به نام خدا

درس آزمایشگاه سیستم عامل

تمرین یازدهم

مدرس درس:
سرکار خانم دکتر شیخی

تهیه کننده:
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Round Robin Scheduling Algorithm
Enter Number Of Processes : 4
Enter arrival time and Burst time for Process P0 : 2 8
Enter arrival time and Burst time for Process P1 : 1 3
Enter arrival time and Burst time for Process P2 : 0 5
Enter arrival time and Burst time for Process P3 : 3 6
Enter Time Slice OR Quantum Number : 3

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Gantt Chart
0 -> [P2] <- 3 -> [P1] <- 6 -> [P0] <- 9 -> [P3] <- 12 -> [P2] <- 14 -> [P0] <- 17 -> [P3] <- 20 -> [P0] <- 22

***************************************
Pro     ArTi    BuTi    TaTi    WtTi
***************************************
P2      0       5       14      9
P1      1       3       5       2
P0      2       8       20      12
P3      3       6       17      11
***************************************
Average Waiting Time : 8.50
Average Turnaround Time : 14.00
```

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PREEMPTIVE PRIORITY SCHEDULING ALGORITHM
Enter Total Number of Process:4

Enter Burst Time and Priority:

P[1]
Burst Time:6
Priority:3

P[2]
Burst Time:2
Priority:2

P[3]
Burst Time:14
Priority:1

P[4]
Burst Time:6
Priority:4

+-----+------------+--------------+-----------------+
| PID | Burst Time | Waiting Time | Turnaround Time |
+-----+------------+--------------+-----------------+
|  3  |     14     |      0       |       14        |
+-----+------------+--------------+-----------------+
|  2  |     2      |      14      |       16        |
+-----+------------+--------------+-----------------+
|  1  |     6      |      16      |       22        |
+-----+------------+--------------+-----------------+
|  4  |     6      |      22      |       28        |
+-----+------------+--------------+-----------------+


Average Waiting Time=13
Average Turnaround Time=20

        GANTT CHART
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|            P3             | P2 |     P1     |     P4     |
---------------------------- ---- ------------ ------------
0                          14   16           22          28
```
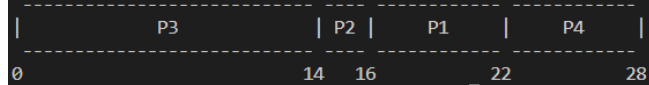
```
First Come First Serve Scheduling Algorithm
Enter total number of process: 3
Enter burst time for each process:
P[1] : 24
P[2] : 3
P[3] : 7

+-----+------------+--------------+-----------------+
| PID | Burst Time | Waiting Time | Turnaround Time |
+-----+------------+--------------+-----------------+
|  1  |     24     |      0       |       24        |
+-----+------------+--------------+-----------------+
|  2  |     3      |      24      |       27        |
+-----+------------+--------------+-----------------+
|  3  |     7      |      27      |       34        |
+-----+------------+--------------+-----------------+

Total Waiting Time      : 51
Average Waiting Time    : 17.00
Total Turnaround Time   : 4199205
Average Turnaround Time : 1399735.00

          GANTT CHART
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  |                        P1                        | P2  |     P3       |
   -------------------------------------------------- ------ --------------
  0                                                  24    27            34
```
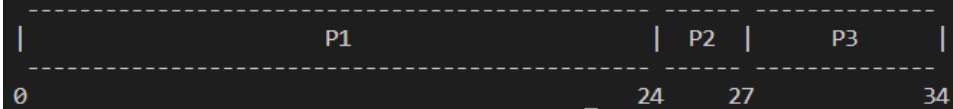
```
SHORTEST JOB FIRST SCHEDULING ALGORITHM
=======================================
Enter total process: 4
Enter burst time for each process:
P[1]: 5
P[2]: 4
P[3]: 12
P[4]: 7

Average Waiting Time: 7.25
Gantt Chart:
    -------- ---------- -------------- -----------------------
   |   p2   |    p1    |      p4      |           p3          |
    -------- ---------- -------------- -----------------------
   0        4          9              16                      28
```