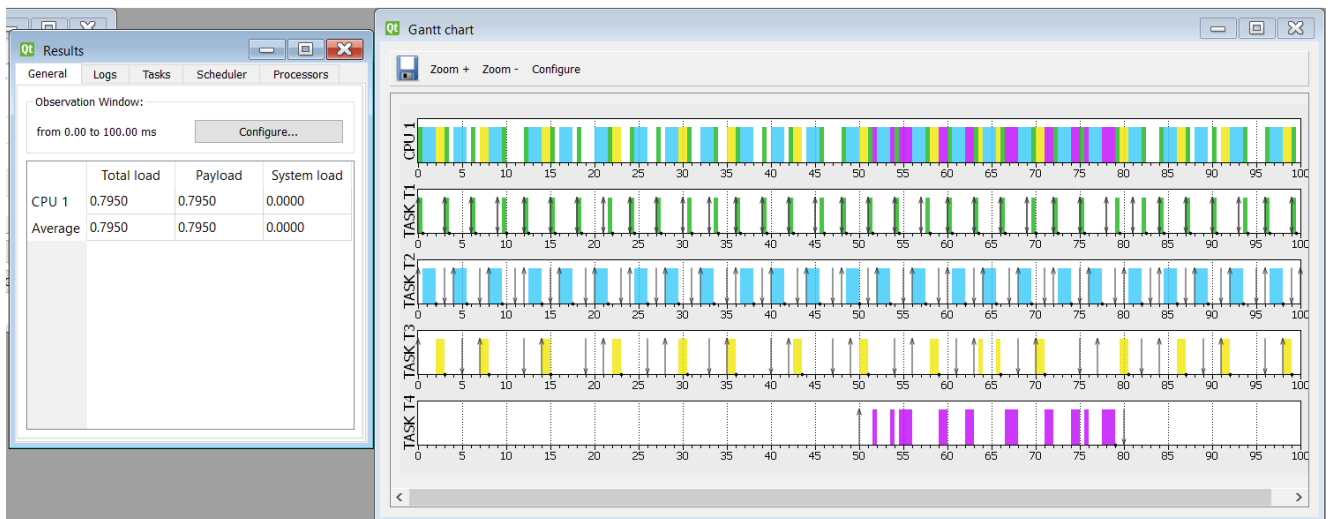


# Assignment 4 Report

**1- 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?

Qt Results					
General Logs Tasks Scheduler Processors					
General TASK T1 TASK T2 TASK T3 TASK T4					
Computation time:					
Task	min	avg	max	std dev	occupancy
TASK T1	0.500	0.500	0.500	0.000	0.170
TASK T2	1.500	1.500	1.500	0.000	0.375
TASK T3	1.000	1.000	1.000	0.000	0.150
TASK T4	10.000	10.000	10.000	0.000	0.100
Preemptions:					
Migrations:					
Task migrations:					
Response time:					

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

No , There is no task missing the deadline

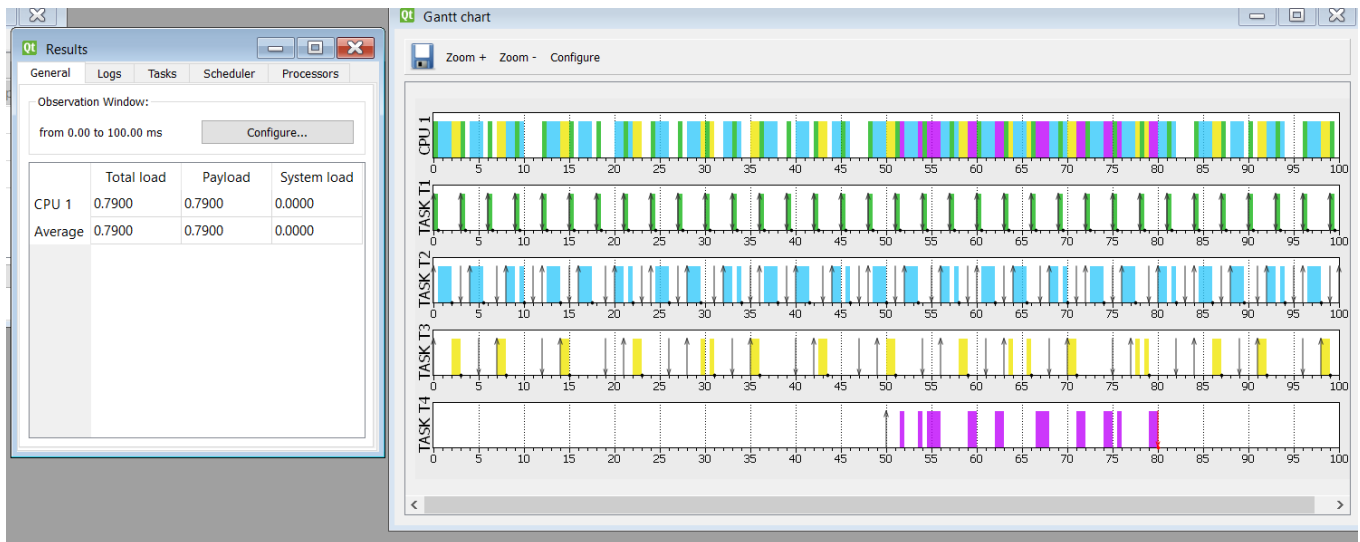
- Is the sporadic job meeting its deadline?

