```
#include<stdio.h>
#include<GL/glut.h>
GLfloat a=0,b=0,c=0,d=0,e=0;
void building();
void building1();
void outline();
void blast();
void road();
void display2();
void display3();
void build_outline();
void update(int value)
{
	a+=20.0;	//Plane position takeoff on x axis
	b-=10.0;	//Road Strip backward movement
	c+=15;  //take off at certain angle on y axis
	if(b<=-78.0)// moving of run way
		b=0.0;
	glutPostRedisplay();
	glutTimerFunc(150,update,0);//delay
}


void display(void)
{
glClear(GL_COLOR_BUFFER_BIT);
```

```
road();
glPushMatrix();
glTranslated(a,c,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);//rectangular body
glVertex2f(0.0,30.0);
glVertex2f(0.0,55.0);
glVertex2f(135.0,55.0);
glVertex2f(135.0,30.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(a,c,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);//upper triangle construction plane
glVertex2f(135.0,55.0);
glVertex2f(150.0,50.0);
glVertex2f(155.0,45.0);
glVertex2f(160.0,40.0);
glVertex2f(135.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(a,c,0.0);
```

```
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINE_LOOP);//outline of upper triangle plane
glVertex2f(135.0,55.0);
glVertex2f(150.0,50.0);
glVertex2f(155.0,45.0);
glVertex2f(160.0,40.0);
glVertex2f(135.0,40.0);
glEnd();
glPopMatrix();


glPushMatrix();
glTranslated(a,c,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);//lower triangle
glVertex2f(135.0,40.0);
glVertex2f(160.0,40.0);
glVertex2f(160.0,37.0);
glVertex2f(145.0,30.0);
glVertex2f(135.0,30.0);
glEnd();
glPopMatrix();


glPushMatrix();
glTranslated(a,c,0.0);
```

```
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);//back wing
glVertex2f(0.0,55.0);
glVertex2f(0.0,80.0);
glVertex2f(10.0,80.0);
glVertex2f(40.0,55.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(a,c,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);//left side wing
glVertex2f(65.0,55.0);
glVertex2f(50.0,70.0);
glVertex2f(75.0,70.0);
glVertex2f(90.0,55.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(a,c,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);//rightside wing
glVertex2f(70.0,40.0);
glVertex2f(100.0,40.0);
```

```
glVertex2f(80.0,15.0);
glVertex2f(50.0,15.0);

glEnd();

glPopMatrix();
if(c>360)    //timer to jump to next display
{
        display2();
        d+=20;//plane takeoff on x in 2nd display
}
if(a>500.0)//window position during take off
{
        a=0.0;
        b=0.0;
}
if(c>750)//timer to jump to 3rd display
{
        display3();
        e+=20;//plane takeoff on x in 3rd display
        if(e>250)//timer to call blast function
        {
                blast();
                e=250;
        }
}
```

```
glFlush();
}

void building()
{
glColor3f(0.60,0.40,0.70);
glBegin(GL_POLYGON);
glVertex2f(350.0,80.0);
glVertex2f(350.0,480.0);
glVertex2f(400.0,400.0);
glVertex2f(400.0,0.0);
glEnd();

glColor3f(0.75,0.75,0.75);
glBegin(GL_POLYGON);
glVertex2f(400.0,0.0);
glVertex2f(400.0,400.0);
glVertex2f(450.0,400.0);
glVertex2f(450.0,0.0);
glEnd();

glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(400.0,400.0);
glVertex2f(350.0,480.0);
```

```
glVertex2f(400.0,480.0);
glVertex2f(450.0,400.0);
glEnd();

glColor3f(0.60,0.40,0.70);
glBegin(GL_POLYGON);//upper triangle of building
glVertex2f(400.0,400.0);
glVertex2f(350.0,480.0);
glVertex2f(400.0,480.0);
glEnd();



glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);//seperation line of floors
glVertex2f(350.0,180);
glVertex2f(400.0,100);
glEnd();
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);
glVertex2f(350.0,280);
glVertex2f(400.0,200);
glEnd();
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);
glVertex2f(350.0,380);
```

```
glVertex2f(400.0,300);
glEnd();
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);
glVertex2f(450.0,100);
glVertex2f(400.0,100);
glEnd();
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);
glVertex2f(450.0,200);
glVertex2f(400.0,200);
glEnd();
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);
glVertex2f(450.0,300);
glVertex2f(400.0,300);

glColor3f(0.0,0.0,0.0);
glBegin(GL_LINES);
glVertex2f(350.0,180);
glEnd();

build_outline();
}
```

```
void build_outline()//building out lines
{
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINE_LOOP);
glVertex2f(350.0,80.0);
glVertex2f(350.0,480.0);
glVertex2f(400.0,400.0);
glVertex2f(400.0,0.0);
glEnd();

glColor3f(0.0,0.0,0.0);
glBegin(GL_LINE_LOOP);
glVertex2f(400.0,0.0);
glVertex2f(400.0,400.0);
glVertex2f(450.0,400.0);
glVertex2f(450.0,0.0);
glEnd();

glColor3f(0.0,0.0,0.0);
glBegin(GL_LINE_LOOP);
glVertex2f(400.0,400.0);
glVertex2f(350.0,480.0);
glVertex2f(400.0,480.0);
glVertex2f(450.0,400.0);
glEnd();
}
```

```
void blast(void)//blast polygon construction
{
glPushMatrix();
glTranslated(-10.0,-60.0,0.0);
glColor3f(1.0,0.0,0.0);

glBegin(GL_POLYGON);
glVertex2f(404.4,320.0);
glVertex2f(384.0,285.0);
glVertex2f(368.0,344.5);
glVertex2f(344.0,355.0);
glVertex2f(347.2,414.5);
glVertex2f(332.8,442.5);
glVertex2f(347.2,477.5);
glVertex2f(352.0,530.0);
glVertex2f(379.2,519.5);
glVertex2f(396.8,565.0);
glVertex2f(416.0,530.0);
glVertex2f(440.0,547.5);
glVertex2f(452.8,512.5);
glVertex2f(472.0,512.5);
glVertex2f(475.2,470.5);
glVertex2f(488.0,442.5);
glVertex2f(488.0,404.0);
```

```
glVertex2f(470.0,372.5);
glVertex2f(475.2,337.5);
glVertex2f(464.0,306.0);
glVertex2f(444.8,320.0);
glVertex2f(425.6,285.0);
glVertex2f(404.8,320.0);
glEnd();
glPopMatrix();
}

void road()
{

glColor3f(0.0,0.0,0.0);
glBegin(GL_POLYGON);//black road
glVertex2f(0.0,0.0);
glVertex2f(0.0,100.0);
glVertex2f(500.0,100.0);
glVertex2f(500.0,0.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(b,0.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);//white strips on road
```

```
glVertex2f(0.0,40.0);
glVertex2f(8.0,60.0);
glVertex2f(58.0,60.0);
glVertex2f(50.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(b,0.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(100.0,40.0);
glVertex2f(108.0,60.0);
glVertex2f(158.0,60.0);
glVertex2f(150.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(b,0.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(200.0,40.0);
glVertex2f(208.0,60.0);
glVertex2f(258.0,60.0);
glVertex2f(250.0,40.0);
```

```
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(b,0.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(300.0,40.0);
glVertex2f(308.0,60.0);
glVertex2f(358.0,60.0);
glVertex2f(350.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(b,0.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(400.0,40.0);
glVertex2f(408.0,60.0);
glVertex2f(458.0,60.0);
glVertex2f(450.0,40.0);
glEnd();
glPopMatrix();
}
```

```
void display2()
{

glClear(GL_COLOR_BUFFER_BIT);
glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(0.0,30.0);
glVertex2f(0.0,55.0);
glVertex2f(135.0,55.0);
glVertex2f(135.0,30.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(135.0,55.0);
glVertex2f(150.0,50.0);
glVertex2f(155.0,45.0);
glVertex2f(160.0,40.0);
glVertex2f(135.0,40.0);
glEnd();
```

```
glPopMatrix();

glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINE_LOOP);
glVertex2f(135.0,55.0);
glVertex2f(150.0,50.0);
glVertex2f(155.0,45.0);
glVertex2f(160.0,40.0);
glVertex2f(135.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(135.0,40.0);
glVertex2f(160.0,40.0);
glVertex2f(160.0,37.0);
glVertex2f(145.0,30.0);
glVertex2f(135.0,30.0);
glEnd();
glPopMatrix();
```

```
glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(0.0,55.0);
glVertex2f(0.0,80.0);
glVertex2f(10.0,80.0);
glVertex2f(40.0,55.0);
//glVertex2f(165.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(65.0,55.0);
glVertex2f(50.0,70.0);
glVertex2f(75.0,70.0);
glVertex2f(90.0,55.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(d,300.0,0.0);
glColor3f(1.0,0.0,0.0);
```

```
glBegin(GL_POLYGON);
glVertex2f(70.0,40.0);
glVertex2f(100.0,40.0);
glVertex2f(80.0,15.0);
glVertex2f(50.0,15.0);

glEnd();
glPopMatrix();



}

void display3()
{

glClear(GL_COLOR_BUFFER_BIT);
building();
glPushMatrix();
glTranslated(e,300.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(0.0,30.0);
glVertex2f(0.0,55.0);
glVertex2f(135.0,55.0);
glVertex2f(135.0,30.0);
glEnd();
```

```
glPopMatrix();

glPushMatrix();
glTranslated(e,300.0,0.0);
glColor3f(1.0,1.0,1.0);
glBegin(GL_POLYGON);
glVertex2f(135.0,55.0);
glVertex2f(150.0,50.0);
glVertex2f(155.0,45.0);
glVertex2f(160.0,40.0);
glVertex2f(135.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(e,300.0,0.0);
glColor3f(0.0,0.0,0.0);
glBegin(GL_LINE_LOOP);
glVertex2f(135.0,55.0);
glVertex2f(150.0,50.0);
glVertex2f(155.0,45.0);
glVertex2f(160.0,40.0);
glVertex2f(135.0,40.0);
glEnd();
glPopMatrix();
```

```
glPushMatrix();
glTranslated(e,300.0,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(135.0,40.0);
glVertex2f(160.0,40.0);
glVertex2f(160.0,37.0);
glVertex2f(145.0,30.0);
glVertex2f(135.0,30.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(e,300.0,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(0.0,55.0);
glVertex2f(0.0,80.0);
glVertex2f(10.0,80.0);
glVertex2f(40.0,55.0);
//glVertex2f(165.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(e,300.0,0.0);
```

```
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(65.0,55.0);
glVertex2f(50.0,70.0);
glVertex2f(75.0,70.0);
glVertex2f(90.0,55.0);
//glVertex2f(165.0,40.0);
glEnd();
glPopMatrix();

glPushMatrix();
glTranslated(e,300.0,0.0);
glColor3f(1.0,0.0,0.0);
glBegin(GL_POLYGON);
glVertex2f(70.0,40.0);
glVertex2f(100.0,40.0);
glVertex2f(80.0,15.0);
glVertex2f(50.0,15.0);

glEnd();

glPopMatrix();
}

void myinit()
{
```

```
glClearColor(0.0f,0.0f,1.0f,0.0f);
glColor3f(1.0,0.0,0.0);
glPointSize(1.0);
glMatrixMode(GL_PROJECTION);
glLoadIdentity();
gluOrtho2D(0.0,499.0,0.0,499.0);

}


void main(int argc, char* argv[])
{
glutInit(&argc, argv);
glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
glutInitWindowSize(500.0,500.0);
glutInitWindowPosition(0,0);
glutCreateWindow("AERO");
glutDisplayFunc(display);
myinit();
glutTimerFunc(100,update,0);
glutMainLoop();
}
```