Name : : SAMRUDDHI NEVAGI

Roll no : 23540

**CG ASSIGNMENT – 8**

**CODE:**

#include <GL/freeglut.h>

#include <iostream>

#include <cmath>

int x = 20, y = 200, uplimit = 250;

int flag = 0;

void display()

{

glClear(GL\_COLOR\_BUFFER\_BIT);

glColor3f(1.0f, 0.0f, 0.0f);

glBegin(GL\_LINES);

glVertex2f(0, 400);

glVertex2f(679, 400);

glEnd();

if (flag == 0)

{

y += 2;

x += 1;

if (y >= 385)

flag = 1;

}

else if (flag == 1)

{

y -= 2;

x += 1;

if (y <= uplimit)

{

uplimit += 20;

flag = 0;

}

}

glColor3f(1.0f, 1.0f, 1.0f);

glPushMatrix();

glTranslatef(x, y, 0.0f);

glBegin(GL\_TRIANGLE\_FAN);

for (int i = 0; i < 360; i++)

{

float angle = i \* 3.14159 / 180;

float xPos = 15 \* cos(angle);

float yPos = 15 \* sin(angle);

glVertex2f(xPos, yPos);

}

glEnd();

glPopMatrix();

glutSwapBuffers();

}

void update(int value)

{

glutPostRedisplay();

glutTimerFunc(10, update, 0);

}

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

{

glutInit(&argc, argv);

glutInitDisplayMode(GLUT\_DOUBLE | GLUT\_RGB);

glutInitWindowSize(680, 400);

glutCreateWindow("Bouncing Ball");

glClearColor(0.0f, 0.0f, 0.0f, 1.0f);

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(0, 680, 0, 400);

glutDisplayFunc(display);

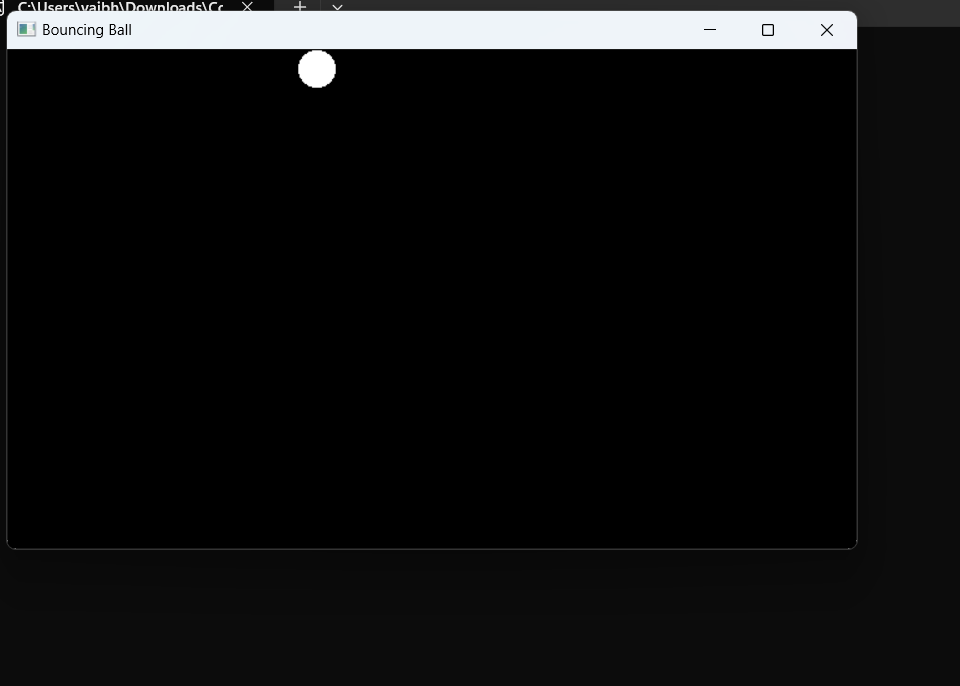
glutTimerFunc(10, update, 0);

