#include <GL/gl.h>

#include <GL/glut.h>

#include<math.h>

#include<stdio.h>

# define PI 3.14159265358979323846

#include<windows.h>

#include <mmsystem.h>

GLfloat position = 0.0f; //car

GLfloat speed = 0.03f;

GLfloat position1 = 0.0f; //clouds plane

GLfloat speed1 = 0.02f;

GLfloat position2 = 0.0f; //boat

GLfloat speed2 = 0.008f;

GLfloat position3 = 0.0f; //balloon

GLfloat speed3 = 0.02f;

GLfloat speed4 = 0.0f; //day night time update

GLfloat positionRain= 0.0f;

GLfloat speedRain= 0.01f;

void rain() //horizontal row rain

{

glLineWidth(1);

glBegin(GL\_LINES);

glColor3ub(255,255,255);

glVertex2f(1.0,1.0);

glVertex2f(0.995,0.975);

glVertex2f(0.960,1.0);

glVertex2f(0.955,0.975);

glVertex2f(0.920,1.0);

glVertex2f(0.915,0.98);

glVertex2f(0.880,1.0);

glVertex2f(0.875,0.98);

glVertex2f(0.840,1.0);

glVertex2f(0.835,0.98);

glVertex2f(0.800,1.0);

glVertex2f(0.795,0.98);

glVertex2f(0.760,1.0);

glVertex2f(0.755,0.98);

glVertex2f(0.720,1.0);

glVertex2f(0.715,0.98);

glVertex2f(0.680,1.0);

glVertex2f(0.675,0.98);

glVertex2f(0.640,1.0);

glVertex2f(0.635,0.98);

glVertex2f(0.600,1.0);

glVertex2f(0.595,0.98);

glVertex2f(0.560,1.0);

glVertex2f(0.555,0.98);

glVertex2f(0.520,1.0);

glVertex2f(0.515,0.98);

glVertex2f(0.480,1.0);

glVertex2f(0.475,0.98);

glVertex2f(0.440,1.0);

glVertex2f(0.435,0.98);

glVertex2f(0.400,1.0);

glVertex2f(0.395,0.98);

glVertex2f(0.360,1.0);

glVertex2f(0.355,0.98);

glVertex2f(0.320,1.0);

glVertex2f(0.315,0.98);

glVertex2f(0.280,1.0);

glVertex2f(0.275,0.98);

glVertex2f(0.240,1.0);

glVertex2f(0.235,0.98);

glVertex2f(0.200,1.0);

glVertex2f(0.195,0.98);

glVertex2f(0.160,1.0);

glVertex2f(0.155,0.98);

glVertex2f(0.120,1.0);

glVertex2f(0.115,0.98);

glVertex2f(0.080,1.0);

glVertex2f(0.075,0.98);

glVertex2f(0.040,1.0);

glVertex2f(0.035,0.98);

glVertex2f(0.000,1.0);

glVertex2f(-0.005,0.98);

glVertex2f(-0.040,1.0);

glVertex2f(-0.045,0.98);

glVertex2f(-0.080,1.0);

glVertex2f(-0.085,0.98);

glVertex2f(-0.120,1.0);

glVertex2f(-0.125,0.98);

glVertex2f(-0.160,1.0);

glVertex2f(-0.165,0.98);

glVertex2f(-0.200,1.0);

glVertex2f(-0.205,0.98);

glVertex2f(-0.240,1.0);

glVertex2f(-0.245,0.98);

glVertex2f(-0.280,1.0);

glVertex2f(-0.285,0.98);

glVertex2f(-0.320,1.0);

glVertex2f(-0.325,0.98);

glVertex2f(-0.360,1.0);

glVertex2f(-0.365,0.98);

glVertex2f(-0.400,1.0);

glVertex2f(-0.405,0.98);

glVertex2f(-0.440,1.0);

glVertex2f(-0.445,0.98);

glVertex2f(-0.480,1.0);

glVertex2f(-0.485,0.98);

glVertex2f(-0.520,1.0);

glVertex2f(-0.525,0.98);

glVertex2f(-0.560,1.0);

glVertex2f(-0.565,0.98);

