

Binary Space Partition Trees

1. Recap: Binary Search Tree

```
public class BinTree {  
    float value;  
    BinTree less;  
    BinTree greater;  
  
    boolean contains(float x) {  
  
  
  
  
  
  
  
  
  
    }  
}
```

1. An ArrayList of java.awt.Point

```
ArrayList<Point> data = new ArrayList<Point>();  
data.add(new Point(1,1));  
... and so on for (2,5),(3,1),(3,4),(5,2),(5,5)
```

2. **Binary Space Partition Trees:** Binary Search Trees in multiple dimensions

- a. Construction
- b. Find
- c. Special Cases:
 - i. Axis-aligned
 - ii. K-d tree
 - iii. Quadtree