Assignment-4

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. **Due on 2018-09-05, 23:59 IST.**

1) Consider a set of 6 tasks, T1 (1, 5), T2 (2, 10), T3 (3, 15), T4 (3, 15), T5 (2, 5), and T6 (1, 5), to be executed on two unit capacity processors using either Pfair or ERfair scheduling schemes.

Notation: Tk (e, p) denotes a task Tk with execution time "e" and period "p".

What is the pseudo-deadline of second subtask of task T5 when scheduled using ERfair?

- 5
- 8
- 10
- 7

No, the answer is incorrect.
Score: 0
Accepted Answers: 5

2) Consider a set of 7 tasks, T1 (3, 10), T2 (10, 20), T3 (10, 20), T4 (6, 10), T5 (5, 10), T6 (8, 20), and T7 (2, 10) to be executed on three unit capacity processors using DPfair scheduling scheme.

Notation: Tk (e, p) denotes a task Tk with execution time "e" and period "p".

What is the workload of task T6 for the first time-slice?

- 5
- 6
- 3
- 4
processing using "Earliest Deadline First" scheduling scheme.

<table>
<thead>
<tr>
<th>JOB ID</th>
<th>Arrival Time</th>
<th>Computation Time</th>
<th>Absolute Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>0</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>J2</td>
<td>4</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>J3</td>
<td>5</td>
<td>10</td>
<td>29</td>
</tr>
</tbody>
</table>

What is the response time of job J1, J2 and J3, respectively?

- 0, 4, 5
- 10, 3, 10
- 23, 3, 12
- 33, 28, 29

No, the answer is incorrect.
Score: 0
Accepted Answers:
23, 3, 12

4) Time taken by a task instruction can depend on whether:

1. branch prediction was correct or wrong
2. interrupt occurs from a peripheral device
3. there is a hit or miss in the instruction cache
4. resource contention occur with other executing tasks

- 1 and 2
- 2 and 4
- 1 and 3
- 3 and 4

No, the answer is incorrect.
Score: 0
Accepted Answers:
1 and 3

5) Consider a uniprocessor system processing three (implicit-deadline) periodic tasks T1, T2, and T3, respectively. The task parameters are listed in the following table.

<table>
<thead>
<tr>
<th>Task ID</th>
<th>Arrival Time</th>
<th>Computation Time</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>0</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>T2</td>
<td>0</td>
<td>40</td>
<td>150</td>
</tr>
<tr>
<td>T3</td>
<td>0</td>
<td>100</td>
<td>350</td>
</tr>
</tbody>
</table>

This task set is _________ under Rate-Monotonic (RM), and _________ under Earliest-Deadline First (EDF) algorithms?

- Schedulable, Unschedulable
- Schedulable, Schedulable
No, the answer is incorrect.
Score: 0
Accepted Answers:
Unschedulable, Unschedulable