

## 2. ALGORITHM ANALYSIS

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- ▶ *binary search demo*
- ▶ *sorted rotated array demo*

Lecture slides by Kevin Wayne

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







# Binary search demo

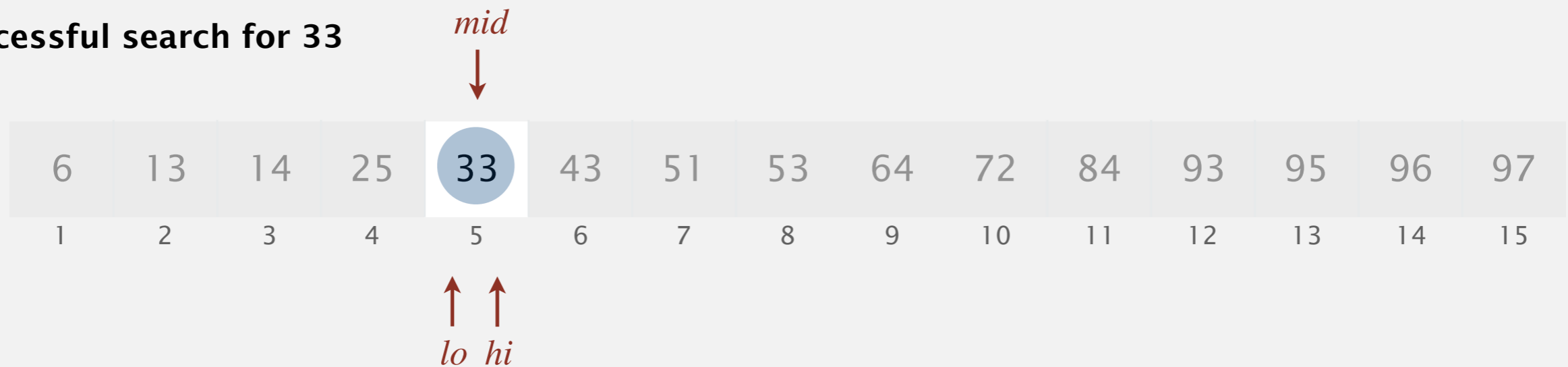
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**Goal.** Given a sorted array and a key, find index of the key in the array?

**Binary search.** Compare key against middle entry.

- Too small, go left.
- Too big, go right.
- Equal, found.

successful search for 33



return 5









# Binary search demo

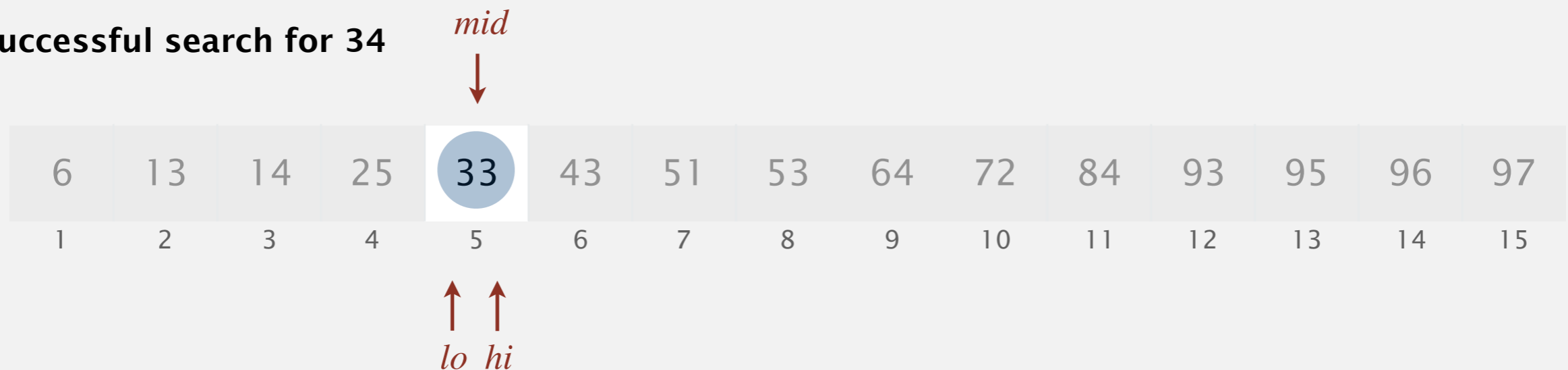
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**Goal.** Given a sorted array and a key, find index of the key in the array?

**Binary search.** Compare key against middle entry.

- Too small, go left.
- Too big, go right.
- Equal, found.

unsuccessful search for 34



return -1