glVertex2f(-0.600,1.0);

glVertex2f(-0.605,0.98);

glVertex2f(-0.640,1.0);

glVertex2f(-0.645,0.98);

glVertex2f(-0.680,1.0);

glVertex2f(-0.685,0.98);

glVertex2f(-0.720,1.0);

glVertex2f(-0.725,0.98);

glVertex2f(-0.760,1.0);

glVertex2f(-0.765,0.98);

glVertex2f(-0.800,1.0);

glVertex2f(-0.805,0.98);

glVertex2f(-0.840,1.0);

glVertex2f(-0.845,0.98);

glVertex2f(-0.880,1.0);

glVertex2f(-0.885,0.98);

glVertex2f(-0.920,1.0);

glVertex2f(-0.925,0.98);

glVertex2f(-0.960,1.0);

glVertex2f(-0.965,0.98);

glEnd();

}

void fullrain()

{

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glTranslatef(0.0,-0.15,0.0);

rain();

glFlush();

}

void rainAnimation()

{

glPushMatrix();

glTranslatef(positionRain, positionRain, 0.0f);

fullrain();

glPopMatrix();

}

void updateRain(int value)

{

if(positionRain < -0.02f)

{

positionRain = 0.02f;

}

positionRain -= speedRain;

glutPostRedisplay();

glutTimerFunc(100, updateRain, 0);

}

//update----------------------------------------------only----------------------

void update(int value) {

if (position <-3.0)

position = 1.0f;

position -= speed; //car going -x axis

glutPostRedisplay();

glutTimerFunc(100, update, 0);

}

//update------------------------------1----------------------------------------

void update1(int value) {

if (position1<-1.5)

position1 = 1.0f;

position1 -= speed1; //clouds and plane going -x axis

glutPostRedisplay();

glutTimerFunc(100, update1, 0);

}

//update----------------------2----------------------------------------------------

void update2(int value) {

if (position2<-2.0)

position2 = 1.0f;

position2 -= speed2; //boat going -x axis

glutPostRedisplay();

glutTimerFunc(100, update2, 0);

}

//update------------------------------3----------------------------------------------------

void update3(int value) {

if (position3 >1.0)

position3 = -1.0f;

position3 += speed3; // balloon going +y axis

glutPostRedisplay();

glutTimerFunc(100, update3, 0);

}

//-----------------------------optional----------------------------------------------------

//-------------------------------------------------------------------------------------------------------

void Idle(){

glutPostRedisplay();//// marks the current window as needing to be redisplayed

}

void SpecialInput(int key, int x, int y)

{

switch (key)

{

case GLUT\_KEY\_UP:

glutTimerFunc(100, update2, 0);

speed2 += 0.001;

break;

case GLUT\_KEY\_DOWN:

speed2 = 0;

break;

case GLUT\_KEY\_LEFT:

glutTimerFunc(100, update, 0);

glutTimerFunc(100, update1, 0);

glutTimerFunc(100, update3, 0);

speed += 0.001;

speed1 += 0.001;

speed3 += 0.001;

break;

case GLUT\_KEY\_RIGHT:

speed = 0;

speed1 = 0;

speed3 = 0;

break;

}

glutPostRedisplay();

}

void day()

{

glClear(GL\_COLOR\_BUFFER\_BIT);

glClearColor(0.0f, 0.745f, 1.0f, 1.0f); // Set background color to black and opaque

//glClear(GL\_COLOR\_BUFFER\_BIT);

//gluOrtho2D(-2.0,2.0,-2.0,2.0);

glPushMatrix();

//glTranslatef(6,0,0);

//Sun//

glTranslatef(0.8, 0.8, 0.0);

glColor3f(1.0, 1.0, 0.0);

glBegin(GL\_POLYGON);

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

{

float pi = 3.1416;

float A = (i \* 2 \* pi) / 100;

float r = 0.06;

float x = r \* cos(A);

float y = r \* sin(A);

glVertex2f(x, y);

}

glEnd();

glPopMatrix();

