

4. GREEDY ALGORITHMS I

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

Lecture slides by Kevin Wayne

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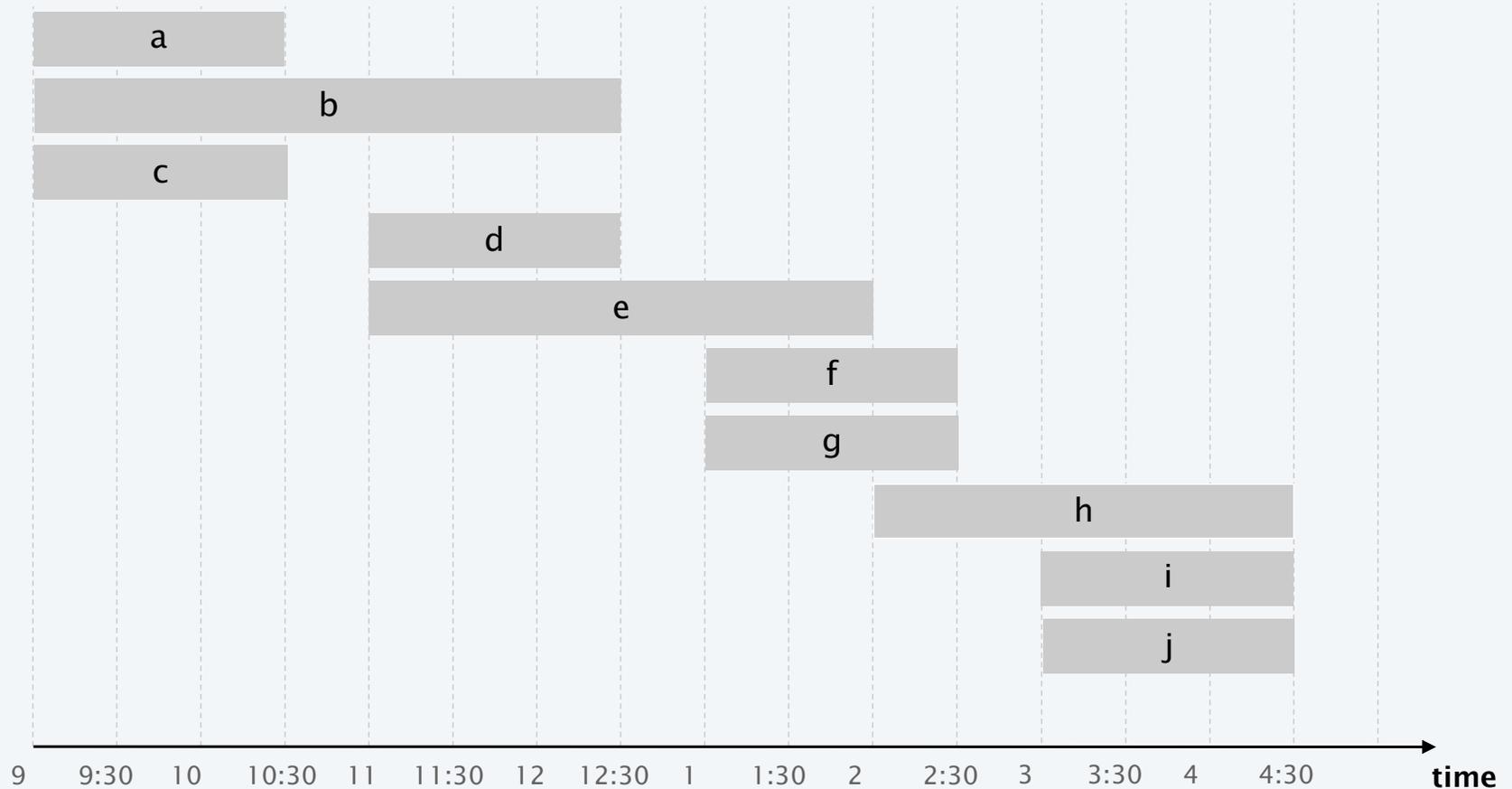
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<http://www.cs.princeton.edu/~wayne/kleinberg-tardos>

Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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

