SSN COLLEGE OF ENGINEERING, KALAVAKKAM
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CS2405 – COMPUTER GRAPHICS LAB

Lab Exercise 1 : Study of Basic Output Primitives in OpenGL

Aim:

To study the basic output primitives using OpenGl(Open Graphics Library)

Algorithm:

1. Include the library header files “GL/glut.h”
2. Initialize the graphics toolkit using the function “glutInit” passing the argumrnt count and argument vector as arguments by reference.
3. Set the display mode using “glutInitDisplayMode” function.
4. Set the window size using “glutInitWindowSize” function passing the width and height as arguments.
5. Set the window position using “glutinitWindowPosition” function passing the x and y coordinates.
6. Open the window with the title “First Exercise” using “glutCreateWindow” function.
7. Register the draw function “glutDisplayFunc” with the user-defined function myDisplay.
8. Go into a perpetual loop using “glutMainLoop” function.
9. In the myDisplay function ,first clear the screen using “glClear” function.
10. Specify the primitives that will be created from vertices.Do the above for all the ten symbolic constants.
11. Specify the end of points using “glEnd” function.
12. Send all output to the display using “glFlush” function.

(a) GL_POINTS

Program:

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

void myInit()
{
        glClearColor(1.0,1.0,1.0,0.0);
        glColor3f(0.0f,0.0f,0.0f)
        glPointSize(10);
        glMatrixMode(GL_PROJECTION);
        glLoadIdentity();
```

```
	gluOrtho2D(0.0,640.0,0.0,480.0);
}

void myDisplay()
{
	glClear(GL_COLOR_BUFFER_BIT);
	glBegin(GL_POINTS);
		glVertex2d(150,100);
		glVertex2d(100,230);
		glVertex2d(170,130);
		glVertex2d(300,350);
	glEnd();
	glFlush();
}

int main(int argc,char* argv[])
{
	glutInit(&argc,argv)
	glutInitDisplayMode(GLUT_SINGLE|GLUT_RGB);
	glutInitWindowSize(640,480);
	glutCreateWindow("First Exercise");
	glutDisplayFunc(myDisplay);
	myInit();
	glutMainLoop();
	return 1;
}
```

Similarly for all Symbolic Constants.