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**B-5 AI&ML SEM-5**

**Experiment-5**

**Point Clipping**

#include<windows.h>

#include<stdio.h>

#include<GL/glu.h>

#include<GL/glut.h>

#include<stdlib.h>

int Xmax,Xmin,Ymax,Ymin,x,y;

void init\_gl(void)

{

glClearColor(0.0, 0.0, 0.0, 1.0);

glColor3f(1.0, 1.0, 1.0);

glPointSize(1.0);

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(-100,100,-100,100);

}

void display()

{

glPointSize(4.0);

glClear(GL\_COLOR\_BUFFER\_BIT);

glBegin(GL\_POINTS);

if(Xmin < x && x < Xmax && Ymin < y && y < Ymax){

glColor3f(1.0, 0.0, 0.0);

printf("inside %d %d\n", x, y);

}

else{

glColor3f(0.0, 0.0, 1.0);

printf("outside %d %d\n", x, y);

}

glVertex2i(x, y);

glEnd();

glPointSize(1.0);

glColor3f(1.0, 1.0, 1.0);

glBegin(GL\_LINE\_LOOP);

glVertex2i(Xmin, Ymin);

glVertex2i(Xmin, Ymax);

glVertex2i(Xmax, Ymax);

glVertex2i(Xmax, Ymin);

glEnd();

glFlush();

}

int main (int argc, char\*\* argv)

{

printf("Enter the value of Xmin : ");

scanf("%d",&Xmin);

printf("Enter the value of Ymin : ");

scanf("%d",&Ymin);

printf("Enter the value of Xmax : ");

scanf("%d",&Xmax);

printf("Enter the value of Ymax : ");

scanf("%d",&Ymax);

printf("Enter the random point x and y :");

scanf("%d%d",&x,&y);

glutInit(&argc, argv);

glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize(500, 500);

glutInitWindowPosition(100,100);

glutCreateWindow(\*argv);

init\_gl();

glutDisplayFunc(display);

glutMainLoop();

}