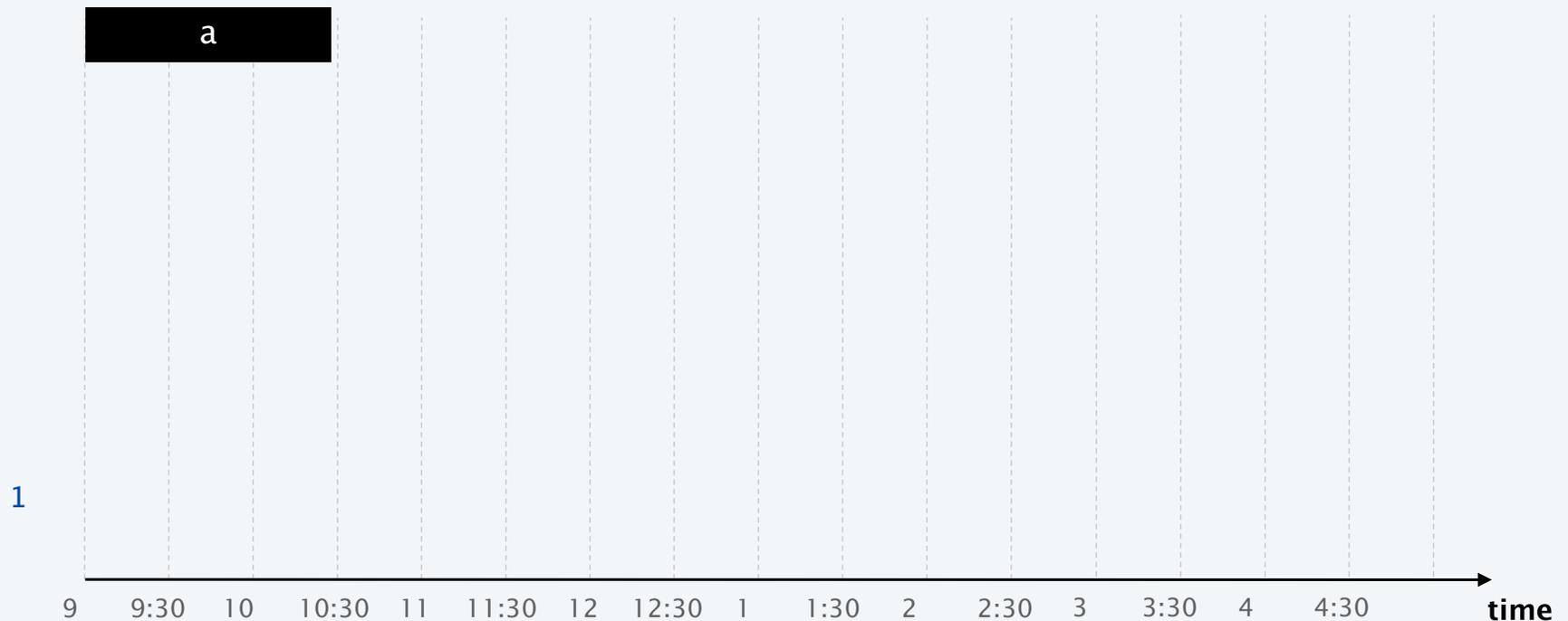


Earliest-start-time-first algorithm demo

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