Yes, It finished at 79 ms and its deadline at 80 ms

- What is the response time for the sporadic job?

response time= Finished time – release time= 79 – 50 = 29 ms

**2- 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?

Qt Results

General Logs Tasks Scheduler Processors

General TASK T1 TASK T2 TASK T3 TASK T4

Computation time:

Task	min	avg	max	std dev	occupancy
TASK T1	0.500	0.500	0.500	0.000	0.170
TASK T2	1.500	1.500	1.500	0.000	0.375
TASK T3	1.000	1.000	1.000	0.000	0.150

Preemptions:

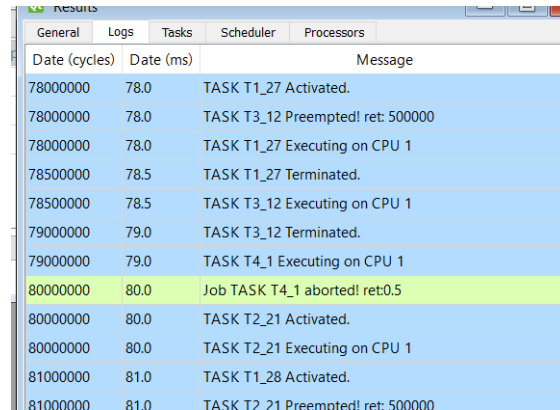
Migrations:

Task migrations:

Response time:

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

Yes , There is sporadic task 4 missed the deadline



Date (cycles)	Date (ms)	Message
78000000	78.0	TASK T1_27 Activated.
78000000	78.0	TASK T3_12 Preempted! ret: 500000
78000000	78.0	TASK T1_27 Executing on CPU 1
78500000	78.5	TASK T1_27 Terminated.
78500000	78.5	TASK T3_12 Executing on CPU 1
79000000	79.0	TASK T3_12 Terminated.
79000000	79.0	TASK T4_1 Executing on CPU 1
80000000	80.0	Job TASK T4_1 aborted! ret:0.5
80000000	80.0	TASK T2_21 Activated.
80000000	80.0	TASK T2_21 Executing on CPU 1
81000000	81.0	TASK T1_28 Activated.
81000000	81.0	TASK T2_21 Preempted! ret: 500000

- Is the sporadic job meeting its deadline?

No , It was aborted at 80 ms as it didn't finish at deadline

- What is the response time for the sporadic job?

It actually didn't finish so response time is infinity

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

EDF is better because all tasks met deadline unlike RM

### **3-Programming assignment:**

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

No , Aperiodic task gets blocked Because it has lower priority than matrix task

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

Make the aperiodic task higher priority 4 than matrix task

What is the response time of the aperiodic task?

```
E:\Summer2020\coursara\DevOfRTOS\week4\FreeF
Timer callback!
Aperiodic task started!
Aperiodic task done!
APERIODIC TASK TIME: 927
Timer callback!
Aperiodic task started!
Aperiodic task done!
APERIODIC TASK TIME: 896
Timer callback!
Aperiodic task started!
Aperiodic task done!
APERIODIC TASK TIME: 938
```

Provide a screenshot of the running system?

**Before setting Aperiodic task priority to 4:**

E:\Summer2020\coursara\DevOfRTOS\we

```
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!  
Timer callback!  
Aperiodic task started!
```

**After setting Aperiodic task priority to 4:**

E:\Summer2020\coursara\DevOfRTOS\w

```
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!  
Timer callback!  
Aperiodic task started!  
Aperiodic task done!
```