Advanced System Software
Assignment #1

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1. ~~An~~ A set of tasks whose U is greater than $n(2^{\frac{t}{n}}-1)$.

   When $n=2$, let $\Gamma = \{T_0, T_1\}$ ~~be~~ be

   $$T_0 = (99, 49, 0)$$
   $$T_1 = (100, 50, 0)$$

   It's RM-schedulable and its $U = \dfrac{197}{198} > 2\sqrt{2} - 2$
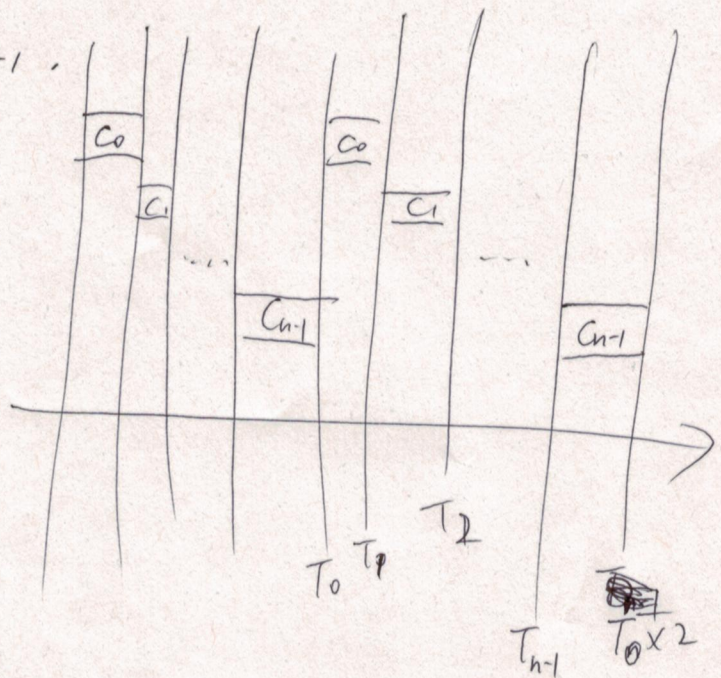
2. Yes.

3. Show $C_{n-1} = 2T_0 - 2T_{n-1}$.

   $\because \quad C_0 = T_1 - T_0$

   $ \quad C_2 = T_2 - T_1$

   $ \quad \vdots$

   $ \quad C_{n-2} = T_{n-1} - T_{n-2}$

   $\therefore \quad C_0 + C_1 + \cdots + C_{n-2} = T_{n-1} - T_0$

$$C_M = T_{n-1} - 2 \times (C_0 + C_1 + \cdots + C_{n-2})$$
$$= T_{n-1} - 2 \times T_{n-1} + 2 \times T_0$$
$$= 2T_0 - 2T_{n-1}$$