////Sunrays////

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.8, 0.6);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.7, 0.6);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.9, 0.6);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.8, 1.0);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.9, 1.0);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.7, 1.0);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(1.2, 1.0);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(1.0, 0.8);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(1.0, 0.6);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.5, 0.7);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.5, 0.5);

glEnd();

glBegin(GL\_LINES);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.8, 0.8);

glVertex2f(0.5, 0.9);

glEnd();

//--------Road-----------------------------

glBegin(GL\_QUADS);//road

glColor3f(0.698, 0.745, 0.7098);

glVertex2f(-1.0, -.3);

glVertex2f(1.0, -.3);

glVertex2f(1.0, 0.0);

glVertex2f(-1.0, 0.0);

glEnd();

//--------------------water-------------------------------

glBegin(GL\_QUADS);//water

glColor3ub(65, 108, 198);

glVertex2f(-1.0, -1.0);

glVertex2f(1.0, -1.0);

glVertex2f(1.0, -.3);

glVertex2f(-1.0, -.3);

glEnd();

//-----------------petronous tower-----------------------

glBegin(GL\_QUADS);// petronas tower lower left

glColor3ub(25, 0, 51);

glVertex2f(-.35, 0.0);

glVertex2f(-.30, 0.0);

glVertex2f(-.30, .30);

glVertex2f(-.35, .30);

glEnd();

//glColor3ub(229,204,255);

glBegin(GL\_QUADS);// petronas tower lower left ,window

glColor3ub(229, 204, 255);

glVertex2f(-.335, 0.10);

glVertex2f(-.315, 0.10);

glVertex2f(-.315, .15);

glVertex2f(-.335, .15);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower left ,window

glColor3ub(229, 204, 255);

glVertex2f(-.335, 0.18);

glVertex2f(-.315, 0.18);

glVertex2f(-.315, .23);

glVertex2f(-.335, .23);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower right

glColor3ub(25, 0, 51);

glVertex2f(-.22, 0.0);

glVertex2f(-.17, 0.0);

glVertex2f(-.17, .30);

glVertex2f(-.22, .30);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower right ,window

glColor3ub(229, 204, 255);

glVertex2f(-.205, 0.10);

glVertex2f(-.185, 0.10);

glVertex2f(-.185, .15);

glVertex2f(-.205, .15);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower right ,window

glColor3ub(229, 204, 255);

glVertex2f(-.205, 0.18);

glVertex2f(-.185, 0.18);

glVertex2f(-.185, .23);

glVertex2f(-.205, .23);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower middle

glColor3ub(25, 0, 51);

glVertex2f(-.30, .15);

glVertex2f(-.22, 0.15);

glVertex2f(-.22, .20);

glVertex2f(-.30, .20);

glEnd();

glBegin(GL\_QUADS);// petronas tower upper left

glColor3ub(25, 0, 51);

glVertex2f(-.345, .30);

glVertex2f(-.305, 0.30);

glVertex2f(-.305, .45);

glVertex2f(-.345, .45);

glEnd();

glBegin(GL\_QUADS);// petronas tower upper right

glColor3ub(25, 0, 51);

glVertex2f(-.215, .30);

glVertex2f(-.175, 0.30);

glVertex2f(-.175, .45);

glVertex2f(-.215, .45);

glEnd();

glBegin(GL\_TRIANGLES);//petronas left triangle

glColor3ub(25, 0, 51);

glVertex2f(-.345, .45);

glVertex2f(-.305, .45);

glVertex2f(-.325, .75);

glEnd();

glBegin(GL\_TRIANGLES);//petronas right triangle

glColor3ub(25, 0, 51);

glVertex2f(-.215, .45);

glVertex2f(-.175, .45);

glVertex2f(-.195, .75);

glEnd();

glPushMatrix();

//------cloud---------------------------------------

glTranslatef(position1, 0.0, 0.0);