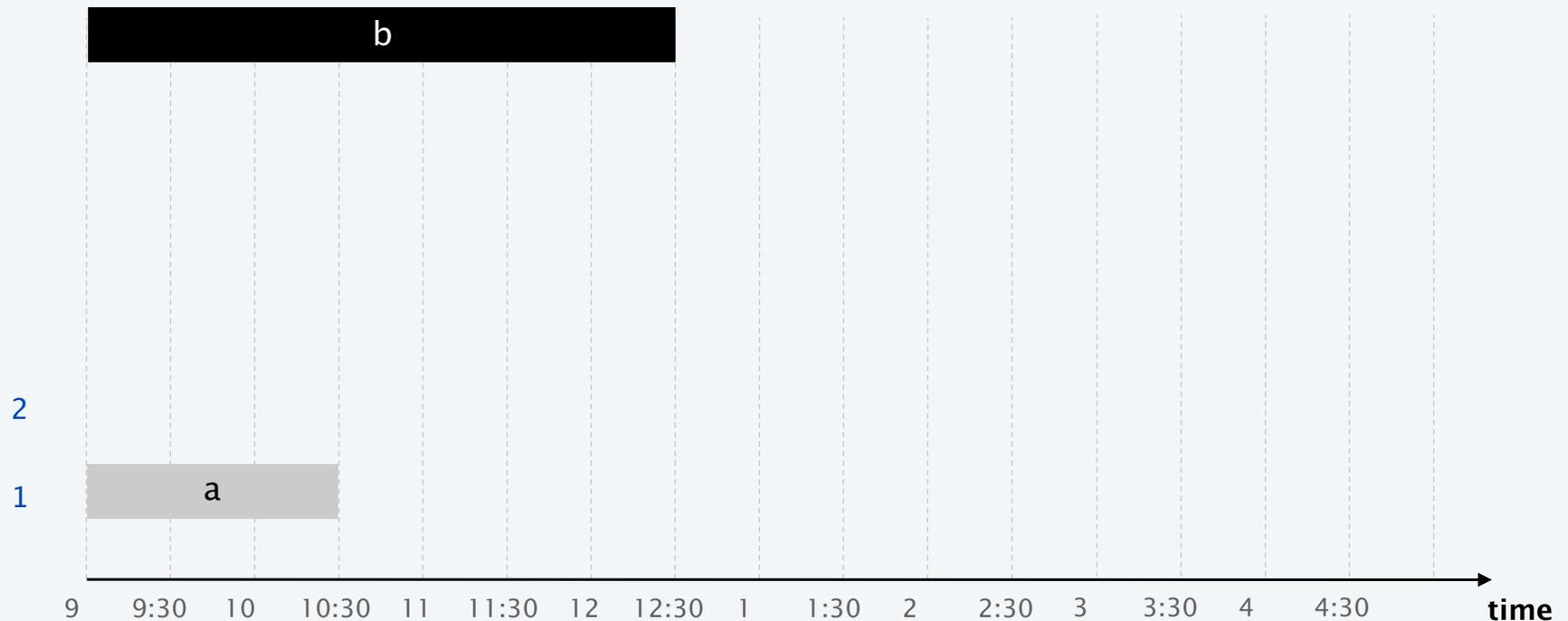


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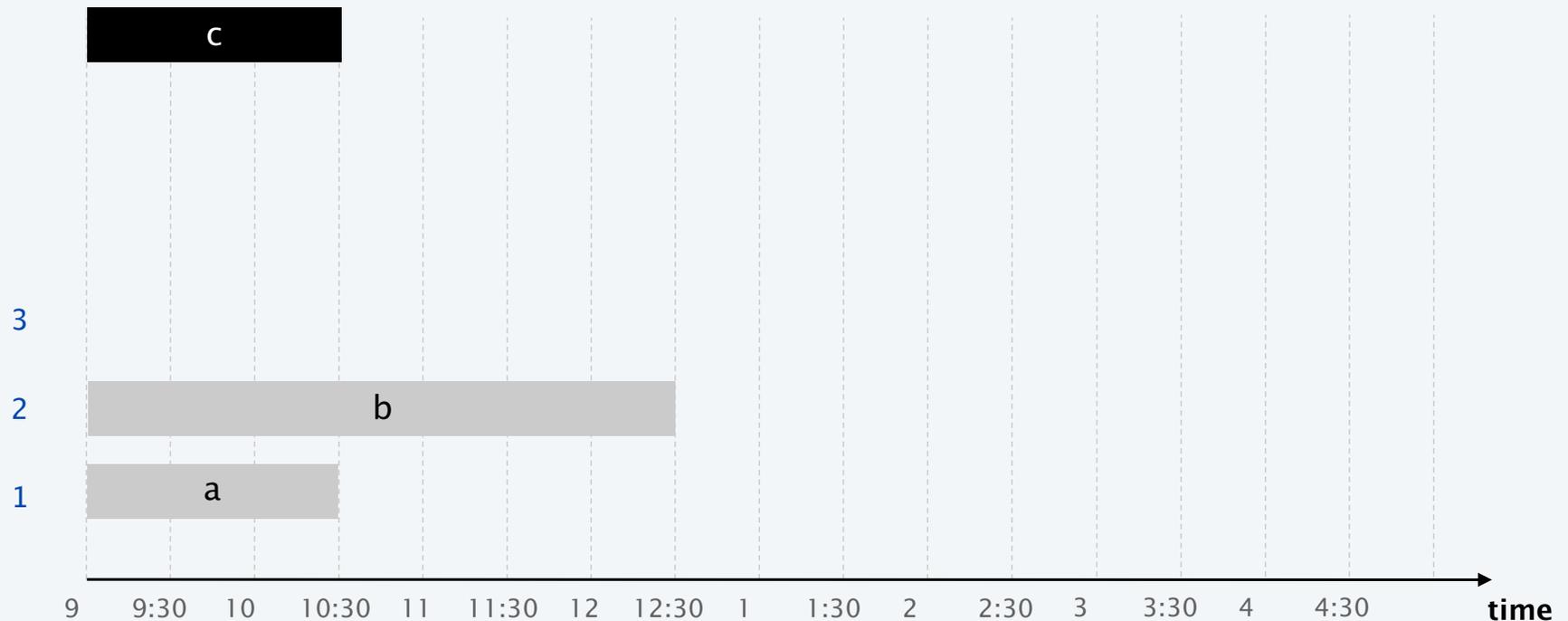


