

Exercise Sheet 5

(10 Points)

Thursday, December 13, 2018

Note: This exercise lasts for three weeks.

5.1 Earliest Deadline First (EDF) Algorithm Implementation (10 points)

Implement the EDF algorithm in FreeRTOS. You need to modify (at least) the following:

- Task Control Block (TCB) to consider periodic tasks.
 - Hint: Add period, worst-case execution time and relative deadline parameters.
- Scheduling policy.

Furthermore, track the task execution and print the information of the tasks that miss their deadlines. Test your scheduler using two different task sets: (1) A task set with total utilization of 100% and (2) a task set with total utilization more than 100%.