**Submitted To**

Mehedi Hasan

Lecturer of computer graphics lab

**Submitted by**

Marufa Akter

Id: 183-15-2309

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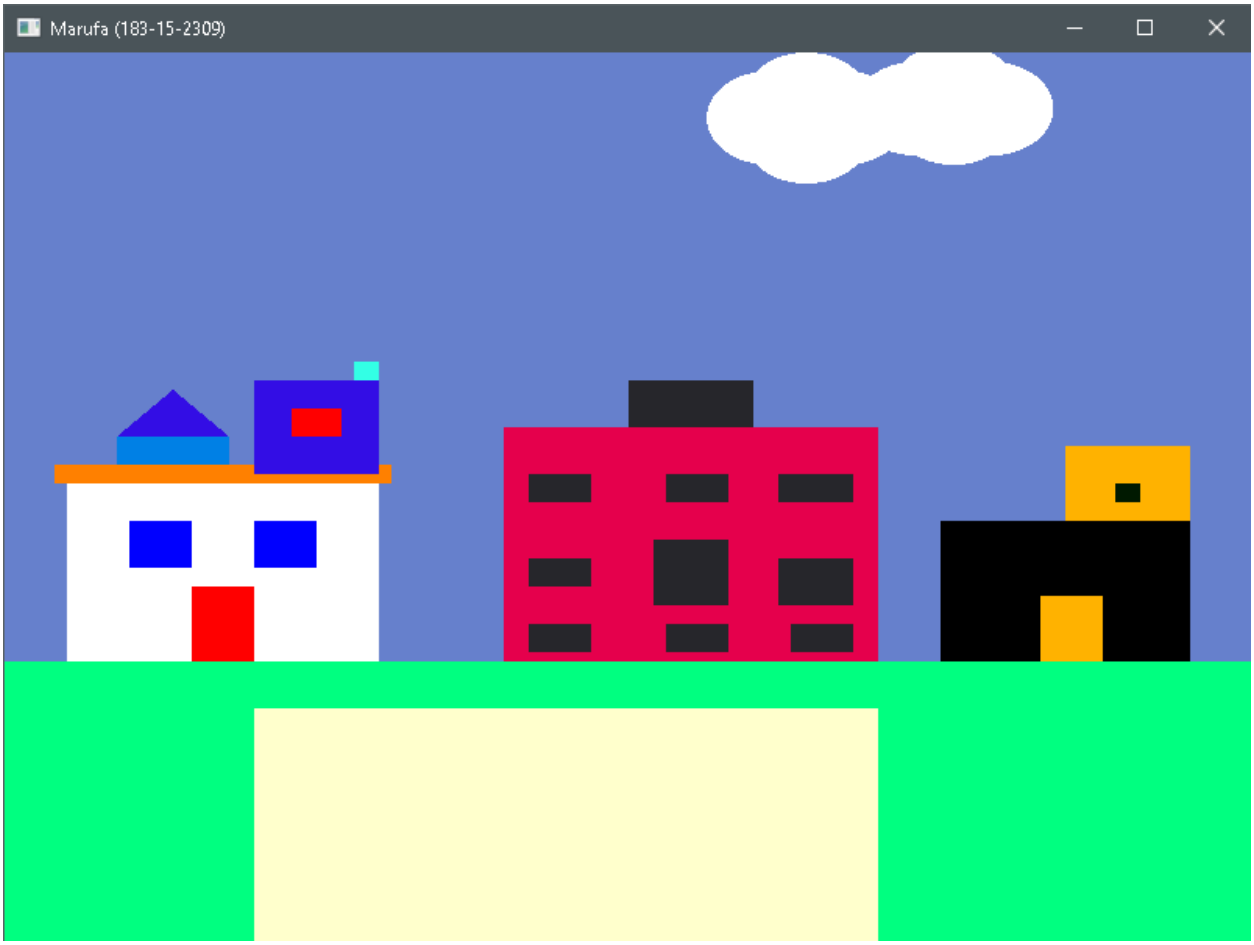
**Code presentation link** : https://drive.google.com/file/d/1-m8XUpzx1JKUMKuM_G8fVrap7obLW1MT/view?usp=sharing

