q1. Fill in the chart below for the remaining 3 processes using a **First-Come-First-Served** algorithm. (The bars in the last 3 rows indicate the arrival time of the process.)



Total Waiting time: 23 time units

Total Running time: 20 time units

Average Wait time: 4.6 time units

2. Now create a schedule that **minimizes wait time**. You may not change the arrival time,

and once a process begins running, it runs to completion. How do you choose the next process to run?

Answer:

Shortest job First

From the tasks that are on schedule, choose one with the shortest job once a task finishes.

3.
 - What is the minimum average waiting time?:
 - What is the average turnaround time?:

CSC 369: Exercise 11 Scheduling

Q2+3. Now create a schedule that minimizes wait time. You may not change the arrival time, and once a process begins running, it runs to completion. How do you choose the next process to run?

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A																					
W																					
B																					

Total Waiting time: _____ time units

Average Wait time: _____ time units

Average turnaround time: _____

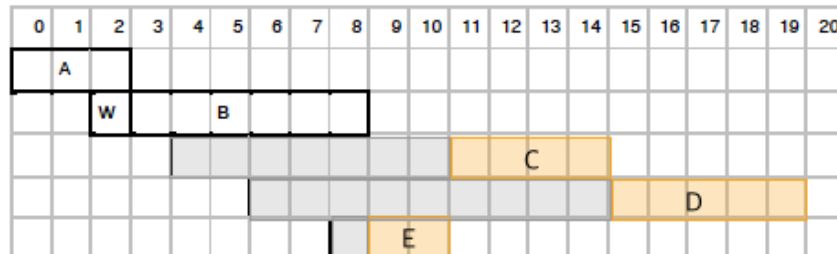
Turnaround time = $\text{sum}(\text{completion time} - \text{arrival time}) / \text{num processes}$

Answer:

CSC 369: Exercise 11

Scheduling

Q2+3. Now create a schedule that minimizes wait time. You may not change the arrival time, and once a process begins running, it runs to completion. How do you choose the next process to run?



Total Waiting time: 18 time units

Average Wait time: 3.6 time units

Average turnaround time: 7.6

Turnaround time = $\text{sum}(\text{completion time} - \text{arrival time}) / \text{num processes}$

- What is the minimum average waiting time?: **3.6 time units**
- What is the average turnaround time?: **7.6 time units**

4.