Simulation Part

Consider the tasks T1(3, 0.5), T2(4, 1.5, 3), T3(7, 1.0, 5) and the EDF scheduler. A sporadic job arrives at t=50 having the execution time of 10 and a relative deadline of 30.

What is the minimum/maximum/average response time of all tasks?

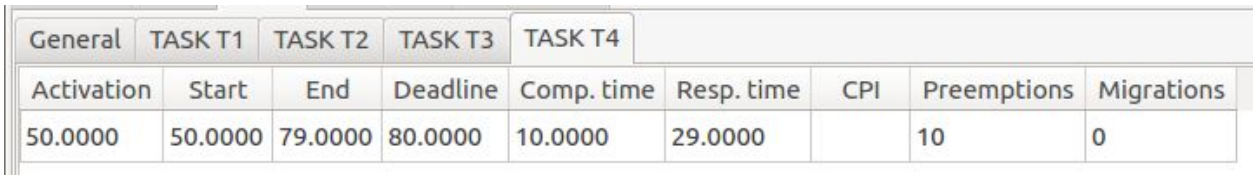
Task #	Min response	Max response	Average response
1	0.5	1.5	0.294
2	1.5	2	0.245
3	1.967	3.5	0.921
4	29	29	29

Is any task missing the deadline? Which task? Where?

None.

Is the sporadic job meeting its deadline?

Yes, from the scheduled result, the sporadic job finishes at time 79ms, before the deadline time of 80ms. This is seen below.



What is the response time for the sporadic job?

29ms

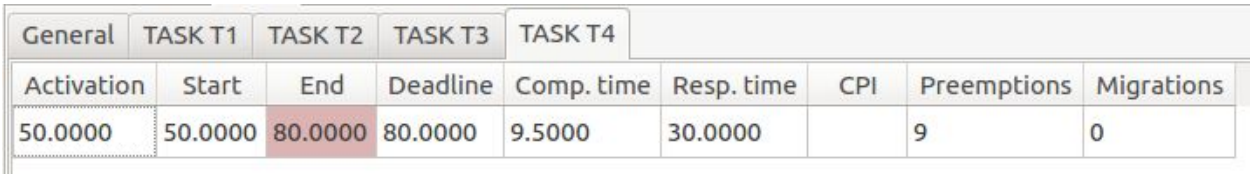
Consider the tasks T1(3, 0.5), T2(4, 1.5, 3), T3(7, 1.0, 5) and the RM scheduler. A sporadic job arrives at t=50 having the execution time of 10 and a relative deadline of 30.

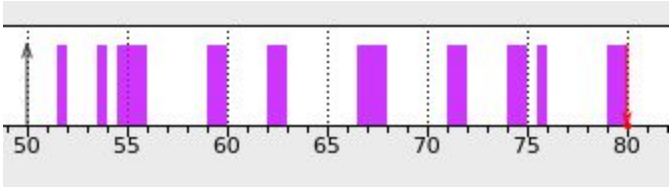
What is the minimum/maximum/average response time of all tasks?

Task #	Min response	Max response	Average response
1	0.5	0.5	0.5
2	1.5	2	1.84
3	1	3	1.9
4	NA	NA	NA

Is any task missing the deadline? Which task? Where?

No periodic task is missing deadline. Task 4 (sporadic task) is missing its deadline at time 80ms where it completed 9.5ms out of its designated 30ms of execution time. This can be seen below.





Is the sporadic job meeting its deadline?

No, it is missing its deadline as seen above.

What is the response time for the sporadic job?

N/A. It does not finish within the allowed time.

Which scheduler is better is better in this example; EDF or RM?

EDF is better suited in this case of creating a feasible schedule for all periodic and sporadic tasks.

Programming Part

Is the system fast enough to handle all aperiodic tasks? Why?

The system fails to serve aperiodic task to completion because the priority of the matrix task is higher and the delay time (100ms) after 1 cycle of matrix task is not enough to allow a aperiodic task to finish.

If not, solve this problem without alter the functionality of any task

The priority of the handling the aperiodic task is increased to be higher than that of the matrix task so that the aperiodic task is handled responsively after its release time.

What is the response time of the aperiodic task?

Min: 2377ms, Max: 2386ms, Average: 2380ms

Provide a screenshot of the running system.