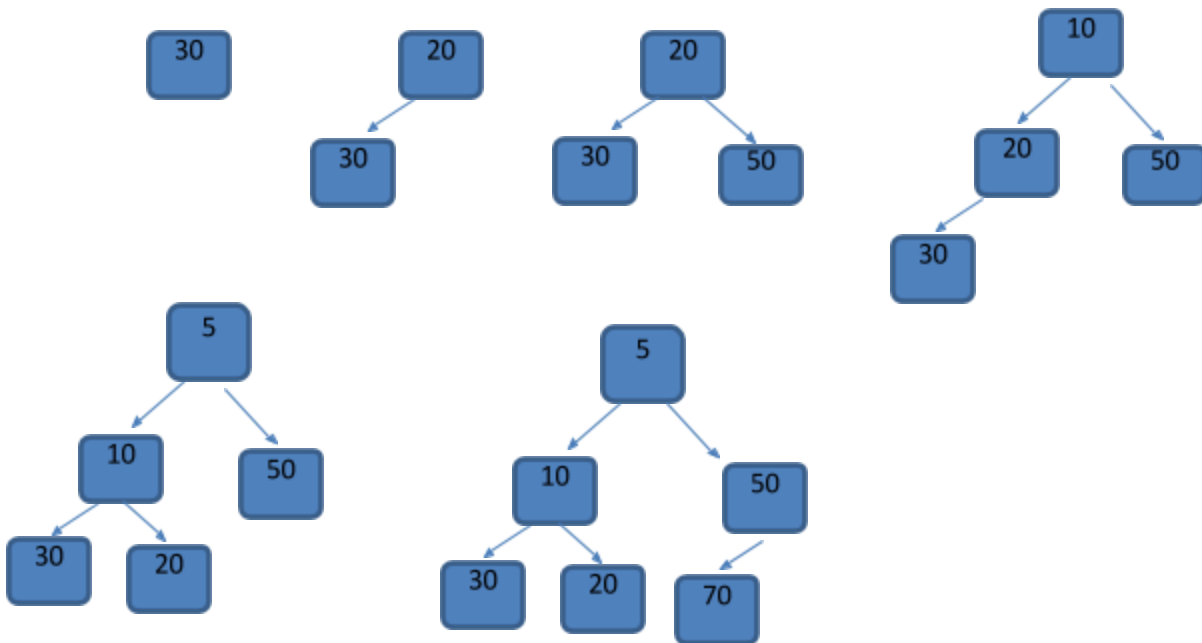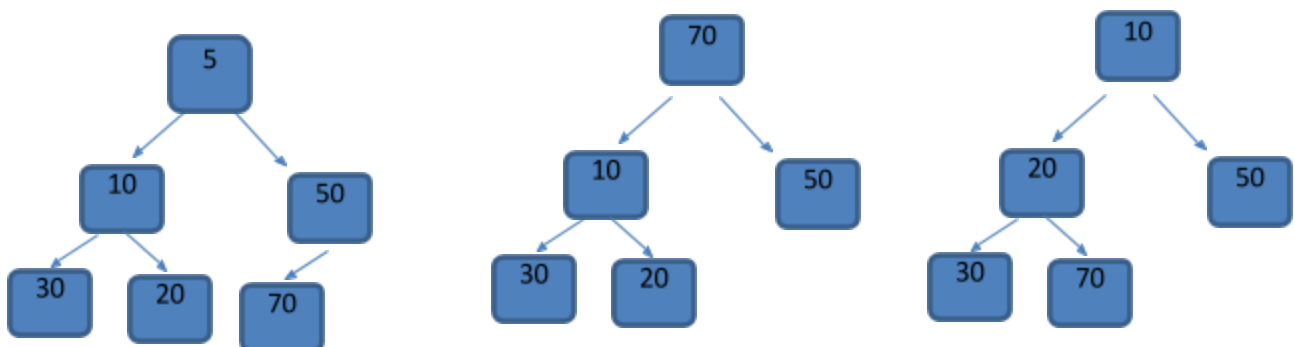# Worksheet: Heap Practice

**In Preparation:** Read Chapter 11 on the Priority Queue ADT and Heaps

Insert the following values, in the order that they are given into a Min Heap.  Show the tree after each insertion.
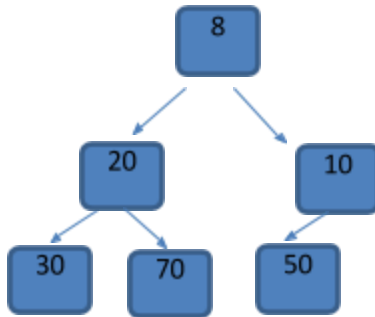
1) 30,20,50,10,5,70

```
30
```

```
    20
   /
  30
```

```
      20
     /  \
   30    50
```

```
      10
     /  \
   20    50
   /
  30
```

```
        5
       / \
     10   50
    /  \
  30    20
```

```
          5
         / \
       10   50
      / \   /
    30  20 70
```

2) Remove Min from the heap

```
        5
       / \
     10   50
    / \   /
  30  20 70
```

```
        70
       /  \
     10    50
    /  \
  30   20
```

```
        10
       /  \
     20    50
    /  \
  30   70
```

3) Add 8 to the heap

```
              8
           /     \
         20       10
        /  \      /
      30    70   50
```

4) Remove Min from the heap

```
             10
           /    \
         20      50
        /  \
      30    70
```