**Output:**




**Code:**

```
#include <GL/glut.h>
#include <stdio.h>
#include <GL/gl.h>
#include<math.h>
```

```
void init (void)
{
/* select clearing (background) color */
glClearColor (1.0, 1.0, 1.0, 0.0);
/* initialize viewing values */
glMatrixMode(GL_PROJECTION);
glLoadIdentity();
glOrtho(0.0, 1.0, 0.0, 1.0, -10.0, 10.0);
}


float theta;
float radius=0.08;
float r=0.05;
float r1=0.1;
float position;
float p=-20.0;
float c=200.0;
float c2=230;
float cl1=-0.30;
float cl2=-0.20;
float cl3=-0.40;
float x=0;
float sun=0;
```

```
void display(void)
{

glClear (GL_COLOR_BUFFER_BIT);



//sky
glBegin(GL_QUADS);
  glColor3f (0.4, 0.5, 0.8);
    glVertex3f(0.0f, 0.35f, 0.0f);
    glVertex3f(1.0f, 0.35f, 0.0f);
    glVertex3f(1.0f, 1.0f, 0.0f);
    glVertex3f(0.0f, 1.0f, 0.0f);



  glEnd();
//sun

if(sun<=0.1)
        sun=sun-0.00001;
      else
        sun=0;
    glutPostRedisplay();
    float prevX = 0, prevY = 0;
    glColor3f(1.0, 0.3, 0.0);
    glBegin(GL_POLYGON);
    for(int i=0; i<360; i++)
    {
```

```
    theta=i*3.142/180;
    glVertex2f(0.1+radius*sin(theta),sun+0.9-radius*cos(theta));

}
glEnd();


//cloud 1
if(cl1<=1.0)
    cl1=cl1+.00002;
else
    cl1=-0.1;
glutPostRedisplay();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

    theta=i*3.142/180;
    glVertex2f(cl1+0.31+r*sin(theta),0.93-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{
```

```
    theta=i*3.142/180;
    glVertex2f(cl1+0.25+r*sin(theta),0.93-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

    theta=i*3.142/180;
    glVertex2f(cl1+0.28+r*sin(theta),0.95-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

    theta=i*3.142/180;
    glVertex2f(cl1+0.28+r*sin(theta),0.91-r*cos(theta));

}
glEnd();

//cloud 2
```

```
if(cl2<=0.80)
   cl2=cl2+.00001;
else
   cl2=-0.20;
glutPostRedisplay();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

   theta=i*3.142/180;
   glVertex2f(cl2+0.57+r*sin(theta),0.86-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

   theta=i*3.142/180;
   glVertex2f(cl2+0.51+r*sin(theta),0.86-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
```

```
{

   theta=i*3.142/180;
   glVertex2f(cl2+0.54+r*sin(theta),0.86-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

   theta=i*3.142/180;
   glVertex2f(cl2+0.54+r*sin(theta),0.84-r*cos(theta));

}
glEnd();

//cloud 3
if(cl3<=1.0)
   cl3=cl3+.00003;
else
   cl3=-0.40;
glutPostRedisplay();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{
```

```
    theta=i*3.142/180;
    glVertex2f(cl3+0.57+r*sin(theta),0.94-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

    theta=i*3.142/180;
    glVertex2f(cl3+0.51+r*sin(theta),0.94-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
for(int i=0; i<360; i++)
{

    theta=i*3.142/180;
    glVertex2f(cl3+0.54+r*sin(theta),0.96-r*cos(theta));

}
glEnd();
glColor3f(1.0, 1.0, 1.0);
glBegin(GL_POLYGON);
```

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

       theta=i*3.142/180;
       glVertex2f(cl3+0.54+r*sin(theta),0.93-r*cos(theta));

    }
    glEnd();
//house1

glBegin(GL_QUADS);

     RGB(255,20,147);
    glVertex3f(0.05f, 0.35f, 0.0f);
    glVertex3f(0.30f, 0.35f, 0.0f);
    glVertex3f(0.30f, 0.54f, 0.0f);
    glVertex3f(0.05f, 0.54f, 0.0f);
    //door
    glColor3f (1.0, 0.0, 0.0);
    glVertex3f(0.15f, 0.35f, 0.0f);
    glVertex3f(0.20f, 0.35f, 0.0f);
    glVertex3f(0.20f, 0.43f, 0.0f);
    glVertex3f(0.15f, 0.43f, 0.0f);
    //left side window
    glColor3f (0.0, 0.0, 1.0);
    glVertex3f(0.10f, 0.45f, 0.0f);
    glVertex3f(0.15f, 0.45f, 0.0f);
    glVertex3f(0.15f, 0.50f, 0.0f);
```