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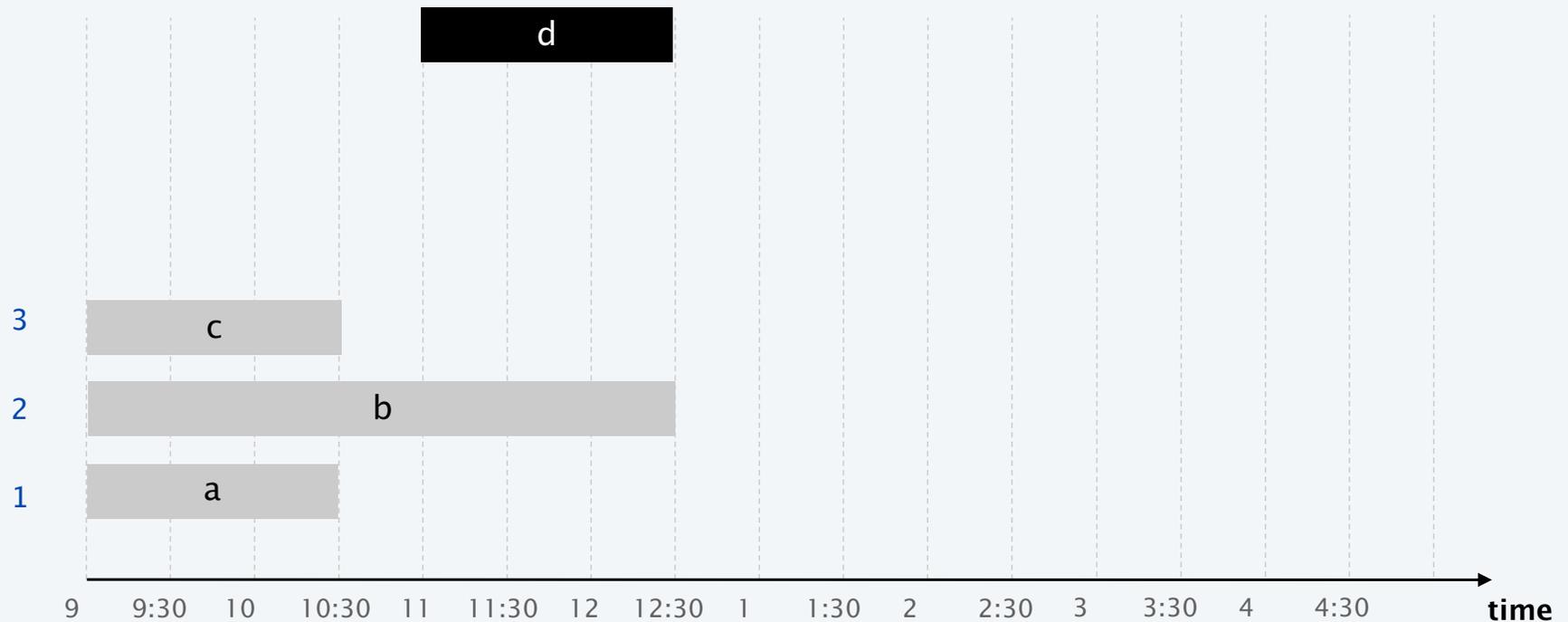


Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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- Otherwise, open up a new classroom.

