Assignment 4

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Simulation assignment

1. T1(3, 0.5), T2(4, 1.5, 3), T3(7, 1.0, 5)

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

   Response time:

Task	min	avg	max	std dev
TASK T1	0.500	0.676	1.500	0.294
TASK T2	1.500	1.700	2.000	0.245
TASK T3	1.000	1.967	3.500	0.921
TASK T4	29.000	29.000	29.000	0.000

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

   From the log, there is no task missed.

   Is the sporadic job meeting its deadline?

   Yes, sporadic job met the deadline judging from the log.

   What is the response time for the sporadic job?

   The response time of sporadic job is 29ms in this case as shown in the following figure.

TASK T4	29.000	29.000	29.000	0.000

2. T1(3, 0.5), T2(4, 1.5, 3), T3(7, 1.0, 5)

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

Response time:

Task	min	avg	max	std dev
TASK T1	0.500	0.500	0.500	0.000
TASK T2	1.500	1.840	2.000	0.233
TASK T3	1.000	1.900	3.000	0.860
TASK T4				

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

From the log, the sporadic task missed the deadline at time 80 ms.
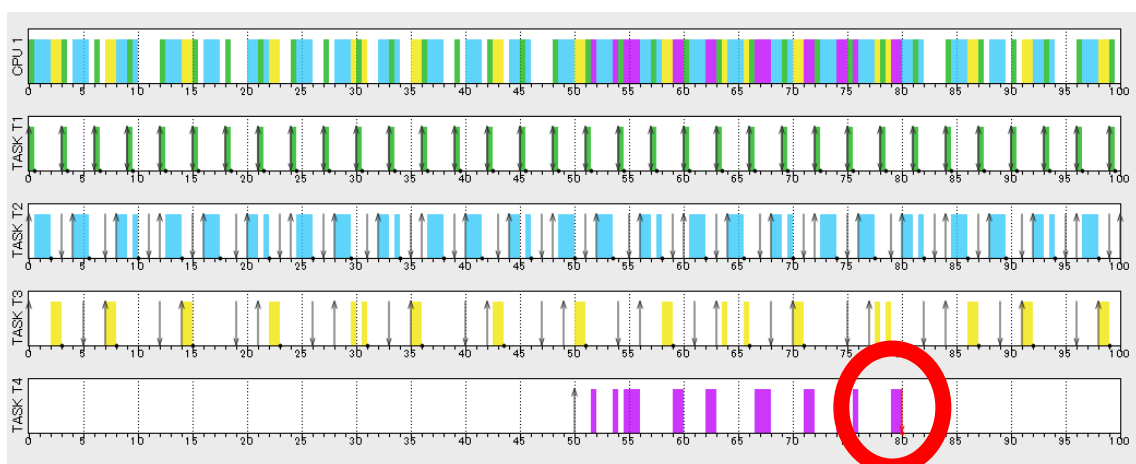
Is the sporadic job meeting its deadline?

No, sporadic job missed the deadline judging from the log.

What is the response time for the sporadic job?

Since the sporadic job missed, the response time of it is 0ms.

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

In this case. EDF is better since the sporadic task could be scheduled successfully.

Programming assignment

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

No, the system is not fast enough to handle all the aperiodic tasks because as shown in the screenshot, "Aperiodic task done!" was never printed.
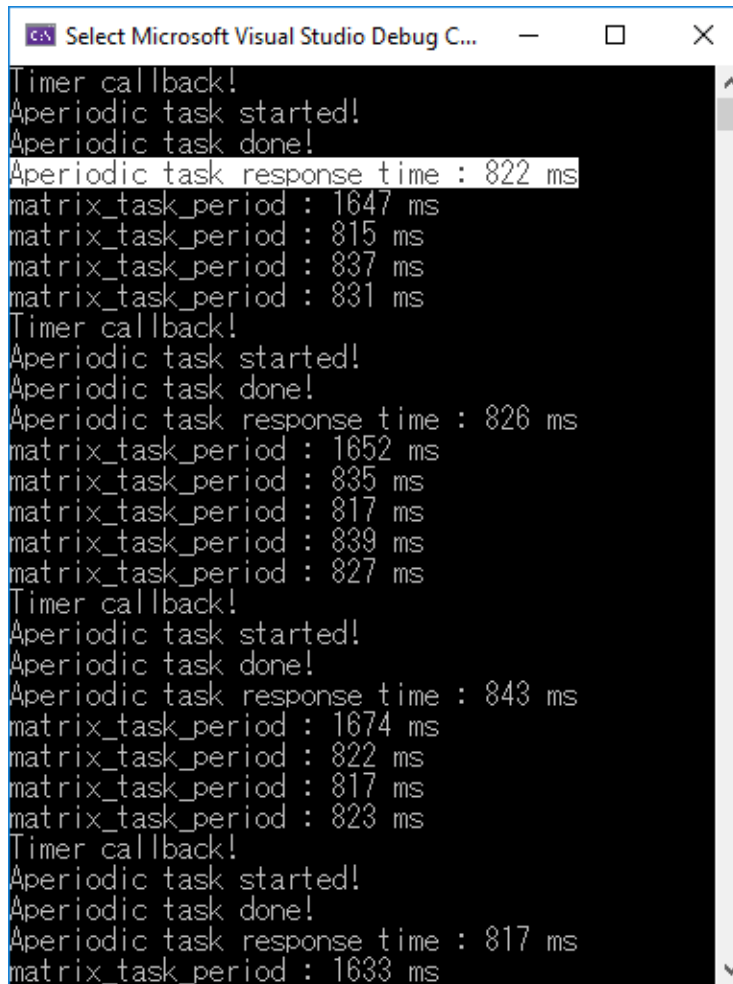

If not, solve this problem without alter the functionality of any task

By setting the priority of the aperiodic task higher than the task of matrix, the deadline of the aperiodic time will not be missed. (Shown in the screenshot below)

What is the response time of the aperiodic task?

As shown in the screenshot, the response time of aperiodic task is around 822 ms with variation from 817 ms to 843 ms.

Provide a screenshot of the running system

It's shown in the previous question.