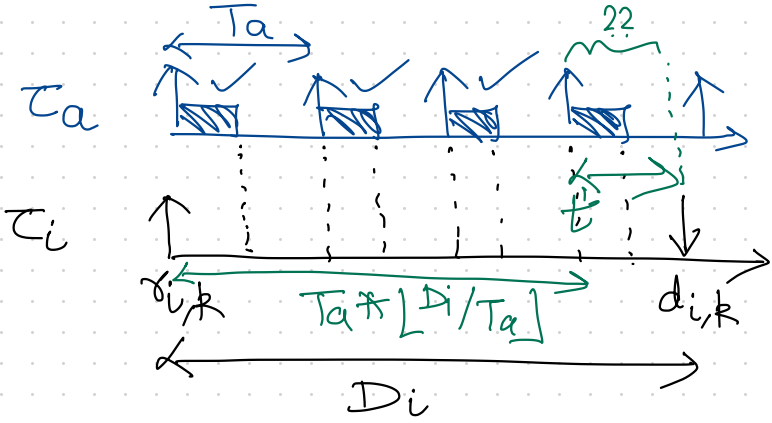
$\tau = \{\tau_1, \tau_2, \cdots \tau_n\}$

$D_1 < D_2 < \cdots < D_n$

Suppose τ_a has a higher priority than τ_i

i.e., $D_a < D_i$

How do we define $I^a_{i,k}$ for any $k \geq 0$



in $[r_{i,k}, d_{i,k})$

$= \left\lfloor \frac{D_i}{T_a} \right\rfloor$

instead

$= \left\lceil \frac{D_i}{T_a} \right\rceil$

Def 1 $\rightarrow I^a_{i,k} = \left\lceil \frac{D_i}{T_a} \right\rceil * C_a$

Def 2 $I^a_{i,k} = \left\lfloor \frac{D_i}{T_a} \right\rfloor * C_a + \min(C_a, d_{i,k} - t)$

$d_{i,k} - t = D_i - \left\lfloor \frac{D_i}{T_a} \right\rfloor T_a$

$\forall i,k \quad C_i + \sum_{a<i} I^a_{i,k} \leq D_i$

Replace $I_{i,k}$ with $\max(I_{i,k})$

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$$\forall i \quad C_i + \sum_{a<i} \max_{\forall k} \left(I^a_{i,k}\right) \leq D_i$$

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$$\rightarrow I^a_{i,k} = \left\lfloor \frac{D_i}{T_a} \right\rfloor C_a * \min\left(C_a, D_i - \left\lfloor \frac{D_i}{T_a} \right\rfloor T_a\right)$$

What is $\max_{\forall k} I^a_{i,k}$?

$$I^a_i = \max_{\forall k} I^a_{i,k} = \left\lfloor \frac{D_i}{T_a} \right\rfloor C_a \quad \text{---11---}$$

$$\forall i : \quad C_i + \sum_{a<i} I^a_i \leq D_i$$