CSC 112: Computer Operating Systems
Lecture 6

Real-Time Scheduling
Exercises ANS

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Q1 RM, EDF, LLF ANS

- Consider the set of 2 periodic tasks whose period, deadline and WCET parameters are given. For each scheduling algorithm (RM, EDF, LLF), draw the Gantt chart by filling in the table with the task ID that runs in each time slot, and calculate the WCRT for each task.

Task ID	T=D	C	RM Resp. Time	EDF Resp. Time	LLF Resp. Time
1	8	3	3	3	5
2	10	4	7	7	7

RM	1	1	1	2	2	2	2	X	1	1
EDF	1	1	1	2	2	2	2	X	1	1
LLF	1	1	2	2	1	2	2	X	1	1

Time 0 1 2 3 4 5 6 7 8 9 10

Gantt Chart

Time	T_1 Laxity	T_2 Laxity	Running Task
t=0	8-0-3=5	10-0-4=6	1
t=1	8-1-2=5	10-1-4=5	1 (tie)
t=2	8-2-1=5	10-2-4=4	2
t=3	8-3-1=4	10-3-3=4	2 (tie)
t=4	8-4-1=3	10-4-2=4	1
t=5	T1 done	10-5-2=3	2
t=6	T1 done	10-6-1=3	2
t=7	T1 done	T2 done	X
t=8	16-8-3=5	T2 done	1
T=9	16-9-2=5	T2 done	1