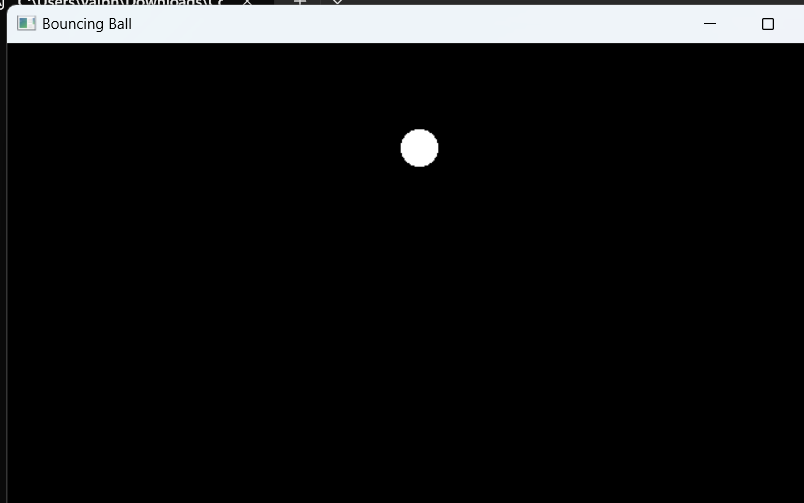
glutMainLoop();

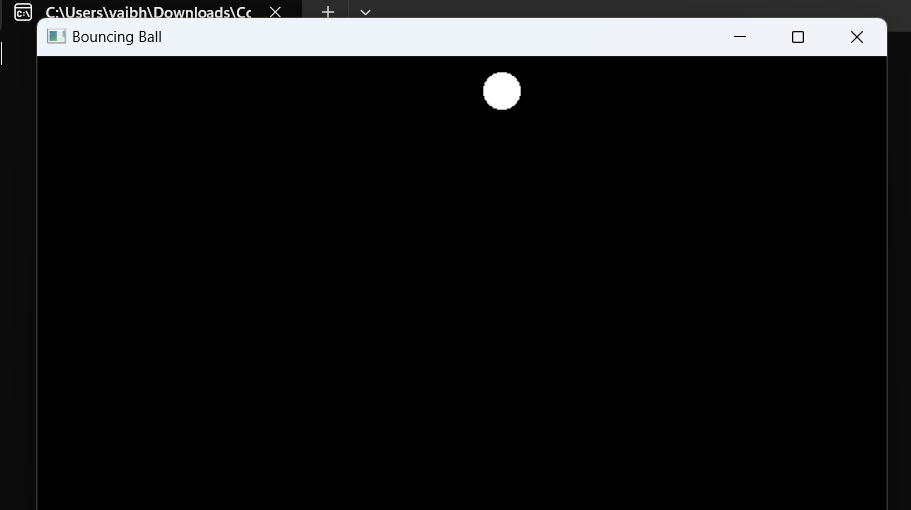
return 0;

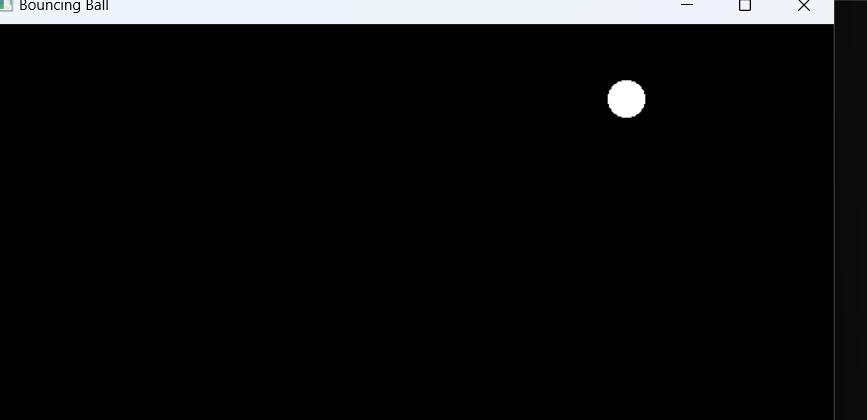
}

**OUTPUT:**

****

****

****

****