Andrew Chiang
03/05/2023

Conditions:
44 51 23 40 15 10 45 4 29 10 18 7 6 4 2 1 8 9

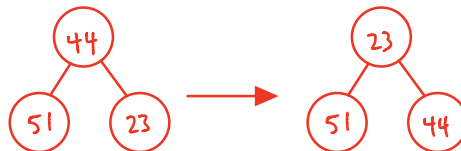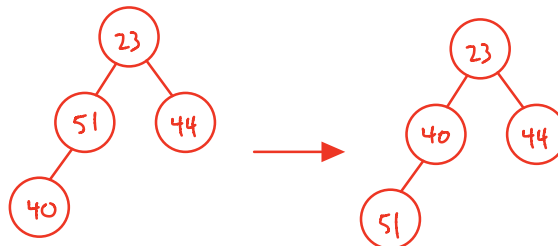- **Insert 44**

44

- **Insert 51**
- **51 > 44, no swap**

44
51

- **Insert 23**
- **44 > 23, swap them**

44
51   23
→
23
51   44

- **Insert 40**
- **51 > 40, swap them**
- **40 > 23, no swap**

23
51   44
40
→
23
40   44
51

- **Insert 15**
- **40 > 15, swap them**
- **23 > 15, swap them**
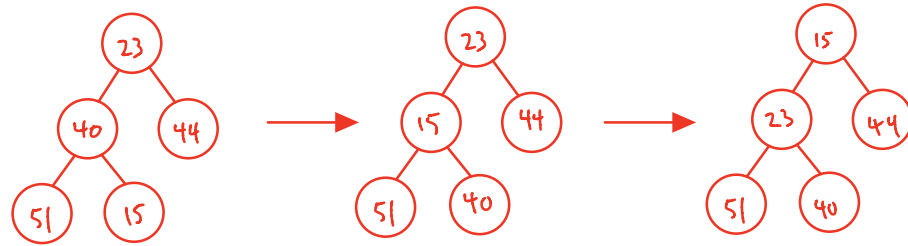
- **Insert 10**
- **44 > 10, swap them**
- **15 > 10, swap them**
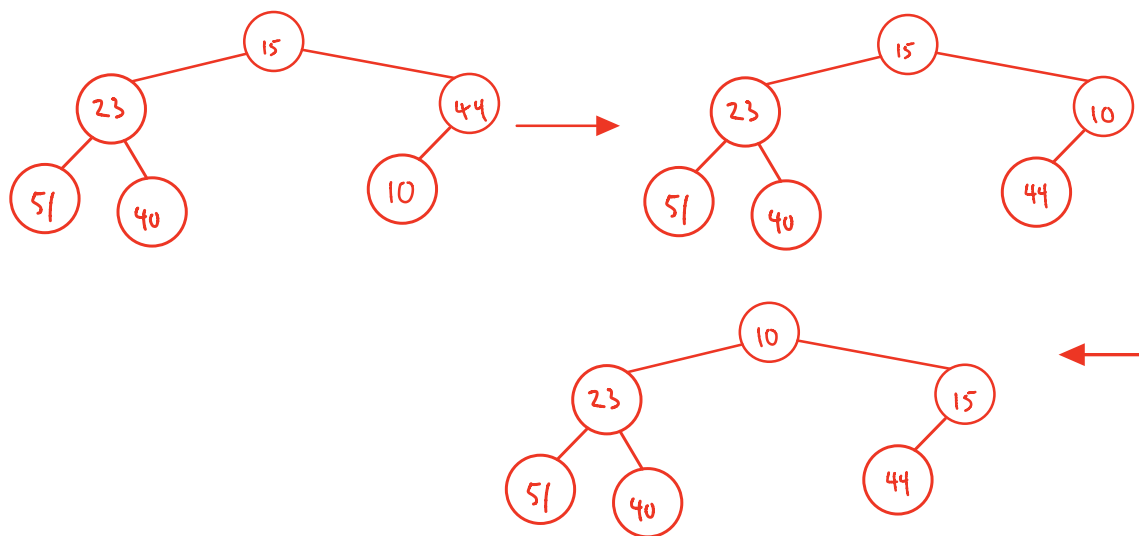
- **Insert 45**
- **45 > 15, no swap**
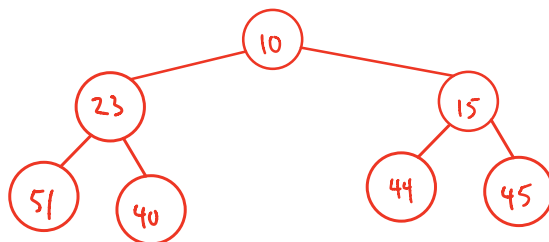
- **Insert 4**
- **51 > 4, swap them**
- **23 > 4, swap them**
- **10 > 4, swap them**
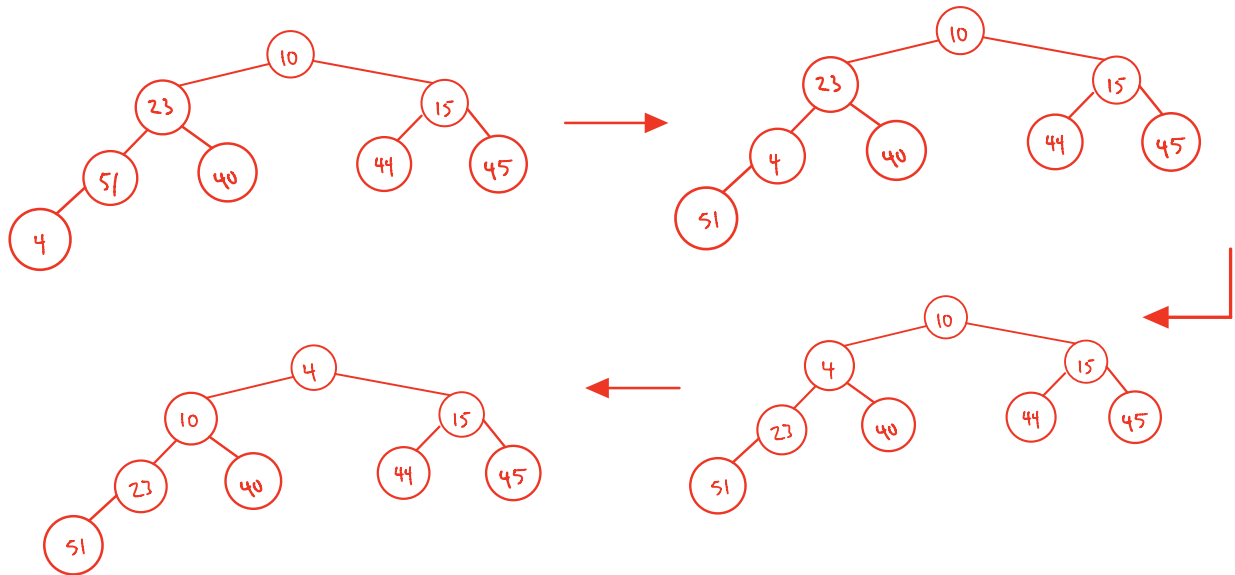