```
    glVertex3f(0.10f, 0.50f, 0.0f);

    //right side window
    glColor3f (0.0, 0.0, 1.0);
    glVertex3f(0.20f, 0.45f, 0.0f);
    glVertex3f(0.25f, 0.45f, 0.0f);
    glVertex3f(0.25f, 0.50f, 0.0f);
    glVertex3f(0.20f, 0.50f, 0.0f);

    //border
    glColor3f (1.0, 0.5, 0.0);
    glVertex3f(0.04f, 0.54f, 0.0f);
    glVertex3f(0.31f, 0.54f, 0.0f);
    glVertex3f(0.31f, 0.56f, 0.0f);
    glVertex3f(0.04f, 0.56f, 0.0f);

     glColor3f (0.0, 0.5, 0.9);
    glVertex3f(0.09f, 0.56f, 0.0f);
    glVertex3f(0.18f, 0.56f, 0.0f);
    glVertex3f(0.18f, 0.59f, 0.0f);
    glVertex3f(0.09f, 0.59f, 0.0f);
//right side room
     glColor3f (0.20, .05, 0.9);
    glVertex3f(0.20f, 0.55f, 0.0f);
    glVertex3f(0.30f, 0.55f, 0.0f);
    glVertex3f(0.30f, 0.65f, 0.0f);
    glVertex3f(0.20f, 0.65f, 0.0f);
```

```
    //window
    glColor3f (1.0, 0.0, 0.0);
    glVertex3f(0.23f, 0.59f, 0.0f);
    glVertex3f(0.27f, 0.59f, 0.0f);
    glVertex3f(0.27f, 0.62f, 0.0f);
    glVertex3f(0.23f, 0.62f, 0.0f);

   glColor3f (0.2, 1.0, 0.9);
    glVertex3f(0.28f, 0.65f, 0.0f);
    glVertex3f(0.30f, 0.65f, 0.0f);
    glVertex3f(0.30f, 0.67f, 0.0f);
    glVertex3f(0.28f, 0.67f, 0.0f);
   glEnd();

 //house left room
    glBegin(GL_TRIANGLES);
    glColor3f (0.2, .05, 0.9);
    glVertex3f(0.09f, 0.59f, 0.0f);
    glVertex3f(0.18f, 0.59f, 0.0f);
    glVertex3f(0.135f, 0.64f, 0.0f);
   glEnd();


   //house2
   glBegin(GL_QUADS);

    glColor3f (0.9, 0.0, 0.3);
    glVertex3f(0.40f, 0.35f, 0.0f);
```

```
glVertex3f(0.70f, 0.35f, 0.0f);
glVertex3f(0.70f, 0.60f, 0.0f);
glVertex3f(0.40f, 0.60f, 0.0f);

glColor3f (0.15, 0.15, 0.17);
glVertex3f(0.42f, 0.36f, 0.0f);
glVertex3f(0.47f, 0.36f, 0.0f);
glVertex3f(0.47f, 0.39f, 0.0f);
glVertex3f(0.42f, 0.39f, 0.0f);


glColor3f (0.15, 0.15, 0.17);
glVertex3f(0.53f, 0.36f, 0.0f);
glVertex3f(0.58f, 0.36f, 0.0f);
glVertex3f(0.58f, 0.39f, 0.0f);
glVertex3f(0.53f, 0.39f, 0.0f);

glColor3f (0.15, 0.15, 0.17);
glVertex3f(0.63f, 0.36f, 0.0f);
glVertex3f(0.68f, 0.36f, 0.0f);
glVertex3f(0.68f, 0.39f, 0.0f);
glVertex3f(0.63f, 0.39f, 0.0f);


glColor3f (0.15, 0.15, 0.17);
glVertex3f(0.42f, 0.43f, 0.0f);
glVertex3f(0.47f, 0.43f, 0.0f);
glVertex3f(0.47f, 0.46f, 0.0f);
```

```
    glVertex3f(0.42f, 0.46f, 0.0f);

    glColor3f (0.15, 0.15, 0.17);
    glVertex3f(0.52f, 0.41f, 0.0f);
    glVertex3f(0.58f, 0.41f, 0.0f);
    glVertex3f(0.58f, 0.48f, 0.0f);
    glVertex3f(0.52f, 0.48f, 0.0f);

    glColor3f (0.15, 0.15, 0.17);
    glVertex3f(0.62f, 0.41f, 0.0f);
    glVertex3f(0.68f, 0.41f, 0.0f);
    glVertex3f(0.68f, 0.46f, 0.0f);
    glVertex3f(0.62f, 0.46f, 0.0f);

glColor3f (0.15, 0.15, 0.17);
    glVertex3f(0.42f, 0.52f, 0.0f);
    glVertex3f(0.47f, 0.52f, 0.0f);
    glVertex3f(0.47f, 0.55f, 0.0f);
    glVertex3f(0.42f, 0.55f, 0.0f);

    glColor3f (0.15, 0.15, 0.17);
    glVertex3f(0.53f, 0.52f, 0.0f);
    glVertex3f(0.58f, 0.52f, 0.0f);
    glVertex3f(0.58f, 0.55f, 0.0f);
```

```
glVertex3f(0.53f, 0.55f, 0.0f);



glColor3f (0.15, 0.15, 0.17);
glVertex3f(0.62f, 0.52f, 0.0f);
glVertex3f(0.68f, 0.52f, 0.0f);
glVertex3f(0.68f, 0.55f, 0.0f);
glVertex3f(0.62f, 0.55f, 0.0f);

//house2 roof
glColor3f (0.15, 0.15, 0.17);
glVertex3f(0.50f, 0.60f, 0.0f);
glVertex3f(0.60f, 0.60f, 0.0f);
glVertex3f(0.60f, 0.65f, 0.0f);
glVertex3f(0.50f, 0.65f, 0.0f);


//houde-3

glColor3f (0.0, 0.0, 0.0);
glVertex3f(0.75f, 0.35f, 0.0f);
glVertex3f(0.95f, 0.35f, 0.0f);
glVertex3f(0.95f, 0.50f, 0.0f);
glVertex3f(0.75f, 0.50f, 0.0f);
```

```
  glColor3f (1.0, 0.7, 0.0);
    glVertex3f(0.83f, 0.35f, 0.0f);
    glVertex3f(0.88f, 0.35f, 0.0f);
    glVertex3f(0.88f, 0.42f, 0.0f);
    glVertex3f(0.83f, 0.42f, 0.0f);


    //house3 roof
    glColor3f (1.0, 0.7, 0.0);
    glVertex3f(0.85f, 0.50f, 0.0f);
    glVertex3f(0.95f, 0.50f, 0.0f);
    glVertex3f(0.95f, 0.58f, 0.0f);
    glVertex3f(0.85f, 0.58f, 0.0f);


    //window
    glColor3f (0.0, 0.1, 0.0);
    glVertex3f(0.89f, 0.52f, 0.0f);
    glVertex3f(0.91f, 0.52f, 0.0f);
    glVertex3f(0.91f, 0.54f, 0.0f);
    glVertex3f(0.89f, 0.54f, 0.0f);



glEnd();
//ground
  glBegin(GL_QUADS);
```

```
  glColor3f (0.0, 1.0, 0.5);
    glVertex3f(0.0f, 0.0f, 0.0f);
    glVertex3f(1.0f, 0.0f, 0.0f);
    glVertex3f(1.0f, 0.35f, 0.0f);
    glVertex3f(0.0f, 0.35f, 0.0f);

//play ground
 glColor3f (1.0, 1.0, 0.8);
    glVertex3f(0.20f, 0.05f, 0.0f);
    glVertex3f(0.70f, 0.05f, 0.0f);
    glVertex3f(0.70f, 0.30f, 0.0f);
    glVertex3f(0.20f, 0.30f, 0.0f);
    glEnd();




glFlush ();
}



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


    glutInit(&argc,argv);
    glutInitDisplayMode (GLUT_SINGLE | GLUT_RGB);
```

```
    glutInitWindowPosition(0,0);
    glutInitWindowSize(800,600);
    glutCreateWindow ("Marufa (183-15-2309)");
    init();
    glutDisplayFunc(display);
    glutMainLoop();
    return 0;
}
```