4. **Greedy Algorithms I**

- earliest-start-time-first algorithm demo
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

no compatible classroom: open up a new classroom and assign lecture to it
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

no compatible classroom: open up a new classroom and assign lecture to it
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

no compatible classroom: open up a new classroom and assign lecture to it
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

lecture d is compatible with classrooms 1 and 3
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

lecture e is compatible with classroom 1
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

lecture f is compatible with classroom 2 and 3
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

lecture g is compatible with classroom 2
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

lecture h is compatible with classroom 1
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

**lecture j is compatible with classrooms 2 and 3**
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:
- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

lecture i is compatible with classroom 2
Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

- Assign next lecture to any compatible classroom (if one exists).
- Otherwise, open up a new classroom.

\[
\begin{align*}
\text{a} & \quad \text{b} & \quad \text{c} & \quad \text{d} & \quad \text{e} & \quad \text{f} & \quad \text{g} & \quad \text{h} & \quad \text{i} & \quad \text{j} \\
9:00 & \quad 9:30 & \quad 10:00 & \quad 10:30 & \quad 11:00 & \quad 11:30 & \quad 12:00 & \quad 12:30 & \quad 1:00 & \quad 1:30 & \quad 2:00 & \quad 2:30 & \quad 3:00 & \quad 3:30 & \quad 4:00 & \quad 4:30
\end{align*}
\]