- **Insert 29**
- **29 > 23, no swap**
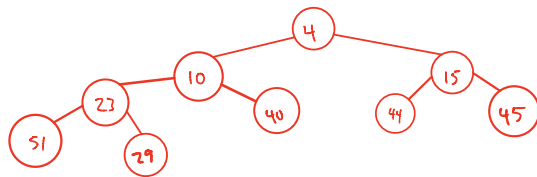
- **Insert 10**
- **40 > 10, swap them**
- **10 = 10, no swap**
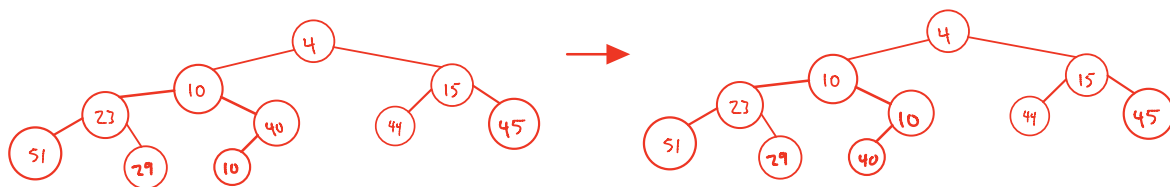
- **Insert 18**
- **18 > 10, no swap**
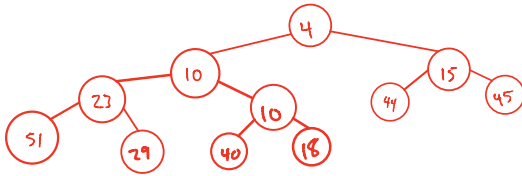
- **Insert 7**
- **44 > 7, swap them**
- **15 > 7, swap them**
- **7 > 4, no swap**
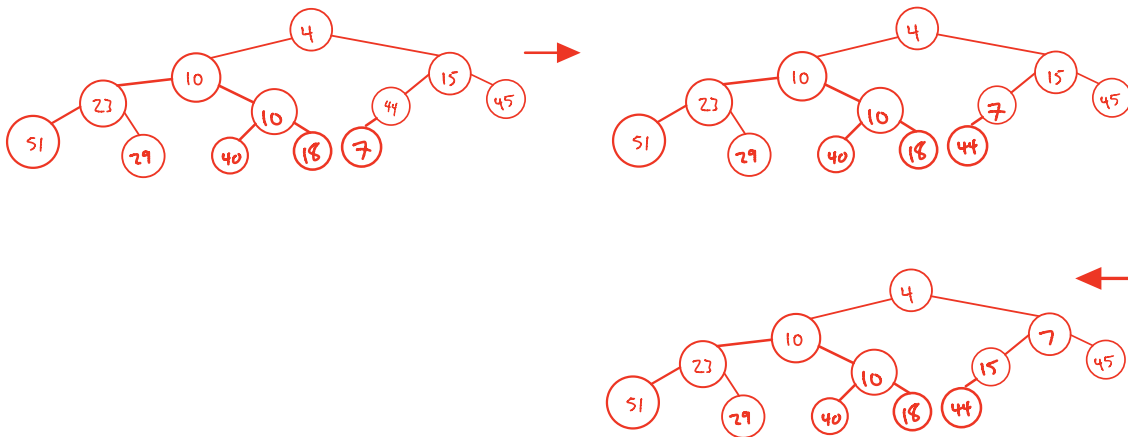
- **Insert 6**
- **15 > 6, swap them**
- **7 > 6, swap them**
- **6 > 4, no swap**
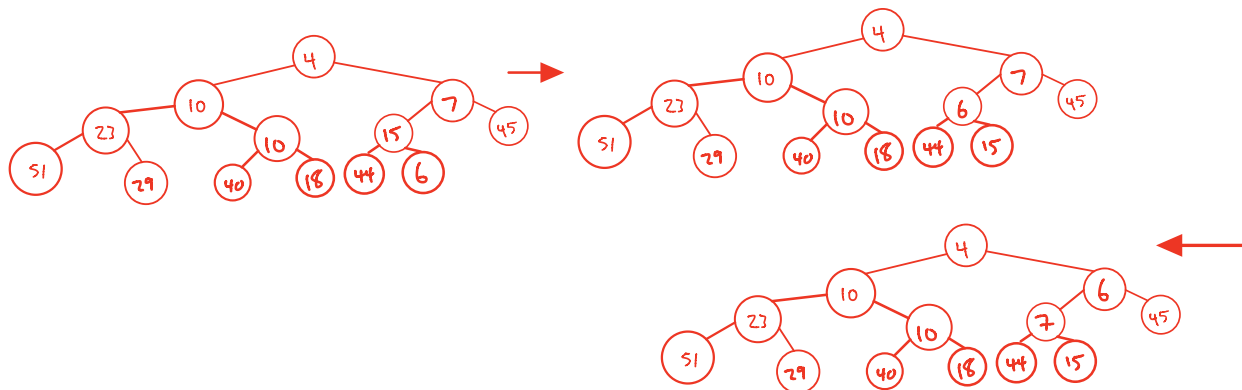
- **Insert 4**
- **45 > 4, swap them**
- **6 > 4, swap them**
- **4 = 4, no swap**
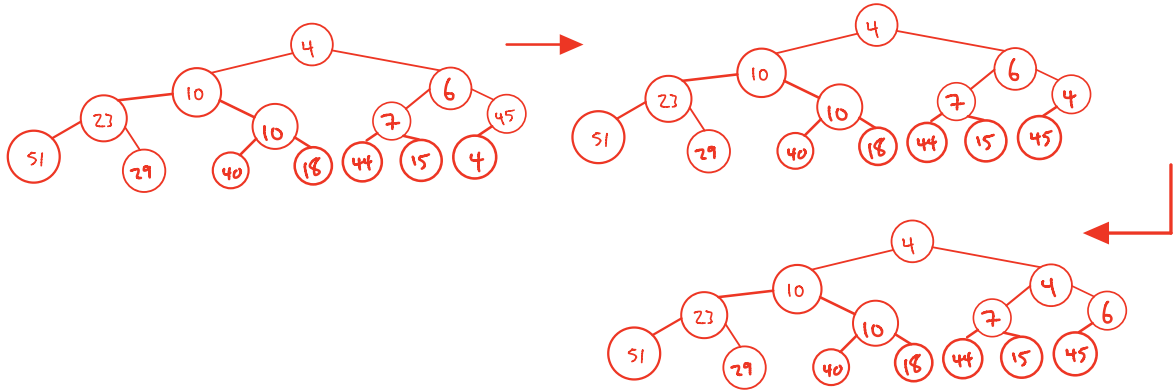
- **Insert 2**
- **6 > 2, swap them**
- **4 > 2, swap them**
- **4 > 2, swap them**
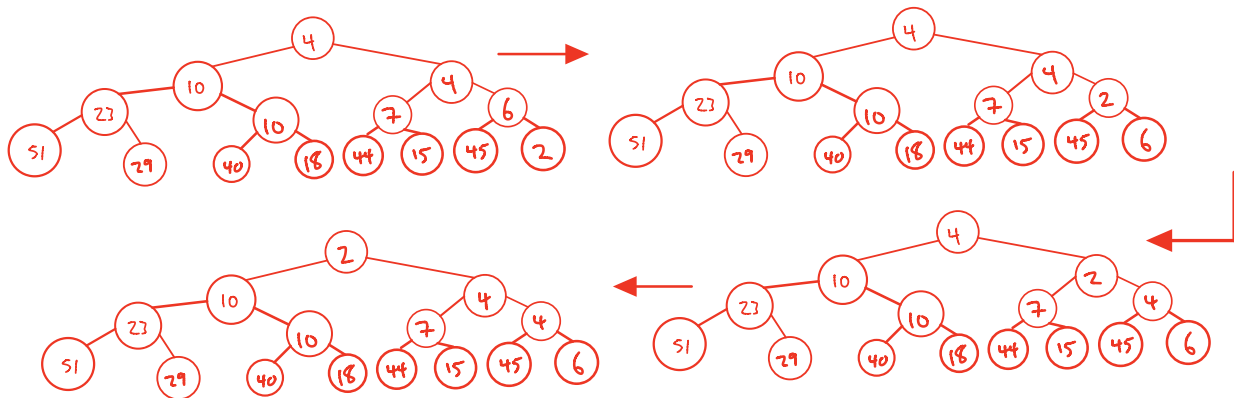
- **Insert 1**
- **51 > 1, swap them**
- **23 > 1, swap them**
- **10 > 1, swap them**
- **2 > 1, swap them**
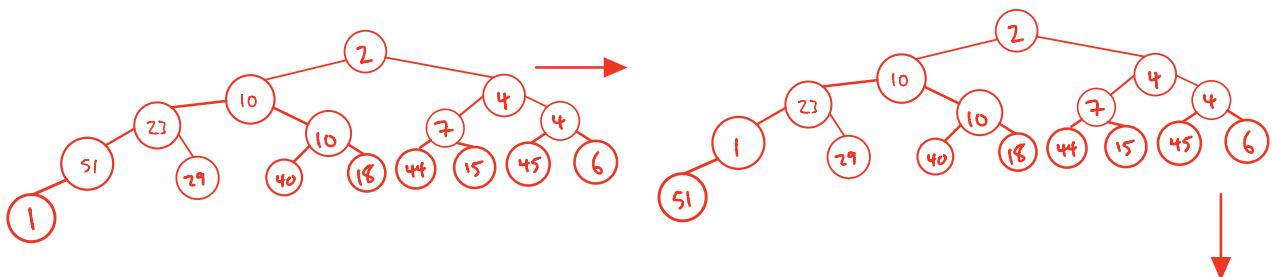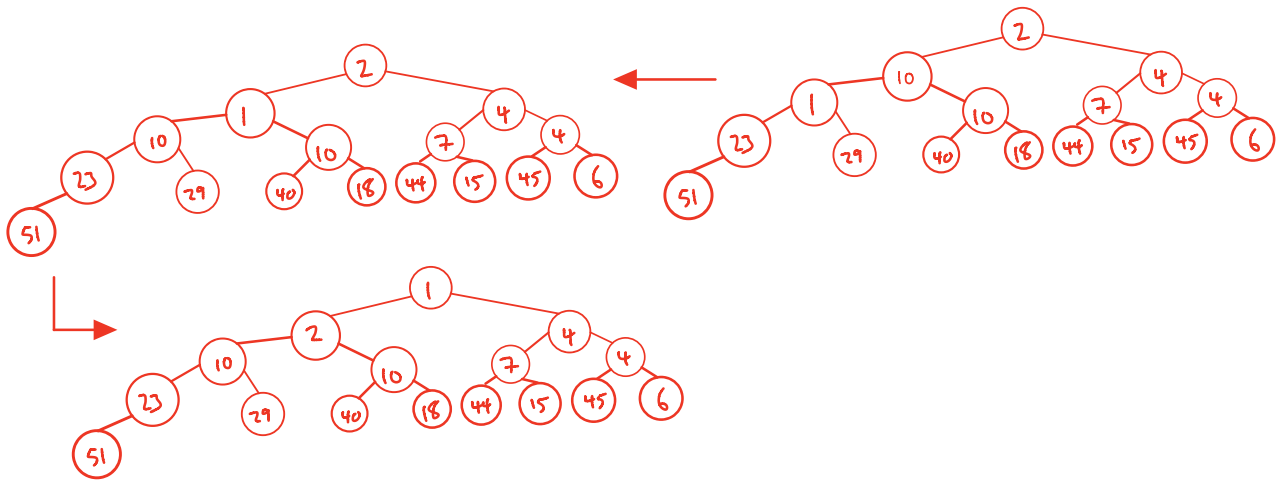
- **Insert 8**
- **23 > 8, swap them**
- **10 > 8, swap them**
- **8 > 2, no swap**
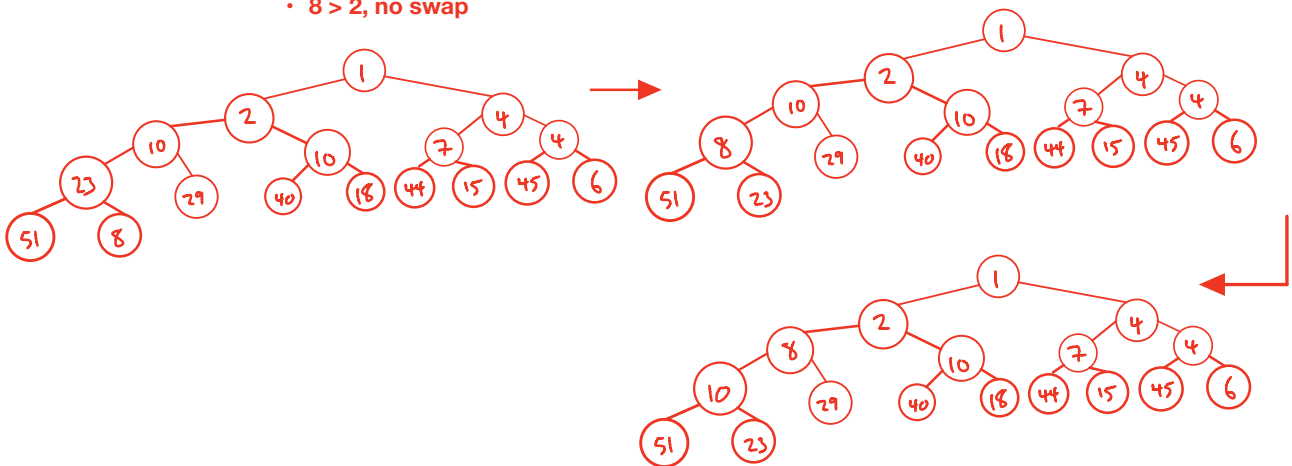
- **Insert 9**
- **29 > 9, swap them**
- **9 > 8, no swap**
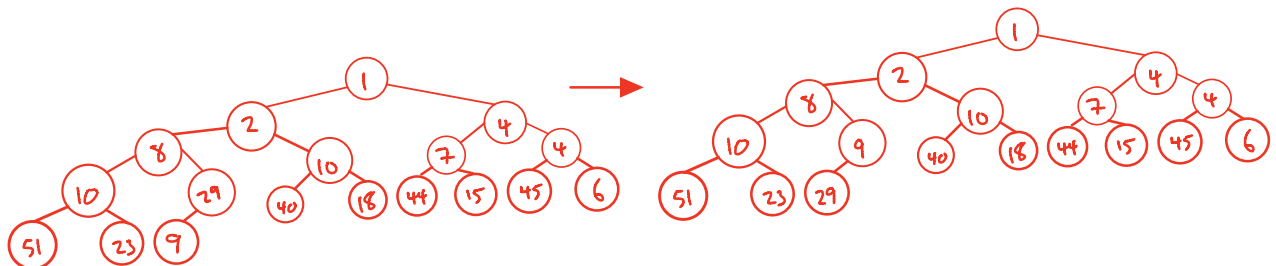
Final Heap:
1 2 4 8 10 7 4 10 9 40 18 44 15 45 6 51 23 29