Q1

A

Calendar

Description automatically generated

B. Turnround time of each process for each algorithm

FCFS: P1: 2ms

P2: 3ms

P3: 11ms

P4: 15ms

P5: 20ms

SJF: P1: 3ms

P2: 1ms

P3: 20ms

P4: 7ms

P5: 12ms

Non-preemptive priority: P1: 15ms

P2: 20ms

P3: 8ms

P4: 19ms

P5: 13ms

RR: P1: 2ms

P2: 3ms

P3: 20ms

P4: 13ms

P5: 18ms

C. Waiting time for each algorithm

FCFS: P1: 0ms

P2: 2ms

P3: 3ms

P4: 11ms

P5: 15ms

SJF: P1: 0ms

P2: 1ms

P3: 3ms

P4: 7ms

P5: 12ms

Non-preemptive priority: P1: 0ms

P2: 8ms

P3: 13ms

P4: 15ms

P5: 19ms

RR: P1: 0ms

P2: 2ms

P3: 3+(9-5)+(15-11)+(18-17)=12ms

P4: 5+(11-7)=9ms

P5: 7+(13-9)+(17-15)=13ms

D. Average waiting time for each algorithm

FCFS: (0+2+3+11+15)/5=6.2

SJF: (0+1+3+7+12)/5=4.6

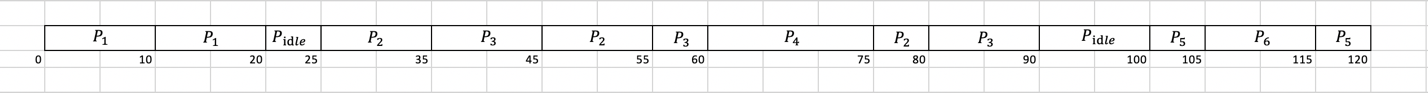
Non-preemptive priority: (0+8+13+15+19)=11

RR: (0+2+12+9+13)/5=7.2

SJF results in the minimum average waiting time.

Q2.

A



B Turnround time of each process

P1: 20-0=20

P2: 80-25=55

P3: 90-30=60

P4: 75-60=15

P5: 120-100=20

P6: 115-105=10

C Waiting time for each process

P1: 0

P2: (45-35)+(75-55)=30

P3: (35-30)+(55-45)+(80-60)=35

P4: 0

P5: 115-105=10

P6: 0

D CPU utilization rate=105/120=87.5%

Q3

A

Calendar

Description automatically generated

B Turnround time of each process for each algorithm

FCFS: P1: 5ms

P2: 8ms

P3: 9ms

P4: 16ms

P5: 20ms

SJF: P1: 13ms

P2: 4ms

P3: 1ms

P4: 20ms

P5: 8ms

Non-preemptive priority: P1: 5ms

P2: 20ms

P3: 10ms

P4: 17ms

P5: 9ms

RR: P1: 17ms

P2: 12ms

P3: 5ms

P4: 20ms

P5: 16ms

C. Waiting time for each algorithm

FCFS: P1: 0ms

P2: 5ms

P3: 8ms

P4: 9ms

P5: 16ms

SJF: P1: 8ms

P2: 1ms

P3: 0ms

P4: 13ms

P5: 4ms

Non-preemptive priority: P1: 0ms

P2: 17ms

P3: 9ms

P4: 10ms

P5: 5ms

RR: P1: 17-5=12ms

P2: 12-3=9ms

P3: 4ms

P4: 20-7=13ms

P5: 16-4=12ms

D. Average waiting time for each algorithm

FCFS: (0+5+8+9+16)/5=7.6

SJF: (8+1+0+13+4)/5=5.2

Non-preemptive priority: (0+17+9+10+5)/5=8.2

RR: (12+9+4+13+12)/5=10

SJF results in the minimum average waiting time.

Q4

A



B Turnround time of each process for each algorithm

P1: 15

P2: 95-0=95

P3: 55-20=35

P4: 80-25=55

P5: 50-45=5

P6: 70-55=15

C Waiting time for each process

P1: 0

P2: 95-20=70

P3: 35-20=15

P4: 55-20=35

P5: 0

P6: 0