

Work with your neighbor. (This will be graded for participation only.)

1. What does the Binary Search Tree look like if we add the values below in order from left to right?

18, 10, 40, 44, 7, 26

2. What does the Binary Search Tree look like if we add the values in a different order? Draw the tree that results from adding the values below from left to right:

40, 26, 18, 44, 7, 10

3. Using the same values, what order of insertion would result in the tallest tree possible? (There may be more than one order.)

4. Construct the BST by inserting the values below from left to right:

7, -2, 10, 0, 13, 14, 3

5. Modify the code below for searching a BST T to define $\text{insert}(T, v)$. (You just saw this in the lecture slides, but see if you can write it without referencing the slides.)

```
def search(T, v):  
    if T == None:  
        return False  
    if v == T._value:  
        return True  
    if v < T._value:  
        return search(T._left, v)  
    else:  
        return search(T._right, v)
```

```
def Node:  
    def __init__(self, value):  
        self._value = value  
        self._left = None  
        self._right = None
```