GLfloat x = -.97f; GLfloat y = 0.88; GLfloat radius = .035f; //cloud1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

int i;

int lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

GLfloat twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = -.92f; y = 0.88; radius = .055f; //cloud1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = -.86f; y = 0.88; radius = .035f; //cloud1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = -.57f; y = 0.88; radius = .035f; //cloud2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = -.52f; y = 0.88; radius = .055f; //cloud2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = -.46f; y = 0.88; radius = .035f; //cloud2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = .46f; y = 0.88; radius = .035f; //cloud3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = .52f; y = 0.88; radius = .055f; //cloud3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = .57f; y = 0.88; radius = .035f; //cloud3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(61, 131, 231);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glPopMatrix();

glPushMatrix();

glTranslatef(.50, .30, 0.0);

glScalef(0.5, 0.5, 0.0);

glTranslatef(0.0, position3, 0.0);

glBegin(GL\_QUADS);//hot air balloon below green part

glColor3ub(76, 190, 28);

glVertex2f(.18, .2);

glVertex2f(.25, .2);

glVertex2f(.25, .25);

glVertex2f(.18, .25);

glEnd();

glBegin(GL\_LINES); //balloon below lines

glColor3f(0.0, 0.0, 0.0);

glVertex2f(.19, .25);

glVertex2f(.19, .30);

glVertex2f(.24, .25);

glVertex2f(.24, .30);

glEnd();

x = .215f; y = 0.35; radius = .052f; //balloon

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(124, 72, 158);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glLoadIdentity();

glPopMatrix();

glBegin(GL\_QUADS);//1st building

glColor3ub(64, 64, 64);

glVertex2f(-1.0, 0.0);

glVertex2f(-.92, 0.0);

glVertex2f(-.92, .2);

glVertex2f(-1.0, .2);

glEnd();

glBegin(GL\_QUADS);//1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.96, 0.07);

glVertex2f(-.94, 0.07);

glVertex2f(-.94, .1);

glVertex2f(-.96, .1);

glEnd();

glBegin(GL\_QUADS);//1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.96, 0.12);

glVertex2f(-.94, 0.12);

glVertex2f(-.94, .15);

glVertex2f(-.96, .15);

glEnd();

glBegin(GL\_QUADS);//2nd building

glColor3ub(64, 64, 64);

glVertex2f(-.91, 0.0);

glVertex2f(-.85, 0.0);

glVertex2f(-.85, .25);

glVertex2f(-.91, .25);

glEnd();

glBegin(GL\_QUADS);//2nd building window

glColor3ub(229, 204, 255);

glVertex2f(-.89, 0.07);

glVertex2f(-.87, 0.07);

glVertex2f(-.87, .1);

glVertex2f(-.89, .1);

glEnd();

glBegin(GL\_QUADS);//2nd building window

glColor3ub(229, 204, 255);

glVertex2f(-.89, 0.12);

glVertex2f(-.87, 0.12);

glVertex2f(-.87, .15);

glVertex2f(-.89, .15);

glEnd();

glBegin(GL\_QUADS);//2nd building window

glColor3ub(229, 204, 255);

glVertex2f(-.89, 0.18);

glVertex2f(-.87, 0.18);

glVertex2f(-.87, .21);

glVertex2f(-.89, .21);

glEnd();

glBegin(GL\_QUADS);//watch tower

glColor3ub(0, 102, 51);

glVertex2f(-.83, 0.0);

glVertex2f(-.80, 0.0);

glVertex2f(-.80, .15);

glVertex2f(-.83, .15);

glEnd();

glBegin(GL\_TRIANGLES);//watch tower head

glColor3ub(64, 64, 64);

glVertex2f(-.83, .15);

glVertex2f(-.80, .15);

glVertex2f(-.815, .25);

glEnd();

x = -.815f; y = 0.12; radius = .01f; //watch

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 255, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);//3rd building

glColor3ub(64, 64, 64);

glVertex2f(-.79, 0.0);

glVertex2f(-.74, 0.0);

glVertex2f(-.74, .25);

glVertex2f(-.79, .15);

glEnd();

glBegin(GL\_QUADS);//3rd building window

glColor3ub(229, 204, 255);

glVertex2f(-.77, 0.05);

glVertex2f(-.75, 0.05);

glVertex2f(-.75, .08);

glVertex2f(-.77, .08);

glEnd();

glBegin(GL\_QUADS);//3rd building window

glColor3ub(229, 204, 255);

glVertex2f(-.77, 0.09);

glVertex2f(-.75, 0.09);

glVertex2f(-.75, .12);

glVertex2f(-.77, .12);

glEnd();

glPushMatrix();

glTranslatef(position1, 0.0, 0.0);

glBegin(GL\_TRIANGLES);//plane front

glColor3ub(96, 96, 96);

glVertex2f(.38, .65);

glVertex2f(.40, .62);

glVertex2f(.40, .68);

glEnd();

glBegin(GL\_POLYGON);//plane body

glColor3ub(155, 153, 153);

glVertex2f(.40, .62);

glVertex2f(.49, .62);

glVertex2f(.52, .71);

glVertex2f(.50, .71);

glVertex2f(.49, .68);

glVertex2f(.40, .68);

glEnd();

glBegin(GL\_QUADS);//plane wing upper

glColor3ub(0, 153, 153);

glVertex2f(.44, .68);

glVertex2f(.46, .68);

glVertex2f(.47, .71);

glVertex2f(.45, .71);

glEnd();

glBegin(GL\_QUADS);//plane wing lower

glColor3ub(0, 153, 153);

glVertex2f(.44, .62);

glVertex2f(.46, .62);

glVertex2f(.47, .58);

glVertex2f(.45, .58);

glEnd();

glPopMatrix();

glBegin(GL\_QUADS);// left 1st building

glColor3ub(64, 64, 64);

glVertex2f(-.42, 0.0);

glVertex2f(-.37, 0.0);

glVertex2f(-.37, .30);

glVertex2f(-.42, .30);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(-.42, 0.30);

glVertex2f(-.37, 0.30);

glEnd();

glBegin(GL\_QUADS);// left 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.10);

glVertex2f(-.385, 0.10);

glVertex2f(-.385, .15);

glVertex2f(-.405, .15);

glEnd();

glBegin(GL\_QUADS);// left 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.18);

glVertex2f(-.385, 0.18);

glVertex2f(-.385, .23);

glVertex2f(-.405, .23);

glEnd();

glBegin(GL\_TRIANGLES);//left triangle

glColor3ub(64, 64, 64);

glVertex2f(-.42, .30);

glVertex2f(-.37, .30);

glVertex2f(-.395, .48);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left)

glColor3ub(64, 64, 64);

glVertex2f(-.58, 0.0);

glVertex2f(-.53, 0.0);

glVertex2f(-.53, .30);

glVertex2f(-.58, .28);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left) window

glColor3ub(229, 204, 255);

glVertex2f(-.565, 0.10);

glVertex2f(-.545, 0.10);

glVertex2f(-.545, .15);

glVertex2f(-.565, .15);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left) window

glColor3ub(229, 204, 255);

glVertex2f(-.565, 0.18);

glVertex2f(-.545, 0.18);

glVertex2f(-.545, .23);

glVertex2f(-.565, .23);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left)up

glColor3ub(64, 64, 64);

glVertex2f(-.57, 0.284);

glVertex2f(-.53, 0.30);

glVertex2f(-.53, .35);

glVertex2f(-.57, .33);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right)

glColor3ub(64, 64, 64);

glVertex2f(-.53, 0.0);

glVertex2f(-.48, 0.0);

glVertex2f(-.48, .28);

glVertex2f(-.53, .30);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right) window

glColor3ub(229, 204, 255);

glVertex2f(-.515, 0.10);

glVertex2f(-.495, 0.10);

glVertex2f(-.495, .15);

glVertex2f(-.515, .15);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right) window

glColor3ub(229, 204, 255);

glVertex2f(-.515, 0.18);

glVertex2f(-.495, 0.18);

glVertex2f(-.495, .23);

glVertex2f(-.515, .23);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right)up

glColor3ub(64, 64, 64);

glVertex2f(-.53, 0.30);

glVertex2f(-.49, 0.284);

glVertex2f(-.49, .33);

glVertex2f(-.53, .35);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(-.53, 0.0);

glVertex2f(-.53, 0.34);

glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.0, 0.0);

glVertex2f(.05, 0.0);

glVertex2f(.05, .20);

glVertex2f(0.0, .17);

glEnd();

glBegin(GL\_QUADS);// right 2nd building window

glColor3ub(229, 204, 255);

glVertex2f(0.0205, 0.10);

glVertex2f(.045, 0.10);

glVertex2f(.045, .15);

glVertex2f(0.0205, .15);

glEnd();

// glBegin(GL\_LINES);

// glColor3ub(255,255,255);

// glVertex2f(.05,0.0);

// glVertex2f(0.05,.20);

// glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.05, 0.0);

glVertex2f(.10, 0.0);

glVertex2f(.10, .20);

glVertex2f(0.05, .20);

glEnd();

glBegin(GL\_QUADS);// right 2nd building window

glColor3ub(229, 204, 255);

glVertex2f(0.075, 0.07);

glVertex2f(.095, 0.07);

glVertex2f(.095, .12);

glVertex2f(0.075, .12);

glEnd();

glBegin(GL\_QUADS);// right 2nd building window

glColor3ub(229, 204, 255);

glVertex2f(0.075, 0.15);

glVertex2f(.095, 0.15);

glVertex2f(.095, .20);

glVertex2f(0.075, .20);

glEnd();

// glBegin(GL\_LINES);

// glColor3ub(255,255,255);

// glVertex2f(.10,0.0);

// glVertex2f(0.10,.20);

// glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.10, 0.0);

glVertex2f(.15, 0.0);

glVertex2f(.15, .20);

glVertex2f(0.10, .20);

glEnd();

// glBegin(GL\_LINES);

// glColor3ub(255,255,255);

// glVertex2f(.15,0.0);

// glVertex2f(0.15,.20);

// glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.15, 0.0);

glVertex2f(.20, 0.0);

glVertex2f(.20, .17);

glVertex2f(0.15, .20);

glEnd();

glBegin(GL\_QUADS);// upper right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.05, 0.20);

glVertex2f(.10, 0.20);

glVertex2f(.10, .38);

glVertex2f(0.05, .38);

glEnd();

glBegin(GL\_QUADS);// upper right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.10, 0.20);

glVertex2f(.15, 0.20);

glVertex2f(.15, .38);

glVertex2f(0.10, .38);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(.10, 0.20);

glVertex2f(0.10, .38);

glEnd();

// glBegin(GL\_LINES);

// glColor3ub(255,255,255);

// glVertex2f(.05,0.20);

// glVertex2f(0.15,.20);

// glEnd();

glBegin(GL\_QUADS);// right 3rd building

glColor3ub(164, 64, 64);

glVertex2f(0.25, 0.0);

glVertex2f(.30, 0.0);

glVertex2f(.30, .20);

glVertex2f(0.25, .20);

glEnd();

glBegin(GL\_QUADS);// right 3rd building window

glColor3ub(229, 204, 255);

glVertex2f(0.265, 0.10);

glVertex2f(.285, 0.10);

glVertex2f(.285, .15);

glVertex2f(0.265, .15);

glEnd();

glBegin(GL\_QUADS);// right 3rd building window

glColor3ub(229, 204, 255);

glVertex2f(0.265, 0.05);

glVertex2f(.285, 0.05);

glVertex2f(.285, .08);

glVertex2f(0.265, .08);

glEnd();

glBegin(GL\_QUADS);// right 4th building

glColor3ub(64, 64, 64);

glVertex2f(0.35, 0.0);

glVertex2f(.40, 0.0);

glVertex2f(.40, .40);

glVertex2f(0.35, .35);

glEnd();

glBegin(GL\_QUADS);// right 4th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.10);

glVertex2f(.385, 0.10);

glVertex2f(.385, .15);

glVertex2f(0.365, .15);

glEnd();

glBegin(GL\_QUADS);// right 4th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.18);

glVertex2f(.385, 0.18);

glVertex2f(.385, .23);

glVertex2f(0.365, .23);

glEnd();

glBegin(GL\_QUADS);// right 5th building

glColor3ub(64, 64, 64);

glVertex2f(0.45, 0.0);

glVertex2f(.50, 0.0);

