The SSet (Sorted Set) Interface

Open Data Structures

SSet
A Sorted Set

- Stores *comparable* items

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A Sorted Set

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  - Numbers: $0 < 1 < 2 < 3 < \cdots < 4294967296$

SSet

A Sorted Set

- Stores *comparable* items
  - Numbers: $0 < 1 < 2 < 3 < \cdots < 4294967296$
  - Letters: $a < b < c < d < \cdots < z$

SSet
A Sorted Set

- Stores *comparable* items
  - Numbers: $0 < 1 < 2 < 3 < \cdots < 4294967296$
  - Letters: $a < b < c < d < \cdots < z$
  - Strings: “apple” $<$ “bread” $<$ “brie” $<$ “cheese” $< \cdots <$ “zyxt”

SSet
A Sorted Set

- Operations:

SSet
A Sorted Set

- Operations: `add(x)`

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

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- Operations: `add(x)`, `remove(x)`, `find(x)`

SSet
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- Operations: `add(x)`, `remove(x)`, `find(x)`

add(7)

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

add(7)

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

remove(14)

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

remove(14)

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

$\text{remove}(14) \Rightarrow 14$

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

find(4)

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

find(4)

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

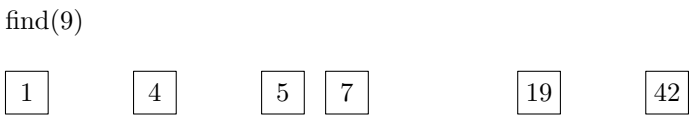
$\text{find}(4) \Rightarrow 4$

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`



SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

find(9)

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

find(9)

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

$\text{find}(9) \Rightarrow 19$

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

$\text{find}(55)$

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

find(55)

SSet

A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

$\text{find}(55) \Rightarrow \text{null}$

SSet
A Sorted Set

- Operations: `add(x)`, `remove(x)`, `find(x)`

End of Lesson

