Scheduling

Suppose you are trying to run many applications on a processor.

Java \rightarrow \text{Python} \rightarrow \text{Skype} \rightarrow \text{iTunes} \rightarrow \text{KOTOR}

What order is best?

Each job $i$; $i \in \{1, \ldots, n\}$
- weight (importance) $w_i$
- time to complete $t_i$

**def:** Completion time $C_j$ of job $j$ is sum of times required to complete all jobs run before $j$, plus $t_j$.

Scheduling Goal:

Minimize $\sum_{j=1}^{n} w_j C_j \leftarrow "Objective\ function"$

Q: Why is this a good goal?

A: If important jobs left until end, $w_j C_j \rightarrow A$ large

\[\uparrow \quad \uparrow \quad \text{large} \rightarrow \text{large} \]