

PARTIAL SOLUTION TO 6.37

CONSIDER TASK SET $T_1 = (e_1, p_1)$
 $T_2 = (e_2, p_2)$

WHERE $e_1 = p_2 - \gamma p_1$ ($\gamma \in \mathbb{N}$)
 $e_2 = p_2 - (\gamma + 1)e_1$

$\{T_1, T_2\}$ IS A DIFFICULT-TO-SCHEDULE TASKSET.

① SHOW THAT $\{T_1, T_2\}$ IS MOTS

a.) \rightarrow INCREASE $e_1 \rightarrow$ DECREASE e_2
SHOW THAT UTILIZATION INCREASES.

b.) DECREASE $e_1 \rightarrow$ INCREASE e_2
SHOW THAT UTILIZATION INCREASES

② DETERMINE UTILIZATION OF $\{T_1, T_2\}$

$$\frac{e_1}{p_1} + \frac{e_2}{p_2} = \frac{p_2 - \gamma p_1}{p_1} + \frac{p_2 - (\gamma + 1)e_1}{p_2}$$

compute $\frac{\partial U}{\partial p_i} \Rightarrow \frac{\partial U}{\partial p_1} = 0$ (1)

$$\frac{\partial U}{\partial p_2} = 0$$
 (2)

\hookrightarrow SOLVE SYSTEM OF EQUATIONS (1)+(2)