# Important Instructions regarding executing the files

1.Please change the file path accordingly for example in my program file testpg5.cpp change of directory path has to be done at 3 places

**first at line number 5 of code ,string main_path="/home/aakash/Desktop/pg lab/"; replace this by path of your directory and at line number 101 and 201**
**fp=fopen("/home/aakash/Desktop/pg lab/data.txt","w");**

2.For compilation the command "g++ main2.cpp" would be used then an object file would be created as "a.out" to run it command "./a.out" would be used

3.Some important changes :

(a)I have used three important data structures in this assignment they are:

struct point{

```
int x_cor;              /*x coordinate of a point */
int y_cor;              /*y coordinate of  a point */
struct cell*pcell;      /* each point has pointer to which cell it belongs */

};

struct cell
{
int start_x;            /*start x coordinate of a cell*/
int start_y;    /*start y coordinate of a cell*/
int end_x;      /*end x coordinate of a cell*/
int end_y;              /*end y coordinate of a cell*/
int count=0;    /*number of points of a cell*/
```

```
vector<int>xlist;        /*vector containing x coordinates of all points in that cell*/
vector<int>ylist;        /*vector containing x coordinates of all points in that cell*/

struct bucket*bp;        /*pointer to the bucket of respective cell*/
int exists;        /* tells if the cell still exists or not */
};

struct bucket{                    /* a bucket is data structure containing only the points upto the
bucket size required*/

vector<point>bucket_v;
int exists;                /*tells if the bucket still exists or not */
}
```

**Now Instead Of Mapper ,I Have Used "Struct Bucket*Bp; " Which Is A Member Of Structure Cell And Points To The Bucket Of The Cell Can Be Treated As A Mapper Here.**

4.Due to time constraints and code complexity ,I have not created separate functions for insertion ,splitting and printing ,but have divided the code into parts and mentioned which part of code does what

**Like for example Code for insertion and splitting begins at line no.207 and ends at line number 471 as mentioned in the comments appropriately**

5.The input asks for following information

- Number of points
- The maximum value of X and Y coordinates in the grid,(same for both)
- Bucket Size

When code executes ,then buckets are successfully created named as bucket1.txt,bucket2.txt and so on.