lecture d is compatible with classrooms 1 and 3

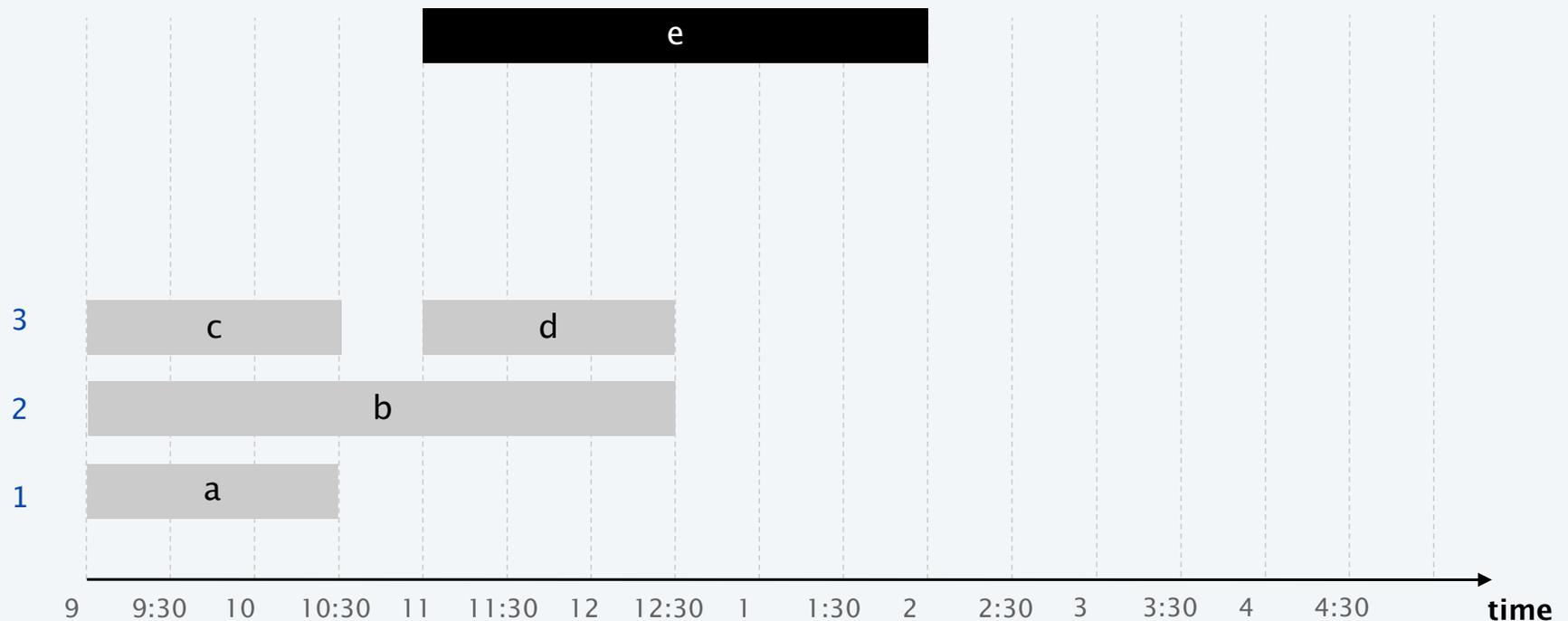


Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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- Otherwise, open up a new classroom.

lecture e is compatible with classroom 1

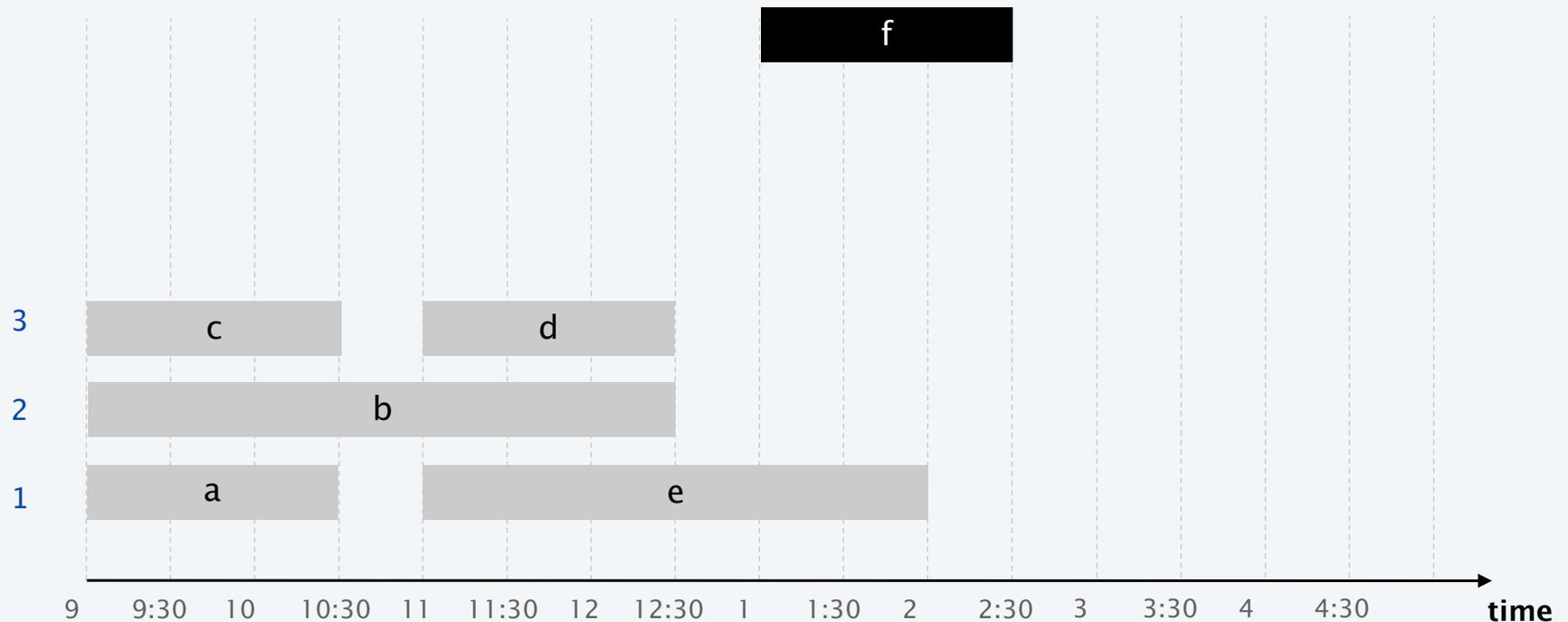


Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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

lecture f is compatible with classroom 2 and 3

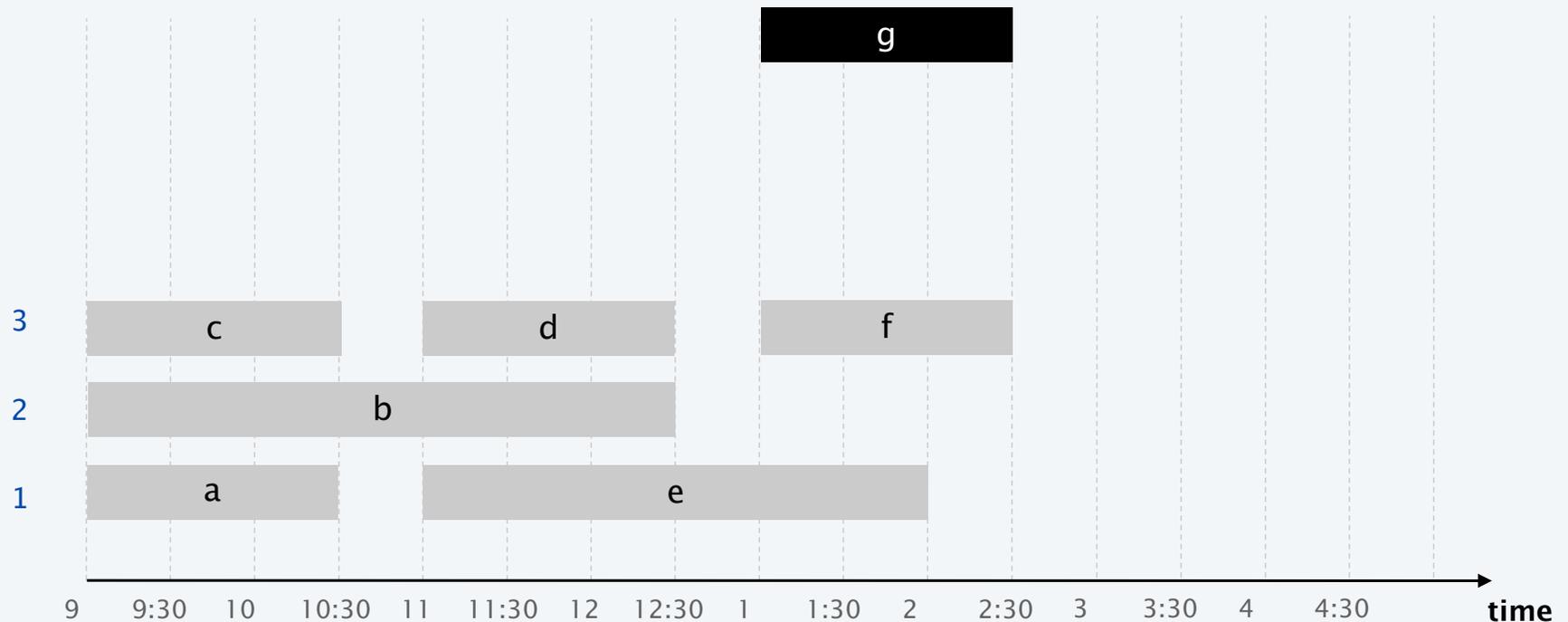


Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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

