

## Exercise 6

1.First sorted by x-axis:

-8	-7	-4	-1	0	0	2	2	3	4	5	5	7	8	9	9	10
5	7	-1	5	7	5	-10	4	2	7	0	7	3	-1	1	-8	-3
6	-6	3	7	0	2	8	-1	2	4	-3	15	4	-4	-4	5	-7

Median : (3,2,2)

1.2.Sort left subset by y-axis:

2	-4	2	-8	-1	0	-7	0
-10	-1	4	5	5	5	7	7
8	3	-1	6	7	2	-6	0

Median : (-1,5,7)

1.3.Sort right subset by y-axis:

9	10	8	5	9	7	4	5
-8	-3	-1	0	1	3	7	7
5	-7	-4	-3	-4	4	4	15

Median: (9,1,-4)

1.2.1

Sort left subset by z-axis: (2,4,-1),(-4,-1,3),(-8,5,6),(2,-10,8)

Median : (-8,5,6)

And then sort (2,4,-1),(-4,-1,3) by x-axis

1.2.2

Sort right subset by z-axis :(-7,7,-6),(0,7,0),(0,5,2)

Median:(0,7,0)

1.3.1

Sort left subset by z-axis:(10,-3,-7),(8,-1,-4),(5,0,-3),(9,-8,5)

Median: (5,0,-3)

And then sort (10,-3,-7),(8,-1,-4) by x-axis

1.3.2

Sort right subset by z-axis :(7,3,4),(4,7,4),(5,7,15)

Median : (4,7,4)

The kd-tree generated:

