

## 4. GREEDY ALGORITHMS I

### ▶ *earliest-start-time-first algorithm demo*

Lecture slides by Kevin Wayne

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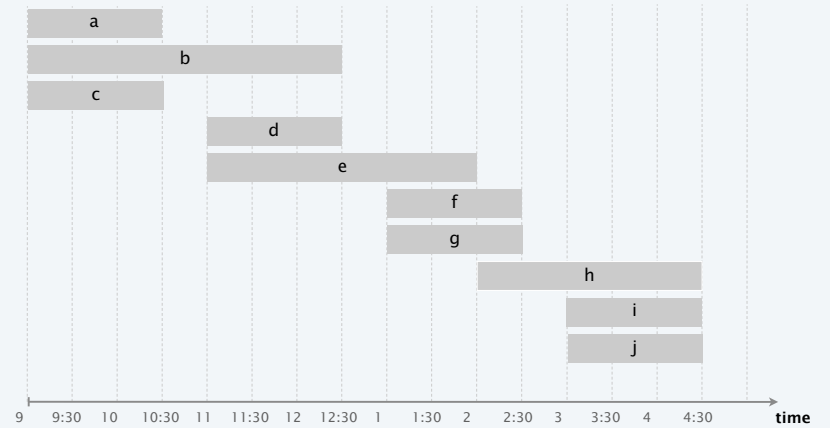
<http://www.cs.princeton.edu/~wayne/kleinberg-tardos>

Last updated on 7/25/17 10:58 AM

## 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.



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**no compatible classroom: open up a new classroom and assign lecture to it**



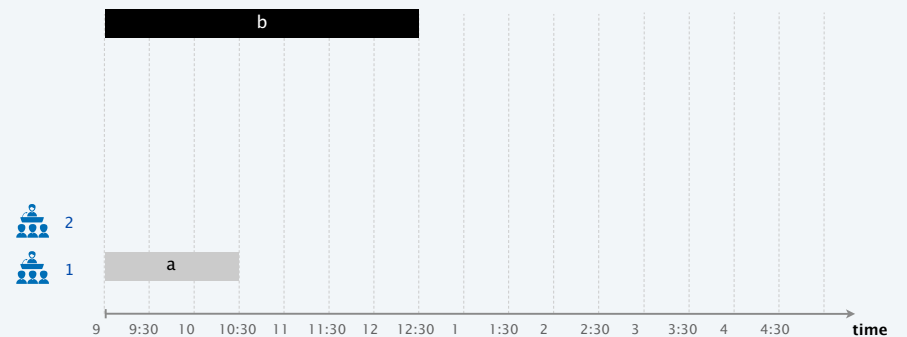
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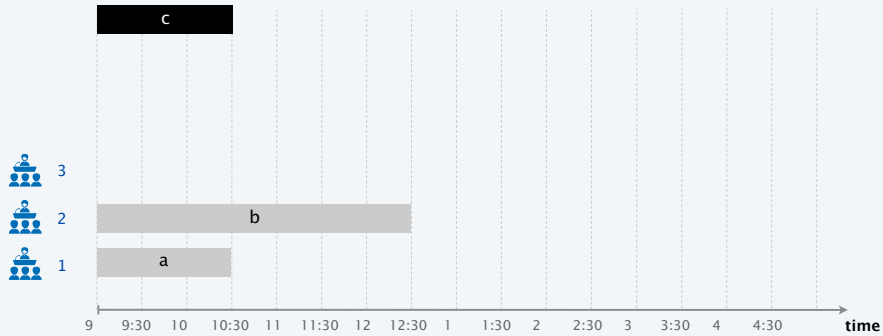
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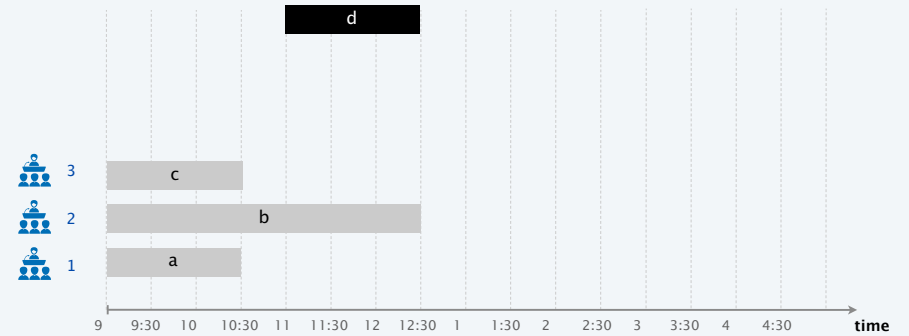
5

## 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



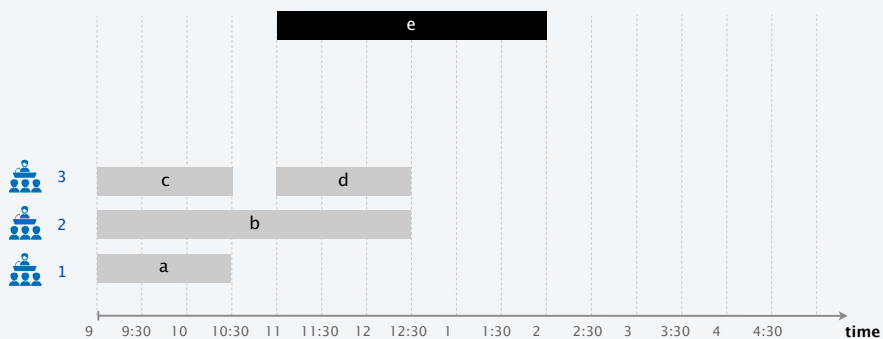
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Consider lectures in order of start time:

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

lecture e is compatible with classroom 1



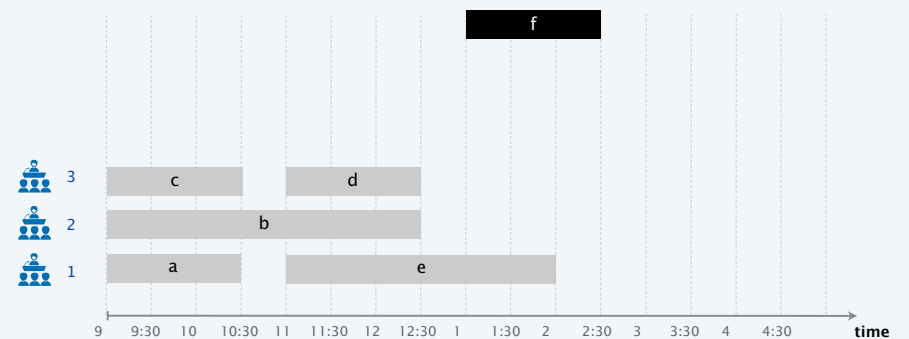
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## Earliest-start-time-first algorithm demo

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



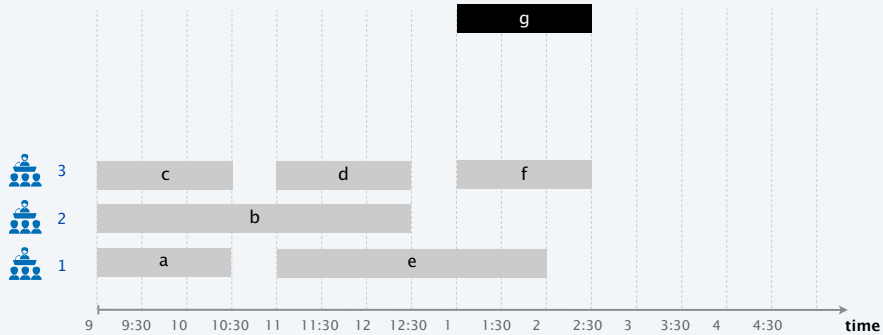
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## Earliest-start-time-first algorithm demo

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



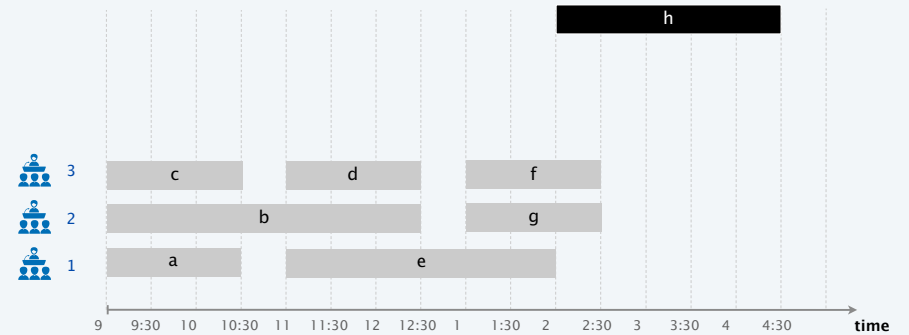
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## Earliest-start-time-first algorithm demo

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



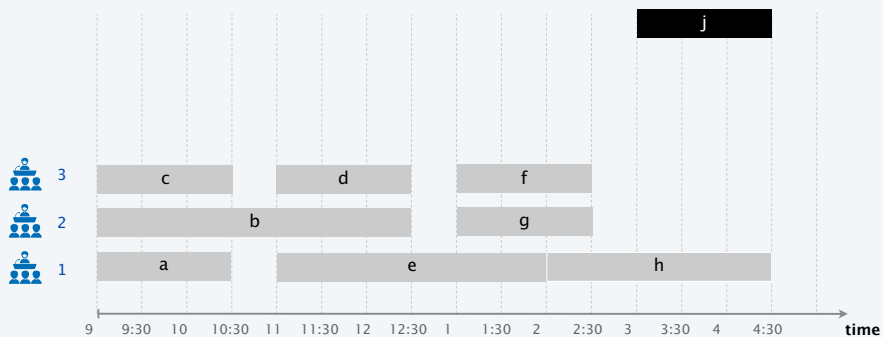
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Consider lectures in order of start time:

- 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



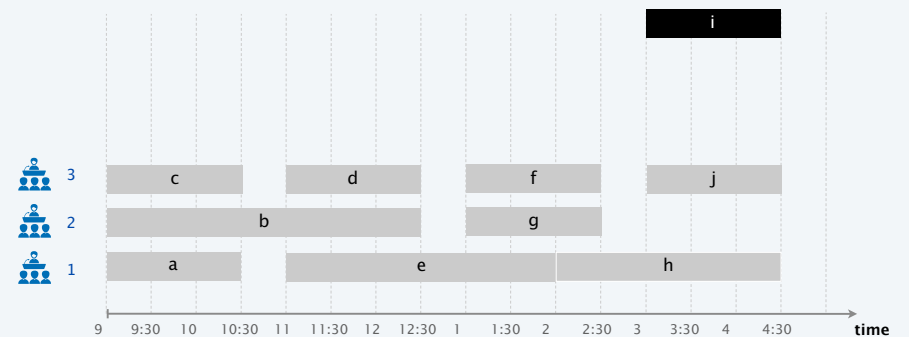
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Consider lectures in order of start time:

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

lecture i is compatible with classroom 2



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## 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.

done