lecture g is compatible with classroom 2

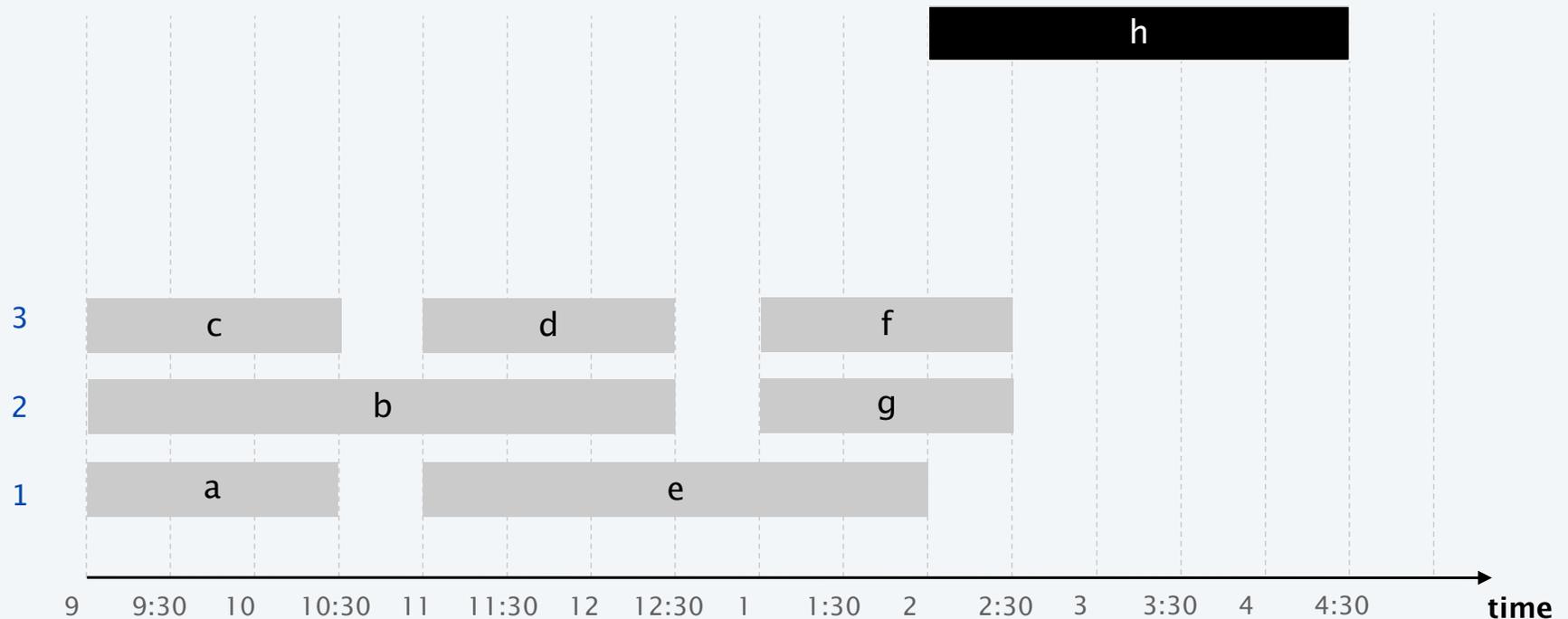


Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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

