PRACTICAL -8

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#include <GL/gl.h>
#include <GL/glut.h>
#include <math.h>
//global variable diclaration
int frameNumber = 0; //frame no
void drawWindmill() //Function to draw windmill
{
int i;
glColor3f(1.0,1.0,0.0); //red green blue
glBegin(GL_POLYGON);
glVertex2f(-0.05f, 0); //for drawing rectangular base part
glVertex2f(-0.05f, 3);
glVertex2f(0.05f, 3);
glVertex2f(0.05f, 0);
glEnd();
glTranslatef(0,3,0); //x,y,z
glColor3f(1.0,0.0,0.0); //red,green,blue (RED PLATES OF WINDMILL)
glRotated(frameNumber * (180.0/45), 0, 0, 1); //(angle,x,y,z)
for (i = 0; i < 4; i++) //LOOP TO DRAW FOUR PLATES
{
glRotated(90, 0, 0, 1); //90,0,0,Z
glBegin(GL_POLYGON);
glVertex2f(0,0); //FOR DRAWING TYIANGLULAR PLATE
glVertex2f(1.0f, 0.2f);
glVertex2f(1.0f,-0.2f);
glEnd();
}
}
void display() //DISPLAY FUNCTION
{
glClear(GL_COLOR_BUFFER_BIT);
glLoadIdentity(); //TAKES IDENTITY MATRIX
glPushMatrix(); //PUSH MATRIX
glTranslated(2.2,1.6,0); //SET POSITION OF WINDMILL
glScaled(0.4,0.4,1); //SCALLING WINDMILL WITH POINT (0.4,0.4,1)
drawWindmill(); //FUNCTION CALL TO DRAW WINDMILL
glPopMatrix(); //POP MATRIX
glPushMatrix(); //PUSH MATRIX
glTranslated(3.7,0.8,0); //SET POSITION OF WINDMILL
glScaled(0.7,0.7,1); //SCALLING WINDMILL WITH POINT(0.7,0.7,1)
drawWindmill(); //FUNCTION CALL TO DRAW WINDMILL
glPopMatrix(); //POP MATRIX
glutSwapBuffers(); //SWAP BUFFER
}
void doFrame(int v)
{
frameNumber++; //INCREMENT FRAME NO
glutPostRedisplay(); //POST REDISPLAY
glutTimerFunc(10,doFrame,0);
}
void init() //FUNCTION INITIALISATION
{
glClearColor(0,0,0,0);
glMatrixMode(GL_PROJECTION); //MATRIX MODE FOR PROJECTION
glLoadIdentity(); //LOADS IDENTITY MATRIX
glOrtho(0, 7, -1, 4, -1, 1); //MIN X,MAX X,MIN Y,MAX Y,MIN Z,MAX Z VALUE
glMatrixMode(GL_MODELVIEW); //MATRIX MODE FOR MODEL VIEW
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}
int main(int argc, char** argv) //MAIN FUNCTION
{
glutInit(&argc, argv);
glutInitDisplayMode(GLUT_DOUBLE);
glutInitWindowSize(700,500); //DEFINED WINDOW SIZE 700*500
glutInitWindowPosition(100,100); //DEFINED WINDOW POSITION 100,100
glutCreateWindow("Rameshwari Shirsath Roll No:70"); //NAME OF WINDOW
init(); //FIRSTLY CALL TO INTIALISE VALUE
glutDisplayFunc(display); //DISPLAY
glutTimerFunc(200,doFrame,0); //TIMER FUNC
glutMainLoop();
return 0;
}
```

OUTPUT: