#include <GL/gl.h>

#include<iostream>

#include <GL/glut.h>

#include<stdio.h>

#include<stdlib.h>

#include<math.h>

#include<windows.h>

#include<mmsystem.h>

using namespace std;

#define PI 3.141592653589

GLfloat cloud1Position=0;

GLfloat cloud1speed=1.4;

GLfloat cloud2Position=0;

GLfloat cloud2speed=1.8;

GLfloat cloud3Position=0;

GLfloat cloud3speed=1.6;

GLfloat sunXAxis=0;

GLfloat sunspeed=0.2;

GLfloat ambulancePosition=0;

GLfloat ambulacespeed=2.8;

GLfloat doctorPosition=0;

GLfloat doctorspeed=0.4;

GLfloat humanPosition1=0;

GLfloat humanspeed=0.1;

GLfloat humanPosition2=0;

GLfloat humanPosition3=0;

GLfloat humanPosition4=0;

GLfloat humanPosition5=0;

GLfloat humanPosition=0;

GLfloat policecarPosition1=0;

GLfloat policecarPosition2=0;

GLfloat policecarspeed=2.3;

// Function to Print Text

void print(char \*string,

GLfloat r, GLfloat g, GLfloat b, GLfloat a,

GLint x, GLint y,

GLfloat w, GLfloat h,

GLfloat strokeSize) {

glPushMatrix();

glColor4f(r, g, b, a);

glTranslatef(x, y, 0);

glScalef(w, h, 0);

glPointSize(strokeSize);

glLineWidth(strokeSize);

while (\*string)

glutStrokeCharacter(GLUT\_STROKE\_MONO\_ROMAN, \*string++);

glPopMatrix();

glLineWidth(1);

glPointSize(1);

}

void drawCircle(GLfloat x, GLfloat y,

GLfloat r, GLfloat g, GLfloat b,

GLfloat sx, GLfloat sy,

GLfloat radius) {

glPushMatrix();

glTranslatef(x, y, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(r, g, b);

for (GLfloat i = 0; i < 360; i += 5)

glVertex2f(radius \* sin(i \* PI / 180), radius \* cos(i \* PI / 180));

glEnd();

glPopMatrix();

}

// Function to Draw Circle

void drawSemiCircle(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy,

GLfloat r, GLfloat g, GLfloat b,

GLfloat radius,

GLfloat start\_angle, GLfloat end\_angle) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(r, g, b);

for (GLfloat i = start\_angle; i < end\_angle; i += 5)

glVertex2f(radius \* sin(i \* PI / 180), radius \* cos(i \* PI / 180));

glEnd();

glPopMatrix();

}

//Building

void building(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

double r1 = 102;

double g1 = 178;

double b1 = 255;

glBegin(GL\_QUADS);

glColor3ub (204,204,255);

glVertex2i(0,160);

glVertex2i(100,160);

glVertex2i(100,310);

glVertex2i(0,310);

//2

glVertex2i(172,290);

glVertex2i(200,290);

glVertex2i(200,270);

glVertex2i(172,270);

glVertex2i(280,160);

glVertex2i(295,160);

glVertex2i(295,280);

glVertex2i(280,280);

glVertex2i(305,160);

glVertex2i(295,160);

glVertex2i(295,270);

glVertex2i(305,270);

glVertex2i(305,160);

glVertex2i(360,160);

glVertex2i(360,320);

glVertex2i(305,320);

//3

glVertex2i(420,160);

glVertex2i(470,160);

glVertex2i(470,320);

glVertex2i(425,320);

//4

glVertex2i(620,160);

glVertex2i(690,160);

glVertex2i(690,300);

glVertex2i(620,300);

glVertex2i(690,160);

glVertex2i(710,160);

glVertex2i(710,250);

glVertex2i(690,250);

glVertex2i(760,160);

glVertex2i(710,160);

glVertex2i(710,330);

glVertex2i(760,330);

glEnd();

//2nd layer

glBegin(GL\_QUADS);

glColor3ub (180,180,180);

//1

glVertex2i(152,220);

glVertex2i(72,220);

glVertex2i(72,290);

glVertex2i(152,290);

glVertex2i(142,310); //from roof

glVertex2i(82,310);

glVertex2i(82,290);

glVertex2i(142,290);

glVertex2i(137,310);

glVertex2i(87,310);

glVertex2i(87,315);

glVertex2i(137,315);

glVertex2i(127,320);

glVertex2i(97,320);

glVertex2i(97,315);

glVertex2i(127,315);

//3

glVertex2i(280,160);

glVertex2i(200,160);

glVertex2i(200,290);

glVertex2i(280,290);

glVertex2i(270,320);

glVertex2i(210,320);

glVertex2i(210,290);

glVertex2i(270,290);

//5

glVertex2i(440,300);

glVertex2i(360,300);

glVertex2i(360,160);

glVertex2i(440,160);

//2

glColor3ub (200,200,200); //light one

glVertex2i(152,160);

glVertex2i(200,160);

glVertex2i(200,270);

glVertex2i(152,270);

//4

glVertex2i(280,250);

glVertex2i(360,250);

glVertex2i(360,160);

glVertex2i(280,160);

glEnd();

//1st layer

glColor3ub (132,132,132);

glBegin(GL\_QUADS);

//1

glVertex2i(0,160);

glVertex2i(40,160);

glVertex2i(40,230);

glVertex2i(0,230);

//2

glVertex2i(45,160);

glVertex2i(92,160);

glVertex2i(92,265);

glVertex2i(45,265);

//3

glVertex2i(87,160);

glVertex2i(160,160);

glVertex2i(160,220);

glVertex2i(87,220);

glVertex2i(160,160);

glVertex2i(190,160);

glVertex2i(190,190);

glVertex2i(160,190);

glVertex2i(190,160);

glVertex2i(200,160);

glVertex2i(200,165);

glVertex2i(190,165);

//4

glVertex2i(200,160);

glVertex2i(230,160);

glVertex2i(230,220);

glVertex2i(200,220);

glVertex2i(230,160);

glVertex2i(235,160);

glVertex2i(235,205);

glVertex2i(230,205);

glVertex2i(235,160);

glVertex2i(255,160);

glVertex2i(255,190);

glVertex2i(235,190);

//5

glVertex2i(260,160);

glVertex2i(310,160);

glVertex2i(310,200);

glVertex2i(260,200);

//6

glVertex2i(310,160);

glVertex2i(380,160);

glVertex2i(380,230);

glVertex2i(310,230);

glVertex2i(400,160);

glVertex2i(380,160);

glVertex2i(380,200);

glVertex2i(400,200);

//7

glVertex2i(410,160);

glVertex2i(470,160);

glVertex2i(470,240);

glVertex2i(410,240);

//8

glVertex2i(477,305);

glVertex2i(513,305);

glVertex2i(513,285);

glVertex2i(477,285);

glVertex2i(482,305);

glVertex2i(507,305);

glVertex2i(507,310);

glVertex2i(482,310);

glVertex2i(487,310);

glVertex2i(502,310);

glVertex2i(502,315);

glVertex2i(487,315);

glVertex2i(492,310);

glVertex2i(498,310);

glVertex2i(498,330);

glVertex2i(492,330);

//9

glVertex2i(590,160);

glVertex2i(650,160);

glVertex2i(650,280);

glVertex2i(590,280);

glVertex2i(760,160);

glVertex2i(670,160);

glVertex2i(670,220);

glVertex2i(760,220);

//roof

glColor3ub (112,112,112);

//1

glVertex2i(0,230);

glVertex2i(40,230);

glVertex2i(40,235);

glVertex2i(0,235);

glVertex2i(10,235);

glVertex2i(30,235);

glVertex2i(30,240);

glVertex2i(10,240);

//2

glVertex2i(48,270);

glVertex2i(87,270);

glVertex2i(87,275);

glVertex2i(48,275);

glVertex2i(52,275);

glVertex2i(70,275);

glVertex2i(70,280);

glVertex2i(52,280);

//3

glVertex2i(87,220);

glVertex2i(157,220);

glVertex2i(157,225);

glVertex2i(87,225);

glVertex2i(87,190);

glVertex2i(160,190);

glVertex2i(160,200);

glVertex2i(87,200);

//4

glVertex2i(200,220);

glVertex2i(230,220);

glVertex2i(230,225);

glVertex2i(200,225);

glVertex2i(235,190);

glVertex2i(255,190);

glVertex2i(255,195);

glVertex2i(235,195);

//5

glVertex2i(260,200);

glVertex2i(310,200);

glVertex2i(310,205);

glVertex2i(260,205);

glVertex2i(255,205);

glVertex2i(310,205);

glVertex2i(310,210);

glVertex2i(255,210);

//6

glVertex2i(310,230);

glVertex2i(380,230);

glVertex2i(380,240);

glVertex2i(310,240);

glVertex2i(315,215);

glVertex2i(325,215);

glVertex2i(325,220);

glVertex2i(315,220);

glVertex2i(335,215);

glVertex2i(345,215);

glVertex2i(345,220);

glVertex2i(335,220);

glVertex2i(355,215);

glVertex2i(365,215);

glVertex2i(365,220);

glVertex2i(355,220);

glVertex2i(315,185);

glVertex2i(335,185);

glVertex2i(335,188);

glVertex2i(315,188);

glVertex2i(345,185);

glVertex2i(365,185);

glVertex2i(365,188);

glVertex2i(345,188);

//7

glVertex2i(410,240);

glVertex2i(470,240);

glVertex2i(470,245);

glVertex2i(410,245);

//9

glVertex2i(760,225);

glVertex2i(670,225);

glVertex2i(670,220);

glVertex2i(760,220);

glVertex2i(675,210);

glVertex2i(760,210);

glVertex2i(760,205);

glVertex2i(675,205);

//yellow

glColor3ub (255,255,51);

glVertex2i(270,190);

glVertex2i(305,190);

glVertex2i(305,193);

glVertex2i(270,193);

//shades

//2

glColor3ub (200,200,200);

glVertex2i(48,265);

glVertex2i(87,265);

glVertex2i(87,270);

glVertex2i(48,270);

glVertex2i(50,160);

glVertex2i(57,160);

glVertex2i(57,255);

glVertex2i(50,255);

glVertex2i(65,160);

glVertex2i(72,160);

glVertex2i(72,255);

glVertex2i(65,255);

glVertex2i(80,160);

glVertex2i(87,160);

glVertex2i(87,255);

glVertex2i(80,255);

//8

glColor3ub (180,180,180);

glVertex2i(470,160);

glVertex2i(530,160);

glVertex2i(530,245);

glVertex2i(470,245);

glVertex2i(450,280);

glVertex2i(540,280);

glVertex2i(540,245);

glVertex2i(450,245);

glColor3ub (210,210,210);

glVertex2i(455,280);

glVertex2i(535,280);

glVertex2i(535,285);

glVertex2i(455,285);

glVertex2i(470,240);

glVertex2i(540,240);

glVertex2i(540,245);

glVertex2i(470,245);

//9

glColor3ub (160,160,160);

glVertex2i(590,160);

glVertex2i(530,160);

glVertex2i(530,295);

glVertex2i(590,295);

glVertex2i(610,160);

glVertex2i(670,160);

glVertex2i(670,260);

glVertex2i(610,260);

//window and door

//1

glColor3ub (r1,g1,b1);

glVertex2i(12,160);

glVertex2i(26,160);

glVertex2i(26,180);

glVertex2i(12,180);

glVertex2i(5,190);

glVertex2i(12,190);

glVertex2i(12,200);

glVertex2i(5,200);

glVertex2i(15,190);

glVertex2i(22,190);

glVertex2i(22,200);

glVertex2i(15,200);

glVertex2i(25,190);

glVertex2i(32,190);

glVertex2i(32,200);

glVertex2i(25,200);

glVertex2i(5,210);

glVertex2i(12,210);

glVertex2i(12,220);

glVertex2i(5,220);

glVertex2i(15,210);

glVertex2i(22,210);

glVertex2i(22,220);

glVertex2i(15,220);

glVertex2i(25,210);

glVertex2i(32,210);

glVertex2i(32,220);

glVertex2i(25,220);

//3

glVertex2i(95,205);

glVertex2i(110,205);

glVertex2i(110,215);

glVertex2i(95,215);

glVertex2i(130,205);

glVertex2i(145,205);

glVertex2i(145,215);

glVertex2i(130,215);

glVertex2i(95,185);

glVertex2i(110,185);

glVertex2i(110,170);

glVertex2i(95,170);

glVertex2i(130,185);

glVertex2i(145,185);

glVertex2i(145,170);

glVertex2i(130,170);

glVertex2i(165,160);

glVertex2i(180,160);

glVertex2i(180,180);

glVertex2i(165,180);

//4

glVertex2i(205,215);

glVertex2i(215,215);

glVertex2i(215,205);

glVertex2i(205,205);

glVertex2i(218,215);

glVertex2i(228,215);

glVertex2i(228,205);

glVertex2i(218,205);

glVertex2i(205,200);

glVertex2i(215,200);

glVertex2i(215,190);

glVertex2i(205,190);

glVertex2i(218,200);

glVertex2i(228,200);

glVertex2i(228,190);

glVertex2i(218,190);

glVertex2i(205,185);

glVertex2i(210,185);

glVertex2i(210,177);

glVertex2i(205,177);

glVertex2i(215,185);

glVertex2i(220,185);

glVertex2i(220,177);

glVertex2i(215,177);

glVertex2i(225,185);

glVertex2i(230,185);

glVertex2i(230,177);

glVertex2i(225,177);

//5

glVertex2i(270,190);

glVertex2i(285,190);

glVertex2i(285,175);

glVertex2i(270,175);

glVertex2i(290,190);

glVertex2i(305,190);

glVertex2i(305,175);

glVertex2i(290,175);

glColor3ub (255,255,51);

glVertex2i(270,190);

glVertex2i(305,190);

glVertex2i(305,193);

glVertex2i(270,193);

//6

glColor3ub (r1,g1,b1);

glVertex2i(315,215);

glVertex2i(325,215);

glVertex2i(325,195);

glVertex2i(315,195);

glVertex2i(335,215);

glVertex2i(345,215);

glVertex2i(345,195);

glVertex2i(335,195);

glVertex2i(355,215);

glVertex2i(365,215);

glVertex2i(365,195);

glVertex2i(355,195);

glVertex2i(315,185);

glVertex2i(335,185);

glVertex2i(335,170);

glVertex2i(315,170);

glVertex2i(345,185);

glVertex2i(365,185);

glVertex2i(365,170);

glVertex2i(345,170);

glVertex2i(385,170);

glVertex2i(395,170);

glVertex2i(395,180);

glVertex2i(385,180);

glVertex2i(382,185);

glVertex2i(392,185);

glVertex2i(392,195);

glVertex2i(382,195);

//7

glVertex2i(420,230);

glVertex2i(430,230);

glVertex2i(430,210);

glVertex2i(420,210);

glVertex2i(450,230);

glVertex2i(460,230);

glVertex2i(460,210);

glVertex2i(450,210);

glVertex2i(420,200);

glVertex2i(430,200);

glVertex2i(430,180);

glVertex2i(420,180);

glVertex2i(450,200);

glVertex2i(460,200);

glVertex2i(460,180);

glVertex2i(450,180);

//8

glVertex2i(502,295);

glVertex2i(507,295);

glVertex2i(507,287);

glVertex2i(502,287);

glVertex2i(492,295);

glVertex2i(497,295);

glVertex2i(497,287);

glVertex2i(492,287);

glVertex2i(482,295);

glVertex2i(487,295);

glVertex2i(487,287);

glVertex2i(482,287);

glVertex2i(460,270);

glVertex2i(490,270);

glVertex2i(490,260);

glVertex2i(460,260);

glVertex2i(500,270);

glVertex2i(530,270);

glVertex2i(530,260);

glVertex2i(500,260);

glColor3ub (112,112,112);

glVertex2i(480,240);

glVertex2i(483,240);

glVertex2i(483,160);

glVertex2i(480,160);

glVertex2i(490,240);

glVertex2i(493,240);

glVertex2i(493,160);

glVertex2i(490,160);

glVertex2i(500,240);

glVertex2i(503,240);

glVertex2i(503,160);

glVertex2i(500,160);

glVertex2i(510,240);

glVertex2i(513,240);

glVertex2i(513,160);

glVertex2i(510,160);

//9

glColor3ub (r1,g1,b1);

glVertex2i(620,175);

glVertex2i(635,175);

glVertex2i(635,195);

glVertex2i(620,195);

glVertex2i(660,175);

glVertex2i(645,175);

glVertex2i(645,195);

glVertex2i(660,195);

glVertex2i(620,205);

glVertex2i(635,205);

glVertex2i(635,200);

glVertex2i(620,200);

glVertex2i(660,205);

glVertex2i(645,205);

glVertex2i(645,200);

glVertex2i(660,200);

glVertex2i(620,210);

glVertex2i(635,210);

glVertex2i(635,235);

glVertex2i(620,235);

glVertex2i(660,210);

glVertex2i(645,210);

glVertex2i(645,235);

glVertex2i(660,235);

glVertex2i(552,280);

glVertex2i(570,280);

glVertex2i(570,250);

glVertex2i(552,250);

glVertex2i(552,240);

glVertex2i(570,240);

glVertex2i(570,210);

glVertex2i(552,210);

glVertex2i(552,200);

glVertex2i(570,200);

glVertex2i(570,170);

glVertex2i(552,170);

glVertex2i(680,175);

glVertex2i(700,175);

glVertex2i(700,205);

glVertex2i(680,205);

glVertex2i(725,175);

glVertex2i(705,175);

glVertex2i(705,205);

glVertex2i(725,205);

glVertex2i(730,175);

glVertex2i(750,175);

glVertex2i(750,205);

glVertex2i(730,205);

//2nd layer

//4

glColor3ub (r1,g1,b1);

glVertex2i(290,240);

glVertex2i(300,240);

glVertex2i(300,230);

glVertex2i(290,230);

glVertex2i(290,220);

glVertex2i(300,220);

glVertex2i(300,210);

glVertex2i(290,210);

//5

glVertex2i(435,295);

glVertex2i(420,295);

glVertex2i(420,245);

glVertex2i(435,245);

glVertex2i(400,295);

glVertex2i(415,295);

glVertex2i(415,245);

glVertex2i(400,245);

glEnd();

glPopMatrix();

}

void drawHumamsShirtAndTrousers(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy,

GLfloat shirt\_r, GLfloat shirt\_g, GLfloat shirt\_b) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

// Bottom Shirt

glColor3ub(shirt\_r, shirt\_g, shirt\_b);

glBegin(GL\_POLYGON);

glVertex2f(0, 20);

glVertex2f(100, 20);

glVertex2f(100, 100);

glVertex2f(0, 100);

glEnd();

// Top Shirt

glBegin(GL\_POLYGON);

glVertex2f(100, 100);

glVertex2f(135, 105);

glVertex2f(120, 175);

glVertex2f(100, 200);

glVertex2f(50, 180);

glVertex2f(0, 200);

glVertex2f(-20, 175);

glVertex2f(-35, 105);

glVertex2f(0, 100);

glEnd();

// Left Trouser

glColor3ub(37, 107, 202);

glBegin(GL\_POLYGON);

glVertex2f(0, 25);

glVertex2f(0, -100);

glVertex2f(35, -100);

glVertex2f(65, 25);

glEnd();

// Right Trouser

glBegin(GL\_POLYGON);

glVertex2f(35, 25);

glVertex2f(65, -100);

glVertex2f(100, -100);

glVertex2f(100, 25);

glEnd();

glPopMatrix();

}

void drawHumam(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy,

GLfloat shirt\_r, GLfloat shirt\_g, GLfloat shirt\_b) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

// Neck

drawSemiCircle(-1, -35, .6, 1,

203, 166, 108,

20, -90, 90);

// Face

drawCircle(0, 0,

232, 190, 123,

1, 1,

24);

// Left Eye

drawCircle(-8, 0,

250, 250, 250,

1, 1,

4);

drawCircle(-6, 0,

10, 10, 10,

1, 1,

2);

// Right Eye

drawCircle(8, 0,

250, 250, 250,

1, 1,

4);

drawCircle(10, 0,

10, 10, 10,

1, 1,

2);

// Cap

drawSemiCircle(0, 10, 1, 1,

0, 0, 0,

24, -90, 90);

//mask

drawSemiCircle(0, 0, 1, 1,

0, 200, 250,

24, 90, 270);

// Hands

drawCircle(-42, -82,

232, 190, 123,

1, 1,

10);

drawCircle(38, -82,

232, 190, 123,

1, 1,

10);

// Shirt and Trousers

drawHumamsShirtAndTrousers(-32, -125,

.6, .5,

shirt\_r, shirt\_g, shirt\_b);

// Left Shoe

drawSemiCircle(-21, -178,

1.2, 1,

20, 20, 20,

10,

-90, 90);

// Right Shoe

drawSemiCircle(18, -178,

1.2, 1,

20, 20, 20,

10,

-90, 90);

glPopMatrix();

}

void drawTree(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

// Bark

glBegin(GL\_POLYGON);

glColor3ub(86, 46, 11);

glVertex2f(0, 0);

glVertex2f(40, 0);

glColor3ub(71, 36, 6);

glVertex2f(35, 200);

glVertex2f(5, 200);

glEnd();

// Tree

//drawCircle(20, 200, 5, 80, 10, 1, 8, 20);

//glRotatef(360,1.0f,1.0f,0.0f);

float j=30;

for(int i=180;i<420;i=i+10)

{

drawCircle(20, i, 5, 80, 10, 5, 2, j);

j=j-1.2;

}

// Apples

drawCircle(27, 234, 255, 0, 0, 1, 1.2, 5);

drawCircle(-15, 270, 255, 0, 0, 1, 1.2, 5);

drawCircle(47, 255, 255, 0, 0, 1, 1.2, 5);

drawCircle(-2, 228, 255, 0, 0, 1, 1.2, 5);

drawCircle(72, 216, 255, 0, 0, 1, 1.2, 5);

glPopMatrix();

}

void drawHospital(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

// Tuition Building

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(190, 190, 190);

glVertex2f(25, 175);

glVertex2f(300, 175);

glColor3ub(190, 190, 190);

glVertex2f(300, 500);

glVertex2f(25, 500);

glEnd();

// Tuition Building Border

//glBegin(GL\_LINE\_LOOP);

//glColor3ub(20, 20, 20);

//glVertex2f(25, 175);

//glVertex2f(300, 175);

//glVertex2f(300, 500);

//glVertex2f(25, 500);

//glEnd();

// Tuition Board

glBegin(GL\_POLYGON);

glColor3ub(255, 218, 154);

glVertex2f(50, 525);

glVertex2f(180, 525);

glVertex2f(180, 475);

glVertex2f(50, 475);

glEnd();

// Tuition Board Border

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(50, 525);

glVertex2f(180, 525);

glVertex2f(180, 475);

glVertex2f(50, 475);

glEnd();

print("SCHOOL", 255, 255,255, 1, 65, 492, .15, .15, 1.3);

// Tuition Rectangular Window

glBegin(GL\_POLYGON);

for(int i=240;i<=450;i=i+40){

glColor3ub(59, 91, 132);

glVertex2f(50, i);

glVertex2f(50, 440);

glVertex2f(270, 440);

glColor3ub(97, 131, 159);

glVertex2f(270, i);

glEnd();

// Tuition Rectangular Window Border

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(50, i);

glVertex2f(50, 240);

glVertex2f(270, 240);

glVertex2f(270, i);

glEnd();

// Tuition Rectangular Window Panes

glBegin(GL\_LINES);

glColor3ub(20, 20, 20);

glVertex2f(150, i);

glVertex2f(150, 240);

glVertex2f(50, 260);

glVertex2f(270, 260);

}

glEnd();

glPopMatrix();

}

void drawSchool(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy

) {

// School Building

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(184, 88, 68);

glVertex2f(400, 175);

glVertex2f(1000, 175);

glVertex2f(1000, 600);

glColor3ub(241, 130, 94);

glVertex2f(400, 600);

glEnd();

// School Building Border

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(400, 175);

glVertex2f(1000, 175);

glVertex2f(1000, 500);

glVertex2f(400, 500);

glEnd();

// School Board

glBegin(GL\_POLYGON);

glColor3ub(183, 184, 188);

glVertex2f(570, 530);

glVertex2f(830, 530);

glVertex2f(830, 470);

glVertex2f(570, 470);

glEnd();

// School Board Border

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(570, 530);

glVertex2f(830, 530);

glVertex2f(830, 470);

glVertex2f(570, 470);

glEnd();

print("HOSPITAL", 255, 0, 0, 1, 580, 485, .3, .3, 1.5);

// School Door

glBegin(GL\_POLYGON);

glColor3ub(183, 184, 188);

glVertex2f(600, 175);

glVertex2f(600, 280);

glVertex2f(800, 280);

glVertex2f(800, 175);

glEnd();

// School Door Border

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(600, 175);

glVertex2f(600, 280);

glVertex2f(800, 280);

glVertex2f(800, 175);

glEnd();

// School Door Divider

glBegin(GL\_LINES);

glColor3ub(20, 20, 20);

glVertex2f(700, 280);

glVertex2f(700, 175);

glEnd();

// School Windows

for (int i = 0; i <= 500; i+=100) {

for (int j = 0; j <= 100; j+=80) {

glBegin(GL\_POLYGON);

glColor3ub(59, 91, 132);

glVertex2f(425 + i, 450 - j);

glVertex2f(475 + i, 450 - j);

glVertex2f(475 + i, 400 - j);

glColor3ub(97, 131, 159);

glVertex2f(425 + i, 400 - j);

glEnd();

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(425 + i, 450 - j);

glVertex2f(475 + i, 450 - j);

glVertex2f(475 + i, 400 - j);

glVertex2f(425 + i, 400 - j);

glEnd();

glLineWidth(4);

glBegin(GL\_LINES);

glColor3ub(140, 75, 55);

glVertex2f(425 + i, 400 - j);

glVertex2f(475 + i, 400 - j);

glEnd();

glLineWidth(1);

}

}

glBegin(GL\_POLYGON);

glColor3ub(59, 91, 132);

glVertex2f(425, 280);

glVertex2f(475, 280);

glVertex2f(475, 200);

glColor3ub(97, 131, 159);

glVertex2f(425, 200);

glEnd();

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(425, 280);

glVertex2f(475, 280);

glVertex2f(475, 200);

glVertex2f(425, 200);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(59, 91, 132);

glVertex2f(525, 280);

glVertex2f(575, 280);

glVertex2f(575, 200);

glColor3ub(97, 131, 159);

glVertex2f(525, 200);

glEnd();

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(525, 280);

glVertex2f(575, 280);

glVertex2f(575, 200);

glVertex2f(525, 200);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(59, 91, 132);

glVertex2f(825, 280);

glVertex2f(875, 280);

glVertex2f(875, 200);

glColor3ub(97, 131, 159);

glVertex2f(825, 200);

glEnd();

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(825, 280);

glVertex2f(875, 280);

glVertex2f(875, 200);

glVertex2f(825, 200);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(59, 91, 132);

glVertex2f(925, 280);

glVertex2f(975, 280);

glVertex2f(975, 200);

glColor3ub(97, 131, 159);

glVertex2f(925, 200);

glEnd();

glBegin(GL\_LINE\_LOOP);

glColor3ub(20, 20, 20);

glVertex2f(925, 280);

glVertex2f(975, 280);

glVertex2f(975, 200);

glVertex2f(925, 200);

glEnd();

glPopMatrix();

}

void DrawUnivarsity(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy){

///==================================== Draw Building Univarsity

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(190, 50, 50);

glVertex2i(610,420);

glVertex2i(760,420);

glVertex2i(760,600);

glVertex2i(610,600);

glEnd();

int UnivarsityY1=585,UnivarsityY2=582;

for(int i=0;i<7;i++){

//=================floor of building 1

if(i==2 || i==3){

}

else{

glBegin(GL\_POLYGON);

glColor3ub(153, 153, 102);

glVertex2i(610,UnivarsityY1);

glVertex2i(760,UnivarsityY1);

glVertex2i(760,UnivarsityY2);

glVertex2i(610,UnivarsityY2);

glEnd();

}

UnivarsityY1=UnivarsityY1-25;

UnivarsityY2=UnivarsityY2-25;

}

print("EW UNIVARSITY", 0, 0, 0, 1, 620, 500, .10, .3, 1.5);

glPopMatrix();

}

void PS\_drawRoad(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(40, 40, 40);

glVertex2f(300, 275);

glVertex2f(500, 275);

glVertex2f(500, 200);

glVertex2f(300, 200);

glEnd();

for(int i=300;i<500;i=i+5){

glBegin(GL\_POLYGON);

if(i%2==0){

glColor3ub(250, 250, 250);

}

else{

glColor3ub(0, 0, 0);

}

glVertex2f(i, 275);

glVertex2f(i+5, 275);

glVertex2f(i+5, 280);

glVertex2f(i, 280);

glEnd();

}

glLineWidth(3);

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

for(int i=300;i<=500;i=i+5)

{

glVertex2f(i, 235); //white marks in middle

}

glEnd();

glLineWidth(1);

glPopMatrix();

}

void DrawCould(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy)

{

//Cloud

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

drawSemiCircle(500, 400,

7.2, 5.1,

200, 230, 255,

10,

0, 360);

drawSemiCircle(480, 420,

3.2, 5.1,

200, 230, 255,

10,

0, 360);

drawSemiCircle(520, 410,

3.2, 5.1,

200, 230, 255,

10,

0, 360);

drawSemiCircle(510, 380,

3.2, 5.1,

200, 230, 255,

10,

0, 360);

glPopMatrix();

}

void DrawCouldRain(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy)

{

//Cloud

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

drawSemiCircle(500, 400,

7.2, 5.1,

119,136,153,

10,

0, 360);

drawSemiCircle(480, 420,

3.2, 5.1,

119,136,153,

10,

0, 360);

drawSemiCircle(520, 410,

3.2, 5.1,

119,136,153,

10,

0, 360);

drawSemiCircle(510, 380,

3.2, 5.1,

119,136,153,

10,

0, 360);

glPopMatrix();

}

void drawBackground(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(12, 172, 232); // Sky Blue

glVertex2f(0, 400);

glVertex2f(1400, 400);

glColor3ub(82, 163, 42); // Green Grass

glVertex2f(1400, 90);

glVertex2f(0, 90);

glEnd();

// Background

glBegin(GL\_POLYGON);

glColor3ub(135, 206, 250); // Sky Blue

glVertex2f(0, 900);

glVertex2f(1400, 900);

glVertex2f(1400, 150);

glVertex2f(0, 150);

glEnd();

glPopMatrix();

}

void drawBackgroundNight(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(0, 172, 232); // Sky Blue

glVertex2f(0, 400);

glVertex2f(1400, 400);

glColor3ub(82, 163, 42); // Green Grass

glVertex2f(1400, 90);

glVertex2f(0, 90);

glEnd();

// Background

glBegin(GL\_POLYGON);

glColor3ub(25,25,112); // Sky Blue

glVertex2f(0, 900);

glVertex2f(1400, 900);

glVertex2f(1400, 150);

glVertex2f(0, 150);

glEnd();

//stars

drawCircle(300, 400,

250, 250, 250,

7, 14,

.1);

drawCircle(200, 500,

250, 250, 250,

7, 14,

.2);

drawCircle(100, 550,

250, 250, 0,

7, 14,

.2);

drawCircle(100, 400,

250, 250, 250,

7, 14,

.25);

drawCircle(400, 550,

250, 250, 0,

7, 14,

.3);

drawCircle(600, 600,

250, 250, 250,

7, 14,

.2);

drawCircle(900, 700,

250, 250, 250,

7, 14,

.2);

drawCircle(700, 650,

250, 250, 250,

7, 14,

.2);

drawCircle(800, 550,

250, 250, 0,

7, 14,

.3);

drawCircle(650, 500,

250, 250, 250,

7, 14,

.3);

drawCircle(750, 380,

250, 250, 250,

7, 14,

.3);

drawCircle(150, 480,

250, 250, 250,

7, 14,

.25);

for(int i=0;i<500;i++)

{

int x=rand()%1100;

int y=rand()%800;

if(y>300){

drawCircle(x, y,

250, 250, 250,

7, 14,

.1);

}

}

glPopMatrix();

}

void drawBackgroundRain(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy) {

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub(12, 172, 232); // Sky Blue

glVertex2f(0, 400);

glVertex2f(1400, 400);

glColor3ub(82, 163, 42); // Green Grass

glVertex2f(1400, 90);

glVertex2f(0, 90);

glEnd();

// Background

glBegin(GL\_POLYGON);

glColor3ub(65,105,225); // Sky Blue

glVertex2f(0, 900);

glVertex2f(1400, 900);

glVertex2f(1400, 150);

glVertex2f(0, 150);

glEnd();

glPopMatrix();

}

void signBoard(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy)

{

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

//signboard;

glBegin(GL\_POLYGON);

glColor3ub(255, 218, 154);

glVertex2f(600, 300);

glVertex2f(550, 300);

glVertex2f(550, 250);

glVertex2f(600, 250);

glEnd();

print("Covid Test", 0, 0, 0, 1, 550, 275, .05, .1, 1.5);

//signboard border

glBegin(GL\_LINE\_LOOP);

glColor3ub(0, 0, 0);

glVertex2f(600, 300);

glVertex2f(550, 300);

glVertex2f(550, 250);

glVertex2f(600, 250);

glEnd();

//signboard handel

glBegin(GL\_POLYGON);

glColor3ub(218,165,32);

glVertex2f(555, 250);

glVertex2f(560, 250);

glVertex2f(560, 210);

glVertex2f(555, 210);

glEnd();

glPopMatrix();

}

void Ambulance(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy)

{

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

//glPointSize(4);

glBegin(GL\_POLYGON);

glColor3ub (1, 1,1);

glVertex2i(30,60);

glVertex2i(33,65);

glVertex2i(60,65);

glVertex2i(63,60);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3ub (0,0,0);

glVertex2i(30,60);

glVertex2i(63,60);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1, 1,1);

glVertex2i(20,35);

glVertex2i(29,60);

glVertex2i(64,60);

glVertex2i(70,35);

glEnd();

//glFlush ();

//glass1

glBegin(GL\_POLYGON);

glColor3f (0.5, 0.5,1.5);

glVertex2i(25,40);

glVertex2i(30,55);

glVertex2i(40,55);

glVertex2i(40,40);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0, 0,0);

glVertex2i(25,38);

glVertex2i(25,45);

glVertex2i(27,45);

glVertex2i(27,38);

glEnd();

//glFlush ();

//glass2

glBegin(GL\_POLYGON);

glColor3f (0.5, 0.5,1.5);

glVertex2i(45,40);

glVertex2i(45,55);

glVertex2i(55,55);

glVertex2i(55,40);

glEnd();

//glFlush ();

//+

glBegin(GL\_QUADS);

glColor3f (1, 0,0);

glVertex2i(62,42);

glVertex2i(59,42);

glVertex2i(59,52);

glVertex2i(62,52);

glEnd();

//glFlush ();

glBegin(GL\_QUADS);

glColor3f (1, 0,0);

glVertex2i(65,45);

glVertex2i(56,45);

glVertex2i(56,48);

glVertex2i(65,48);

glEnd();

//glFlush ();

//door

glBegin(GL\_QUADS);

glColor3f (0, 0,0);

glVertex2i(35,36);

glVertex2i(35,38);

glVertex2i(40,36);

glVertex2i(40,38);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1, 1,1);

glVertex2i(15,32);

glVertex2i(20,35);

glVertex2i(70,35);

glVertex2i(70,32);

glEnd();

//glFlush ();

//red

glBegin(GL\_POLYGON);

glColor3f (1, 0,0);

glVertex2i(13,30);

glVertex2i(15,32);

glVertex2i(70,32);

glVertex2i(70,30);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f(0,0,0);

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

{

float angle = i\*3.1416/180;

glVertex2f(30+cos(angle)\*1,15+sin(angle)\*1);

}

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f(1,1,1);

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

{

float angle = i\*3.1416/180;

glVertex2f(30+cos(angle)\*.5,15+sin(angle)\*0.5);

}

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1, 1,1);

glVertex2i(10,15);

glVertex2i(13,30);

glVertex2i(70,30);

glVertex2i(70,15);

glEnd();

//glFlush ();

//light

glBegin(GL\_POLYGON);

glColor3f (1.2, 0.2,0.2);

glVertex2i(11.3,22.0);

glVertex2i(12,26);

glVertex2i(14,26);

glVertex2i(14,22);

glEnd();

//glFlush ();

//light 2

glBegin(GL\_POLYGON);

glColor3f (1.2, 0.2,0.2);

glVertex2f(68,22.0);

glVertex2i(68,26);

glVertex2i(70,26);

glVertex2i(70,22);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1.2, 1.2,0.2);

glVertex2i(68,26);

glVertex2i(68,29);

glVertex2i(70,29);

glVertex2i(70,26);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0.3,0.3,0.3);

glVertex2i(9,15);

glVertex2i(9,20);

glVertex2i(20,20);

glVertex2i(20,15);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0.3,0.3,0.3);

glVertex2i(66,15);

glVertex2i(66,20);

glVertex2i(71,20);

glVertex2i(71,15);

glEnd();

//glFlush ();

//1

glBegin(GL\_POLYGON);

glColor3f (0.3,0.3,0.3);

glVertex2i(34,65);

glVertex2i(35,66);

glVertex2i(38,66);

glVertex2i(39,65);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0,0,1);

glVertex2i(35,66);

glVertex2i(35,69);

glVertex2i(38,69);

glVertex2i(38,66);

glEnd();

//glFlush ();

//wheel front

drawCircle(25, 12,

0, 0, 0, //sun motion

7, 14,

.9);

drawCircle(25, 12,

112, 128, 144, //sun motion

7, 14,

.6);

drawCircle(25, 12,

0, 0, 0, //sun motion

7, 14,

.1);

//wheel back

drawCircle(60, 12,

0, 0, 0, //sun motion

7, 14,

.9);

drawCircle(60, 12,

112, 128, 144, //sun motion

7, 14,

.6);

drawCircle(60, 12,

0, 0, 0, //sun motion

7, 14,

.1);

glPopMatrix();

}

void PoliceCar(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy)

{

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3f (1, 1,1);

glVertex2i(0,20);

glVertex2i(3,30);

glVertex2i(95,30);

glVertex2i(100,20);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0.8, 0.8,0.8);

glVertex2i(3,30);

glVertex2i(4,32);

glVertex2i(94,32);

glVertex2i(95,30);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1, 1,1);

glVertex2i(4,32);

glVertex2i(6,40);

glVertex2i(87,40);

glVertex2i(93,32);

glEnd();

//glFlush ();

//blue

glBegin(GL\_POLYGON);

glColor3f (0.7, 0.7,1.7);

glVertex2i(93,32);

glVertex2i(90.8,35);

glVertex2i(88,35);

glVertex2i(88,32);

glEnd();

//glFlush ();

//red

glBegin(GL\_POLYGON);

glColor3f (1.5, 0.5,0.5);

glVertex2i(88,32);

glVertex2i(88,35);

glVertex2i(86,35);

glVertex2i(86,32);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1.5, 0.5,0.5);

glVertex2i(4,32);

glVertex2i(4.8,35);

glVertex2i(7,35);

glVertex2i(7,32);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1,1,1);

glVertex2i(15,40);

glVertex2i(25,60);

glVertex2i(62,60);

glVertex2i(75,40);

glEnd();

//glFlush ();

//glass1

glBegin(GL\_POLYGON);

glColor3f (0.5, 0.5,1.5);

glVertex2i(18,40);

glVertex2i(26,57);

glVertex2i(43,57);

glVertex2i(43,40);

glEnd();

//glFlush ();

glBegin(GL\_LINE\_STRIP);

glColor3f (0, 0,0);

glVertex2i(18,40);

glVertex2i(26,57);

glVertex2i(43,57);

glVertex2i(43,40);

glEnd();

//glFlush ();

//glass2

glBegin(GL\_POLYGON);

glColor3f (0.5, 0.5,1.5);

glVertex2i(46,40);

glVertex2i(46,57);

glVertex2i(62,57);

glVertex2i(73,40);

glEnd();

//glFlush ();

glBegin(GL\_LINE\_STRIP);

glColor3f (0, 0,0);

glVertex2i(46,40);

glVertex2i(46,57);

glVertex2i(62,57);

glVertex2i(73,40);

glEnd();

//glFlush ();

//Door1

glBegin(GL\_LINE\_STRIP);

glColor3f (0, 0,0);

glVertex2i(18,40);

glVertex2i(18,20);

glVertex2i(43,20);

glVertex2i(43,40);

glEnd();

//glFlush ();

//Door2

glBegin(GL\_LINE\_STRIP);

glColor3f (0, 0,0);

glVertex2i(46,40);

glVertex2i(46,20);

glVertex2i(73,20);

glVertex2i(73,40);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0.3, 0.3,0.3);

glVertex2i(54,60);

glVertex2i(56,61);

glVertex2i(58,61);

glVertex2i(60,60);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (0, 0,1);

glVertex2i(52,61);

glVertex2i(52,65);

glVertex2i(61,65);

glVertex2i(61,61);

glEnd();

//glFlush ();

glBegin(GL\_QUADS);

glColor3f (1, 0,0);

glVertex2i(55,61);

glVertex2i(55,65);

glVertex2i(58,65);

glVertex2i(58,61);

glEnd();

//glFlush ();

//blue

glBegin(GL\_POLYGON);

glColor3f (0.3, 0.3,1.3);

glVertex2i(8,32);

glVertex2i(8,38);

glVertex2i(85,38);

glVertex2i(85,32);

glEnd();

//glFlush ();

//P

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2i(20,33);

glVertex2i(20,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(20,37);

glVertex2d(23,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(23,37);

glVertex2d(23,35);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(23,35);

glVertex2d(20,35);

glEnd();

//glFlush ();

//O

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(25,33);

glVertex2d(25,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(25,37);

glVertex2d(28,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(28,37);

glVertex2d(28,33);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(28,33);

glVertex2d(25,33);

glEnd();

//glFlush ();

//L

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(30,33);

glVertex2d(30,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(30,33);

glVertex2d(33,33);

glEnd();

//glFlush ();

//I

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(35,33);

glVertex2d(35,37);

glEnd();

//glFlush ();

//C

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(37,37);

glVertex2d(39,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(37,33);

glVertex2d(37,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(37,33);

glVertex2d(39,33);

glEnd();

//glFlush ();

//E

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(41,37);

glVertex2d(44,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(41,33);

glVertex2d(41,37);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(41,35);

glVertex2d(43,35);

glEnd();

//glFlush ();

glBegin(GL\_LINES);

glColor3f (0,0,0);

glVertex2d(41,33);

glVertex2d(44,33);

glEnd();

//glFlush ();

//Star

glBegin(GL\_TRIANGLES);

glColor3f (1,1,0);

glVertex2d(60,37);

glVertex2d(62,36);

glVertex2d(58,36);

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLES);

glColor3f (1,1,0);

glVertex2d(58,36);

glVertex2d(55,35);

glVertex2d(57,34);

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLES);

glColor3f (1,1,0);

glVertex2d(57,34);

glVertex2d(60,33.5);

glVertex2d(55,32.5);

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLES);

glColor3f (1,1,0);

glVertex2d(60,33.5);

glVertex2d(65,32.5);

glVertex2d(63,34);

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLES);

glColor3f (1,1,0);

glVertex2d(63,34);

glVertex2d(65,35);

glVertex2d(62,36);

glEnd();

//glFlush ();

glBegin(GL\_POLYGON);

glColor3f (1, 1,0);

glVertex2d(57,34);

glVertex2d(58,36);

glVertex2d(63,36);

glVertex2d(64,33);

glEnd();

//glFlush ();

//wheel1

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0,0,0);

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

{

float angle = i\*3.1416/180;

glVertex2f(20+cos(angle)\*10,15+sin(angle)\*10);

}

glEnd();

// glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0.5,0.5,0.5);

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

{

float angle = i\*3.1416/180;

glVertex2f(20+cos(angle)\*8,15+sin(angle)\*8);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0.8,0.8,0.8);

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

{

float angle = i\*3.1416/180;

glVertex2f(20+cos(angle)\*5.5,15+sin(angle)\*5.5);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0.2,0.2,0.2);

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

{

float angle = i\*3.1416/180;

glVertex2f(20+cos(angle)\*5,15+sin(angle)\*5);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(1,1,1);

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

{

float angle = i\*3.1416/180;

glVertex2f(20+cos(angle)\*1.5,15+sin(angle)\*1.5);

}

glEnd();

//glFlush ();

//wheel2

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0,0,0);

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

{

float angle = i\*3.1416/180;

glVertex2f(67+cos(angle)\*10,15+sin(angle)\*10);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0.5,0.5,0.5);

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

{

float angle = i\*3.1416/180;

glVertex2f(67+cos(angle)\*8,15+sin(angle)\*8);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0.8,0.8,0.8);

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

{

float angle = i\*3.1416/180;

glVertex2f(67+cos(angle)\*5.5,15+sin(angle)\*5.5);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(0.2,0.2,0.2);

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

{

float angle = i\*3.1416/180;

glVertex2f(67+cos(angle)\*5,15+sin(angle)\*5);

}

glEnd();

//glFlush ();

glBegin(GL\_TRIANGLE\_FAN);

glColor3f(1.5,1.5,1.5);

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

{

float angle = i\*3.1416/180;

glVertex2f(67+cos(angle)\*1.5,15+sin(angle)\*1.5);

}

glEnd();

//glFlush ();

glPopMatrix();

}

void drawDoctors(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy)

{

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub (0,255,250);

glVertex2i(605,245);

glVertex2i(670,245); //PETAIENT

glVertex2i(671,265);

glVertex2i(605,265);

glEnd();

drawHumam(600, 295,

0.25, 0.45,

255, 250, 255);

drawHumam(670, 295,

0.25, 0.45,

255, 250, 255);

glBegin(GL\_POLYGON);

glColor3ub (255,0,0);

glVertex2i(605,265);

glVertex2i(595,265);

glVertex2i(595,260);

glVertex2i(605,260); //red doctor sign

glEnd();

glBegin(GL\_POLYGON);

glColor3ub (255,0,0);

glVertex2i(602,270);

glVertex2i(598,270);

glVertex2i(598,255);

glVertex2i(602,255);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub (255,0,0);

glVertex2i(675,265);

glVertex2i(665,265);

glVertex2i(665,260);

glVertex2i(675,260); //red doctor sign

glEnd();

glBegin(GL\_POLYGON);

glColor3ub (255,0,0);

glVertex2i(672,270);

glVertex2i(668,270);

glVertex2i(668,255);

glVertex2i(672,255);

glEnd();

glPopMatrix();

}

void rain()

{

glLineWidth(3);

for(int i=0;i<1000;i++)

{

int x=rand()%1080;

int y=rand()%1000;

glBegin(GL\_LINES);

glColor3ub (255,255,255);

glVertex2i(x,y);

glVertex2i(x+5,y-10);

glEnd();

}

}

void lampPost(GLfloat tx, GLfloat ty,

GLfloat sx, GLfloat sy,

GLfloat light\_r, GLfloat light\_g,GLfloat light\_b)

{

glPushMatrix();

glTranslatef(tx, ty, 0);

glScalef(sx, sy, 0);

glBegin(GL\_POLYGON);

glColor3ub (0,0,0);

glVertex2i(52,320); //handel

glVertex2i(58,320);

glVertex2i(58,230);

glVertex2i(52,230);

glEnd();

drawCircle(55, 320,

light\_r,light\_g,light\_b, //light

7, 14,

2);

glPopMatrix();

}

void NightView()

{

glClear (GL\_COLOR\_BUFFER\_BIT);

//glColor3ub (128, 128, 128);

glPointSize(5.0);

drawBackgroundNight(0,110,

1,1.2);

glPushMatrix();

glTranslatef(sunXAxis,0.0f,0.0f);

drawCircle(1050, 900,

255, 255, 255, //moon motion

7, 14,

5);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud1Position,0.0f,0.0f);

DrawCould(-800,500, //first cloud motion

2,1);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud2Position,0.0f,0.0f);

DrawCould(100,500, //third cloud motion

1.5,.8);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud3Position,0.0f,0.0f);

DrawCould(100,580, //second cloud motion

1,.8);

glPopMatrix();

PS\_drawRoad(-2000,-600,

6,3);

building(0,65,

1.5,1.4);

drawHospital(5,110,

.35,.9);

DrawUnivarsity(-150,-430,

1.5,1.7);

drawSchool(200,130,

0.4,0.8);

signBoard(-70,40,

1,1);

glPushMatrix();

glTranslatef(humanPosition1,0.0f,0.0f);

drawHumam(420, 305,

0.2, 0.35,

255, 250, 0);

glPopMatrix();

/\*glPushMatrix();

glTranslatef(humanPosition2,0.0f,0.0f);

drawHumam(350, 305,

0.2, 0.35,

255, 0, 250);\*/

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition3,0.0f,0.0f);

drawHumam(290, 305,

0.2, 0.35,

0, 0, 250);

glPopMatrix();

/\*glPushMatrix();

glTranslatef(humanPosition4,0.0f,0.0f);

drawHumam(220, 305,

0.2, 0.35,

150, 10, 100);\*/

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition5,0.0f,0.0f);

drawHumam(150, 305,

0.2, 0.35,

255, 0, 0);

glPopMatrix();

drawTree(100,245, //tree

.2,.45);

drawTree(200,245, //tree

.2,.45);

drawTree(650,245, //tree

.2,.45);

drawTree(700,245, //tree

.2,.45);

for(int i=0;i<=1000;i+=100)

{

lampPost(i,0,

1,1,

255,255,0);

}

glPushMatrix();

glTranslatef(doctorPosition,0.0f,0.0f);

drawDoctors(0,0,

1,1);

glPopMatrix();

glPushMatrix();

glTranslatef(ambulancePosition,0.0f,0.0f);

glBegin(GL\_POLYGON);

glColor3ub (255,255,0);

glVertex2i(360,190);

glVertex2i(450,170);

//head light

glVertex2i(550,200);

glVertex2i(550,210);

glEnd();

Ambulance(500,150,

3,2.8);

glPopMatrix();

glPushMatrix();

glTranslatef(policecarPosition1,0.0f,0.0f);

glBegin(GL\_POLYGON);

glColor3ub (255,255,0);

glVertex2i(730,70);

glVertex2i(850,20); //head light

glVertex2i(950,30);

glVertex2i(700,90);

glEnd();

PoliceCar(500,20,

2.5,2.5);

glPopMatrix();

glEnd();

glPushMatrix();

glTranslatef(policecarPosition2,0.0f,0.0f);

glBegin(GL\_POLYGON);

glColor3ub (255,255,0);

glVertex2i(230,70);

glVertex2i(350,20); //head light

glVertex2i(450,30);

glVertex2i(200,90);

glEnd();

PoliceCar(0,10,

2.5,2.5); //police car

glPopMatrix();

glFlush();

}

void RainView()

{

glClear (GL\_COLOR\_BUFFER\_BIT);

glPointSize(5.0);

drawBackgroundRain(0,110,

1,1.2);

glPushMatrix();

glTranslatef(cloud1Position,0.0f,0.0f);

DrawCouldRain(-800,500, //first cloud motion

2,1);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud2Position,0.0f,0.0f);

DrawCouldRain(100,500, //third cloud motion

1.5,.8);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud3Position,0.0f,0.0f);

DrawCouldRain(100,580, //second cloud motion

1,.8);

glPopMatrix();

PS\_drawRoad(-2000,-600,

6,3);

building(0,65,

1.5,1.4);

drawHospital(5,110,

.35,.9);

DrawUnivarsity(-150,-430,

1.5,1.7);

drawSchool(200,130,

0.4,0.8);

signBoard(-70,40,

1,1);

/\*glPushMatrix();

glTranslatef(humanPosition1,0.0f,0.0f);

drawHumam(420, 305,

0.2, 0.35,

255, 250, 0);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition2,0.0f,0.0f);

drawHumam(350, 305,

0.2, 0.35,

255, 0, 250);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition3,0.0f,0.0f);

drawHumam(290, 305,

0.2, 0.35,

0, 0, 250);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition4,0.0f,0.0f);

drawHumam(220, 305,

0.2, 0.35,

150, 10, 100);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition5,0.0f,0.0f);

drawHumam(150, 305,

0.2, 0.35,

255, 0, 0);

glPopMatrix();

\*/

drawTree(100,245, //tree

.2,.45);

drawTree(200,245, //tree

.2,.45);

drawTree(650,245, //tree

.2,.45);

drawTree(700,245, //tree

.2,.45);

for(int i=0;i<=1000;i+=100)

{

lampPost(i,0,

1,1,

176,224,230);

}

/\*glPushMatrix();

glTranslatef(doctorPosition,0.0f,0.0f);

drawDoctors(0,0,

1,1);

glPopMatrix();

\*/

glPushMatrix();

glTranslatef(humanPosition,0.0f,0.0f);

drawHumam(150, 250,

0.2, 0.35,

255, 0, 0);

drawSemiCircle(150, 255, //man walking in rain

5.2, 11.1,

50,50,50,

5,

-90, 90);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition,0.0f,0.0f);

drawHumam(420, 250,

0.2, 0.35,

255, 250, 0);

drawSemiCircle(420, 255, //man walking in rain

5.2, 11.1,

50,50,50,

5,

-90, 90);

glPopMatrix();

glPushMatrix();

glTranslatef(ambulancePosition,0.0f,0.0f);

Ambulance(500,150, //ambulance

3,2.8);

glPopMatrix();

glPushMatrix();

glTranslatef(policecarPosition1,0.0f,0.0f);

PoliceCar(500,20,

2.5,2.5); //police car

glPopMatrix();

glEnd();

glPushMatrix();

glTranslatef(policecarPosition2,0.0f,0.0f);

PoliceCar(0,10, //police car

2.5,2.5);

glPopMatrix();

rain();

glEnd();

glFlush();

}

void DayView()

{

glClear (GL\_COLOR\_BUFFER\_BIT);

glPointSize(5.0);

drawBackground(0,110,

1,1.2);

glPushMatrix();

glTranslatef(sunXAxis,0.0f,0.0f);

drawCircle(1050, 900,

250, 250, 0, //sun motion

7, 14,

5);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud1Position,0.0f,0.0f);

DrawCould(-800,500, //first cloud motion

2,1);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud2Position,0.0f,0.0f);

DrawCould(100,500, //third cloud motion

1.5,.8);

glPopMatrix();

glPushMatrix();

glTranslatef(cloud3Position,0.0f,0.0f);

DrawCould(100,580, //second cloud motion

1,.8);

glPopMatrix();

PS\_drawRoad(-2000,-600,

6,3);

building(0,65,

1.5,1.4);

drawHospital(5,110,

.35,.9);

DrawUnivarsity(-150,-430,

1.5,1.7);

drawSchool(200,130,

0.4,0.8);

signBoard(-70,40,

1,1);

glPushMatrix();

glTranslatef(humanPosition1,0.0f,0.0f);

drawHumam(420, 305,

0.2, 0.35,

255, 250, 0);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition2,0.0f,0.0f);

drawHumam(350, 305,

0.2, 0.35,

255, 0, 250);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition3,0.0f,0.0f);

drawHumam(290, 305,

0.2, 0.35,

0, 0, 250);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition4,0.0f,0.0f);

drawHumam(220, 305,

0.2, 0.35,

150, 10, 100);

glPopMatrix();

glPushMatrix();

glTranslatef(humanPosition5,0.0f,0.0f);

drawHumam(150, 305,

0.2, 0.35,

255, 0, 0);

glPopMatrix();

drawTree(100,245, //tree

.2,.45);

drawTree(200,245, //tree

.2,.45);

drawTree(650,245, //tree

.2,.45);

drawTree(700,245, //tree

.2,.45);

for(int i=0;i<=1000;i+=100)

{

lampPost(i,0,

1,1,

176,224,230);

}

glPushMatrix();

glTranslatef(doctorPosition,0.0f,0.0f);

drawDoctors(0,0,

1,1);

glPopMatrix();

glPushMatrix();

glTranslatef(ambulancePosition,0.0f,0.0f);

Ambulance(500,150,

3,2.8);

glPopMatrix();

glPushMatrix();

glTranslatef(policecarPosition1,0.0f,0.0f);

PoliceCar(500,20,

2.5,2.5); //police car

glPopMatrix();

glEnd();

glPushMatrix();

glTranslatef(policecarPosition2,0.0f,0.0f);

PoliceCar(0,10, //police car

2.5,2.5);

glPopMatrix();

glFlush();

}

void update(int value) {

cloud1Position+=cloud1speed;

cloud2Position+=cloud2speed;

cloud3Position+=cloud3speed;

sunXAxis-=sunspeed;

ambulancePosition-=ambulacespeed;

doctorPosition-=doctorspeed;

humanPosition1+=humanspeed;

humanPosition2+=humanspeed+.08;

humanPosition3+=humanspeed+.05;

humanPosition4+=humanspeed+.08;

humanPosition5+=humanspeed+.09;

humanPosition+=humanspeed+.5;

policecarPosition1+=policecarspeed+1;

policecarPosition2+=policecarspeed+2;

// printf("%f\n",policecarPosition1);

if(sunXAxis<-1100) //sun reassign position

{

sunXAxis=0;

}

if(cloud1Position>1000) //cloud 1 reassign position

{

cloud1Position=-400;

}

if(cloud2Position>250) //cloud 2 reassign position

{

cloud2Position=-1000;

}

if(cloud3Position>500) //cloud 3 reassign position

{

cloud3Position=-700;

}

if(ambulancePosition<-750)

{

ambulancePosition=600; //ambulance position reassign

}

if(ambulancePosition>0 && ambulancePosition<1)

{

ambulancePosition+=2.79; //ambulance break

doctorPosition=0;

}

if(doctorPosition<-115)

{

doctorPosition=ambulancePosition; //doctor motion

}

if(humanPosition1>50)

{

humanPosition1=-500; //firse human

}

if(humanPosition2-70>50)

{

humanPosition2=-430; // second human;

}

if(humanPosition3-140>50)

{

humanPosition3=-360; // trird human;

}

if(humanPosition4-210>50)

{

humanPosition4=-300; // fourth human;

}

if(humanPosition5-280>50)

{

humanPosition5=-250; // fifth human;

}

if(humanPosition>800)

{

humanPosition=-450; // fifth human;

}

if(policecarPosition1>500)

{

policecarPosition1=-1000; //police car motion

}

if(policecarPosition2>1000)

{

policecarPosition2=-500; //police car motion

}

glutPostRedisplay();

glutTimerFunc(1, update, 0);

}

void display(void)

{

glClear (GL\_COLOR\_BUFFER\_BIT);

//glColor3ub (128, 128, 128);

glPointSize(5.0);

DayView();

glEnd();

glFlush ();

}

void handleKeypress(unsigned char key, int x, int y) {

switch (key) {

break;

case 'd':

// PlaySound(NULL,0,0);

//PlaySound(TEXT("ambulance.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

// PlaySound(TEXT("police.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(DayView);

break;

case 'n':

// PlaySound(NULL,0,0);

// PlaySound(TEXT("ambulance.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(NightView);

break;

break;

case 'r':

// PlaySound(NULL,0,0);

// PlaySound(TEXT("rain.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(RainView);

break;

default:

glutPostRedisplay();

break;

}

}

void handleMouse(int button, int state, int x, int y) {

if (button == GLUT\_LEFT\_BUTTON)

{

// PlaySound(NULL,0,0);

//PlaySound(TEXT("ambulance.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(NightView);

}

if (button == GLUT\_RIGHT\_BUTTON)

{

// PlaySound(NULL,0,0);

//PlaySound(TEXT("ambulance.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

// PlaySound(TEXT("police.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(DayView);

}

if (button == GLUT\_MIDDLE\_BUTTON)

{

// PlaySound(NULL,0,0);

// PlaySound(TEXT("rain.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(RainView);

}

}

void init() {

glClearColor(0.0,0.0,0.0,0.0);

glColor3f(0.0,0.0,0.5);

glPointSize(4.0);

gluOrtho2D(0.0,1000.0,0.0,1000.0);

}

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

{

printf("\nEnter 'd' for day view.");

printf("\nEnter 'n' for night view.");

printf("\nEnter 'r' for rain view.");

glutInit(&argc, argv);

glutInitDisplayMode(GLUT\_SINGLE| GLUT\_RGB | GLUT\_DEPTH);

glutInitWindowSize(1200, 600);

glutCreateWindow("LOCKDOWN VIEW"); // creating the window

//glutFullScreen(); // making the window full screen

//glutInitWindowPosition(0,0);

//PlaySound(TEXT("police.wav"), NULL, SND\_ASYNC|SND\_FILENAME|SND\_LOOP);

glutDisplayFunc(DayView);

init();

glutTimerFunc(1, update, 0);

glutKeyboardFunc(handleKeypress);

glutMouseFunc(handleMouse);

//glutTimerFunc(10, update, 0);

glutMainLoop();

return 0;

}