

Laiba Fatima  
22K-5195  
BSE-4B

OS Lab 7

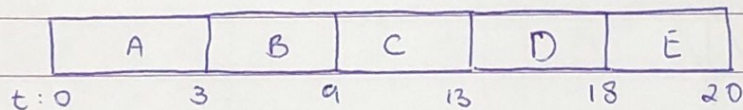
Date 11 March Mon  
M T W T F S S

Q1: First Come First Serve

Completion  
time  
↓

Process	Burst time	Arrival time	Turn Around time	waiting Time	C.T
A	3	0	3	0	3
B	6	2	7	1	9
C	4	4	9	5	13
D	5	6	12	7	18
E	2	8	12	10	20

~~TAT~~ Timeline diagram / Gantt Chart



Turn around time = Completion time - Arrival Time

Waiting time = Turn-Around time - Burst time

$$\text{Avg. TAT} = \frac{3+9+13+18+20}{5} = \frac{63}{5} = 12.6$$

$$\text{Avg. WT} = \frac{0+1+5+7+10}{5} = \frac{23}{5} = 4.6$$

A  
B  
C

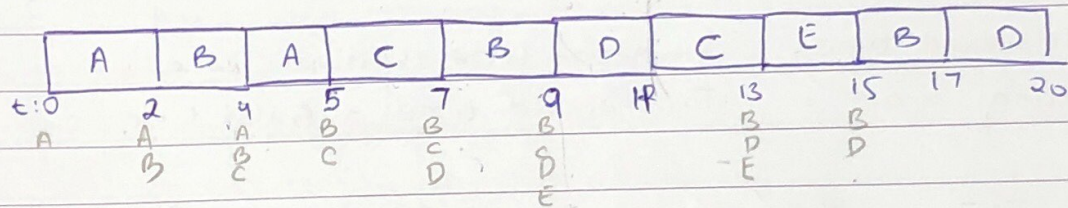
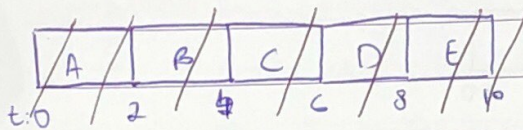
B  
C

Date  
M T W T F S S

Q2. Round Robin Quantum time = 2 sec

Process	Burst time	Arrival time	Completion time	Turn Around time	Waiting time
A	3	0	5	5	2
B	6 / 2	2	17	15	9
C	4	4	13	9	5
D	5	6	20	14	9
E	2	8	15	7	5

Timeline



$$\text{Avg Turn Around Time} = \frac{5 + 15 + 9 + 14 + 7}{5} = 10$$

$$\text{Avg Waiting Time} = \frac{2 + 9 + 5 + 9 + 5}{5} = 6$$



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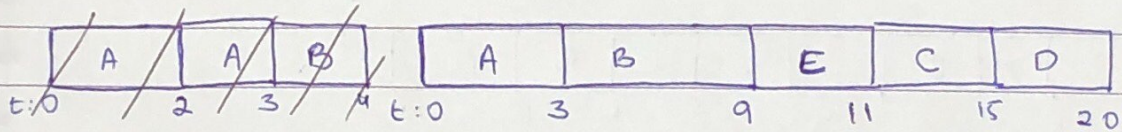
Date

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Q3. Shortest Process Next

Process	Burst time	Arrival time	Completion time	Turn-Around time	Waiting time
A	3	0	3	3	0
B	6	2	9	7	1
C	4	4	15	11	7
D	5	6	20	14	9
E	2	8	11	3	1

Timeline



~~A-1, B-6, C-4, D-5, E-2~~

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

A - - -

B . . . . .

C . . . . .

D . . . . .

E . . . . .

$$\text{Avg. TAT} = \frac{3+7+11+14+3}{5} = 7.6$$

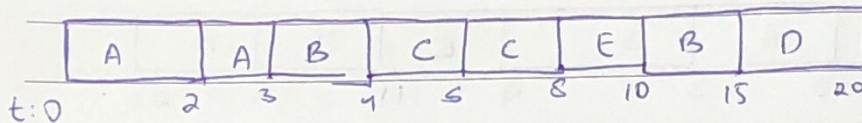
$$\text{Avg WT} = \frac{0+1+7+9+1}{5} = 3.6$$



Q4. Shortest Remaining Time

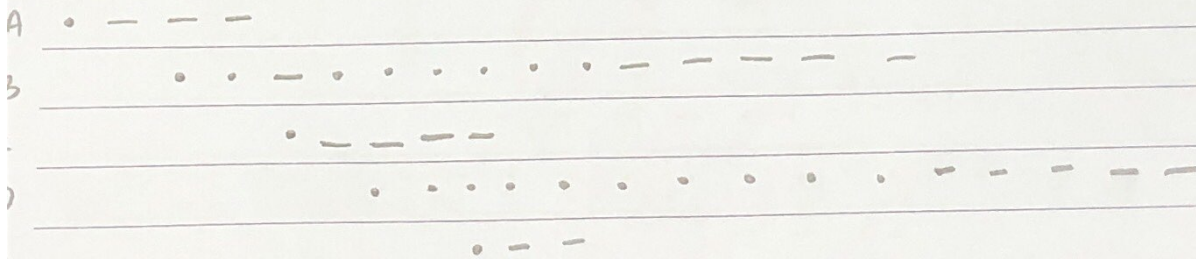
Process	Burst time	Arrival time	Completion Time	Turn Around time	Waiting time
A	3	0	3	3	0
B	6	2	15	13	7
C	4	4	8	4	0
D	5	6	20	14	9
E	2	8	10	2	0

Timeline



~~A-3~~, B-6, C-4, D-5, E-2

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



$$\text{Avg TAT} = \frac{3+13+4+14+2}{5} = 7.2$$

$$\text{Avg WT} = \frac{0+7+0+9+0}{5} = 3.2$$