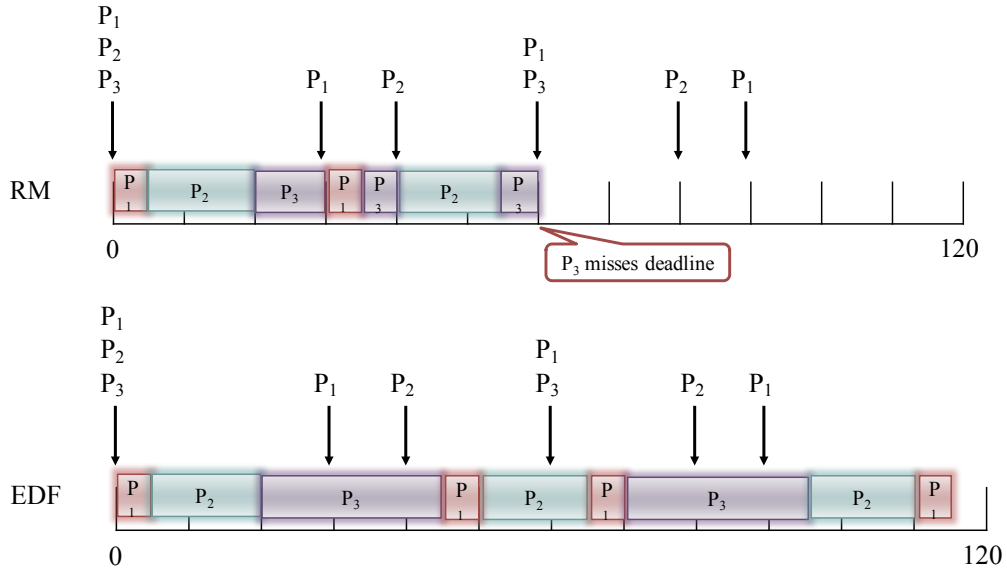
長庚大學107學年度第二學期 作業系統實務 第一次小考

系級: 姓名: 學號:

1. There are three periodic tasks P_1, P_2 and P_3. P_1 has its period 30 and execution time 5. P_2 has its period 40 and execution time 15. P_3 has its period 60 and execution time 25. Please draw the results of the (a) RM and (b) EDF scheduling algorithms. Assume that all tasks arrive at time 0. Please draw the schedule result from time 0 to time 120 if all task can meet deadlines. Please draw the result from time 0 until the first deadline missing if any task will miss its deadline.

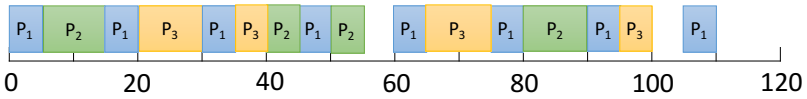
Answer: (a) (b)



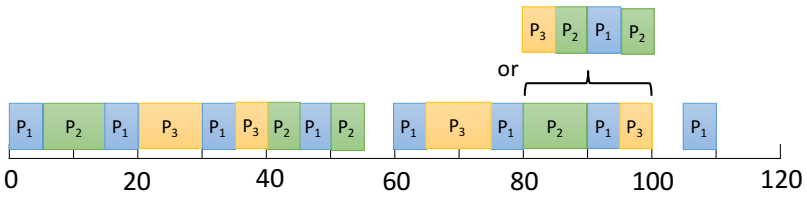
2. There are three periodic tasks P_1, P_2 and P_3. P_1 has its period 15 and execution time 5. P_2 has its period 40 and execution time 10. P_3 has its period 60 and execution time 15. Please draw the results of the (a) RM and (b) EDF scheduling algorithms. Assume that all tasks arrive at time 0. Please draw the schedule result from time 0 to time 120 if all task can meet their deadlines. Please draw the result from time 0 until the first deadline missing if any task will miss its deadline.

Answer:

RM:



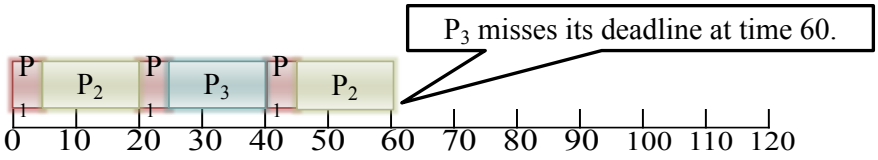
EDF:



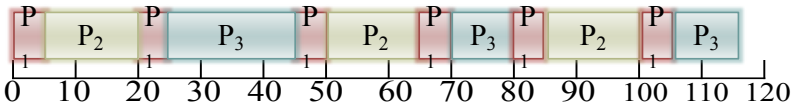
3. There are three periodic tasks P_1, P_2 and P_3. P_1 has its period 20 and execution time 5. P_2 has its period 40 and execution time 15. P_3 has its period 60 and execution time 20. Please draw the results of the (a) RM and (b) EDF scheduling algorithms. Assume that all tasks arrive at time 0. Please draw the schedule result from time 0 to time 120 if all task can meet their deadlines. Please draw the result from time 0 until the first deadline missing if any task will miss its deadline.

Answer:

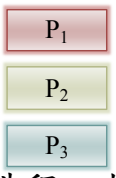
RM:



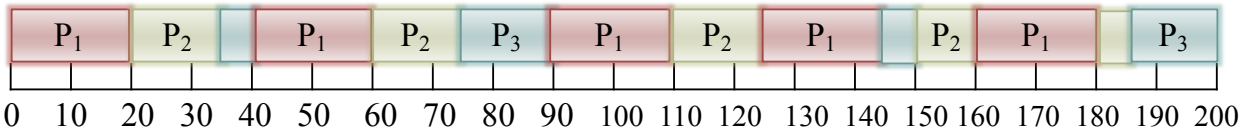
EDF:



- P_1 has its period 40 and execution time 20
- P_2 has its period 50 and execution time 15
- P_3 has its period 100 and execution time 20
- 排程條件：大家都從時間0開始、用EDF排程、如果優先權一樣週期短的先執行



EDF:



RM: