## Worksheet CS165: Binary Search Trees

1. Stepwise build a BST from 80, 20, 100, 10, 40, 90, 30, 50, 35

2. Give the pre-order, in, and post order traversal of the tree

3. Implement the search algorithm for a binary search tree, given the following node.

```
class TreeNode<E> {
  E element;
  TreeNode<E> left;
  TreeNode<E> right;
  public TreeNode(E o) {
    element = o;
  }
}
```

public search(E element) {
TreeNode<E> current = root;

3. Show how the breadth first traversal of the above tree is implemented using a queue:



4. The above tree is a binary search tree (BST). Redraw the above BST after 95 is added and 20 is deleted. Show both possible results.