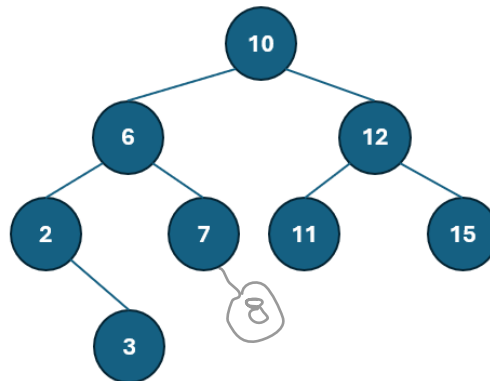# CS 5012: Foundations of Computer Science

Alanna Hazlett
uwa6xv
10/2/2024

In class review:

Given the above Binary Search tree, insert a node with value 8.
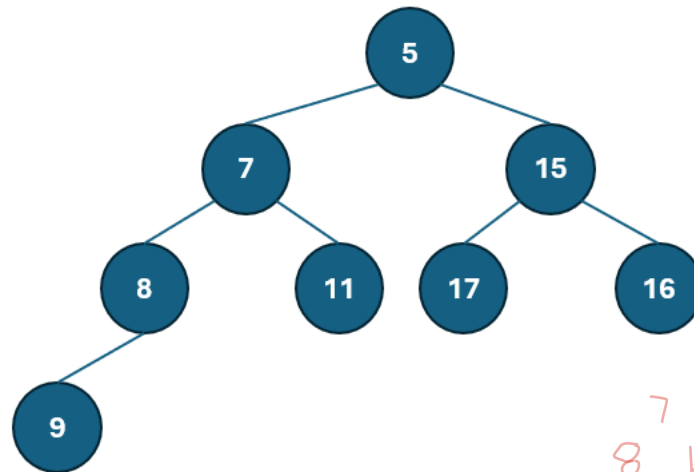
Given the new BST, remove node 6.

Given the following Heap, perform the *remove()* operation.

10
13   12
15 17 16

12
13 16
15 17

Removing the 10, we replace it with the last value in the tree, which is currently 16.

Given the resulting heap, add 5 to the heap.

In class group assignment:

Given the above Heap, perform the following operations:

- remove()
- remove()
  List the in-order traversal of the tree at this point (5pts)
  16,9,11,8,17,15
- add(12)
- add(18)
- add(6)
  List the in-order traversal of the tree at this point (5pts)
  18,9,16,8,11,6,17,12,15

9

```
   7        15
 8   11   17   16
```

```
      7
   9     15
 8  11  17  16
```

```
      7
   8     5
 9  11  17  16
```

```
      8
    9   12
 16 11 17 15
   18
```

```
      8
    9   12
 16 11 17 15
 18  6
```

```
      8
    9   12
 6 11  17  15
 18 16
```

```
      8
    6   12
 9 11 17 15
 18 16
```

```
      6
    8   12
 9 11 17 15
 18 16
```

```
      8
    9   15
 16 11 17 12
```

```
      8
    9   12
 16 11 17 15
```

```
    16
  8    15
 9 11  17
```

```
      8
   16   15
 9 11   17
```

```
      8
    9   15
 16 11  17
```