

## Assignment 3: Plotting points

Study the following functions of OpenGL:

- a) glutInit( )
- b) glutInitDisplayMode( )
- c) glutInitWindowSize( )
- d) glutInitWindowPosition( )
- e) glutCreateWindow( )
- f) gluOrtho2D( )
- g) glClearColor( )
- h) glColor3f( )

Run and study the following program.

```
#include <GL/glut.h>

void myInit(void)
{ glClearColor(1.0, 1.0, 1.0, 0.0);
  glColor3f(0.0f, 0.0f, 0.0f);
  glPointSize(4.0);
  glMatrixMode(GL_PROJECTION);
  glLoadIdentity();
  gluOrtho2D(0.0, 640.0, 0.0, 480.0); }
void myDisplay(void)
{ glClear(GL_COLOR_BUFFER_BIT);
  glBegin(GL_POINTS); glVertex2i(100, 50);
  glVertex2i(100, 130);
  glVertex2i(150, 130);
  glEnd();
  glFlush();
}
void main(int argc, char** argv)
{
  glutInit(&argc, argv);
  glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB); glutInitWindowSize(640,
480);
  glutInitWindowPosition(100, 150);
  glutCreateWindow("My first program");
  glutDisplayFunc(myDisplay);
  myInit(); glutMainLoop(); }
```

3. **Modify the above program** to locate the origin (0, 0) of the created window, and also the origin (0, 0) of your screen.

4. **Write a program to create a window**, in which origin is at middle position.

5. Write a program to plot points, whose coordinates are given by the user through Mouse.

6. Write a program to draw a set of lines, in which end points are given by the user through Mouse/Keyboard.