lecture h is compatible with classroom 3

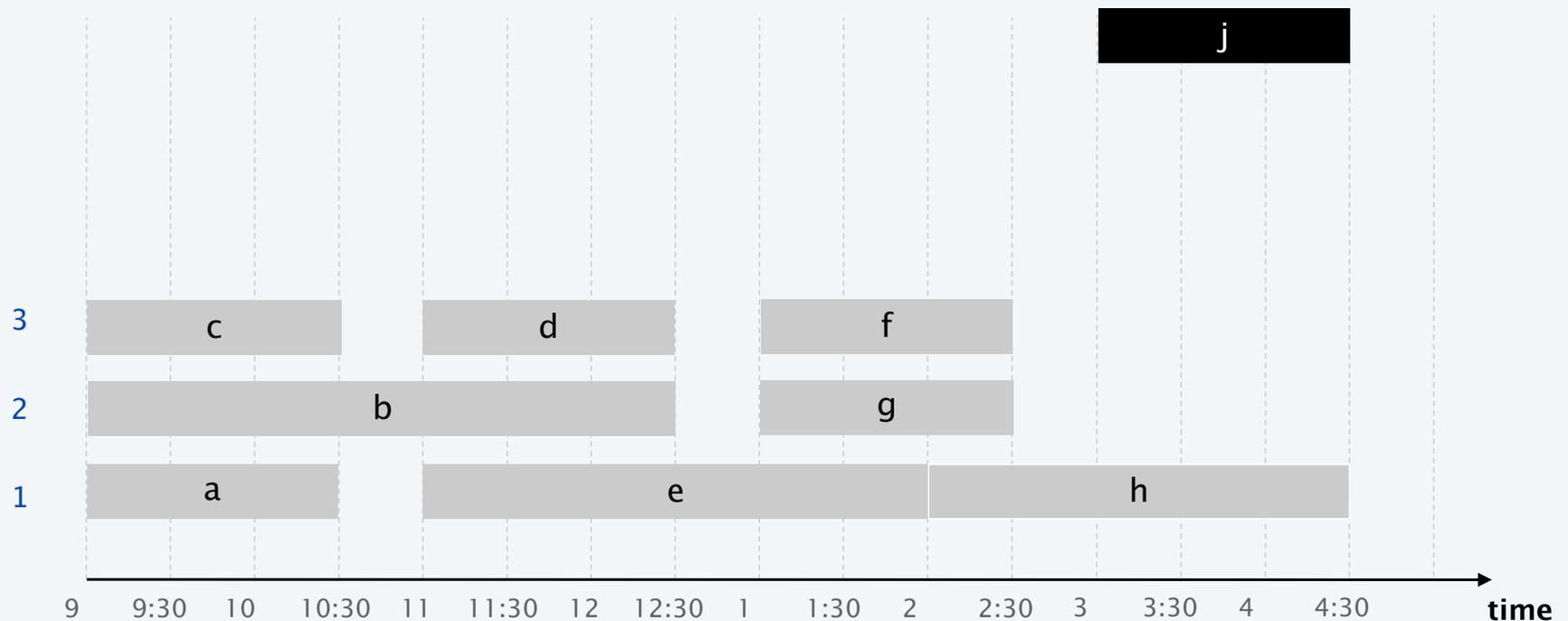


Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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- Otherwise, open up a new classroom.

lecture j is compatible with classrooms 2 and 3

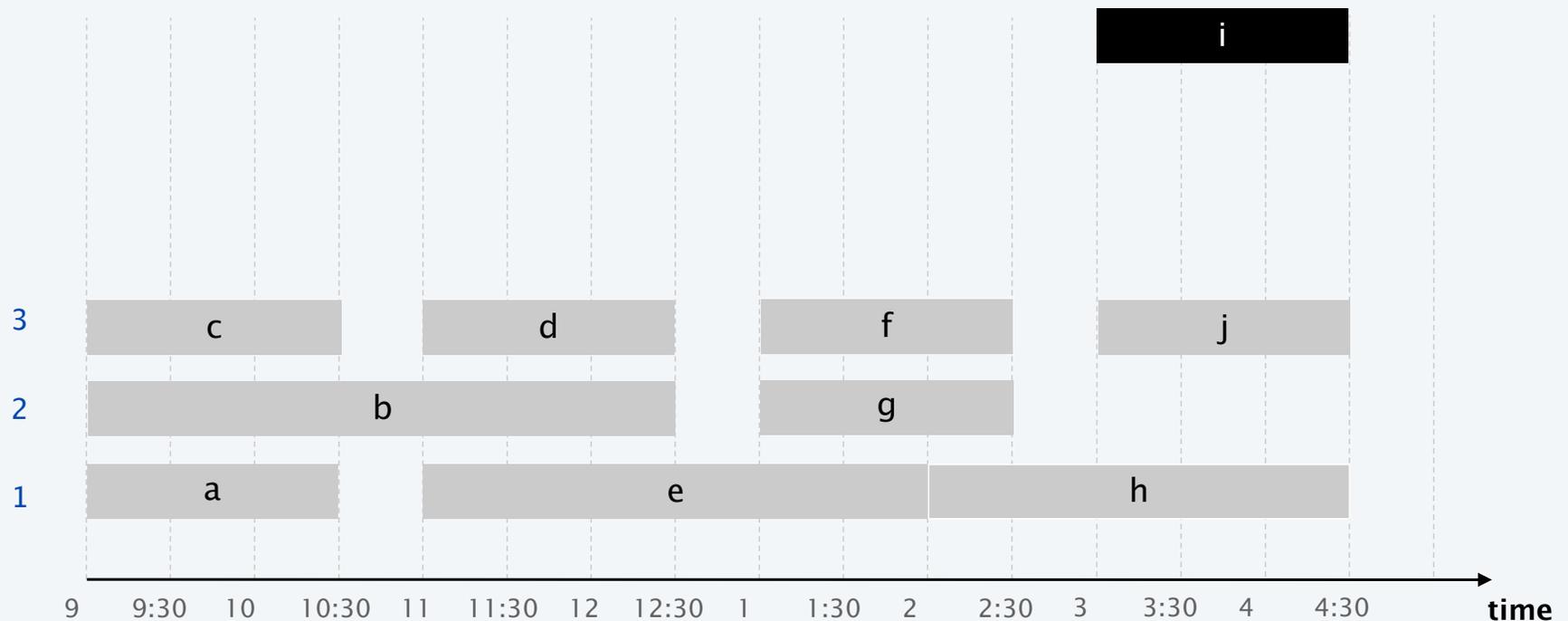


Earliest-start-time-first algorithm demo

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lecture i is compatible with classroom 3



Earliest-start-time-first algorithm demo

Consider lectures in order of start time:

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done