glVertex2f(.50, .25);

glVertex2f(0.45, .17);

glEnd();

glBegin(GL\_QUADS);// right 5th building window

glColor3ub(229, 204, 255);

glVertex2f(0.465, 0.10);

glVertex2f(.485, 0.10);

glVertex2f(.485, .12);

glVertex2f(0.465, .12);

glEnd();

glBegin(GL\_QUADS);// right 5th building window

glColor3ub(229, 204, 255);

glVertex2f(0.465, 0.14);

glVertex2f(.485, 0.14);

glVertex2f(.485, .16);

glVertex2f(0.465, .16);

glEnd();

glBegin(GL\_QUADS);// tree 1

glColor3ub(64, 64, 64);

glVertex2f(0.80, 0.0);

glVertex2f(.81, 0.0);

glVertex2f(.81, .10);

glVertex2f(0.80, .10);

glEnd();

x = .805f; y = 0.11; radius = .03f; //tree1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 2

glColor3ub(64, 64, 64);

glVertex2f(0.83, 0.0);

glVertex2f(.84, 0.0);

glVertex2f(.84, .07);

glVertex2f(0.83, .07);

glEnd();

x = .835f; y = 0.07; radius = .02f; //tree2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 3

glColor3ub(64, 64, 64);

glVertex2f(0.85, 0.0);

glVertex2f(.86, 0.0);

glVertex2f(.86, .07);

glVertex2f(0.85, .07);

glEnd();

x = .855f; y = 0.08; radius = .02f; //tree3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 4

glColor3ub(64, 64, 64);

glVertex2f(0.89, 0.0);

glVertex2f(.90, 0.0);

glVertex2f(.90, .07);

glVertex2f(0.89, .07);

glEnd();

x = .895f; y = 0.08; radius = .03f; //tree4

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 5

glColor3ub(64, 64, 64);

glVertex2f(0.92, 0.0);

glVertex2f(.93, 0.0);

glVertex2f(.93, .07);

glVertex2f(0.92, .07);

glEnd();

x = .925f; y = 0.08; radius = .03f; //tree5

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -1

glColor3ub(64, 64, 64);

glVertex2f(-0.72, 0.0);

glVertex2f(-.71, 0.0);

glVertex2f(-.71, .04);

glVertex2f(-0.72, .04);

glEnd();

x = -.7155f; y = 0.05; radius = .015f; //tree-1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -2

glColor3ub(64, 64, 64);

glVertex2f(-0.69, 0.0);

glVertex2f(-.68, 0.0);

glVertex2f(-.68, .04);

glVertex2f(-0.69, .04);

glEnd();

x = -.685f; y = 0.05; radius = .020f; //tree-2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -3

glColor3ub(64, 64, 64);

glVertex2f(-0.67, 0.0);

glVertex2f(-.66, 0.0);

glVertex2f(-.66, .06);

glVertex2f(-0.67, .06);

glEnd();

x = -.665f; y = 0.07; radius = .025f; //tree-3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -4

glColor3ub(64, 64, 64);

glVertex2f(-0.64, 0.0);

glVertex2f(-.63, 0.0);

glVertex2f(-.63, .04);

glVertex2f(-0.64, .04);

glEnd();

x = -.635f; y = 0.05; radius = .020f; //tree-4

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(78, 152, 49);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

//optional-----------------------------------------------------optional---------------------------------------------

//----------------------------------------end-----------------------------------------------

glLoadIdentity();

glTranslatef(.30, 0.0, 0.0);

glBegin(GL\_QUADS);// right 1st building

glColor3ub(64, 64, 64);

glVertex2f(-.42, 0.0);

glVertex2f(-.37, 0.0);

glVertex2f(-.37, .30);

glVertex2f(-.42, .30);

glEnd();

glBegin(GL\_QUADS);// right 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.10);

glVertex2f(-.385, 0.10);

glVertex2f(-.385, .15);

glVertex2f(-.405, .15);

glEnd();

glBegin(GL\_QUADS);// right 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.18);

glVertex2f(-.385, 0.18);

glVertex2f(-.385, .23);

glVertex2f(-.405, .23);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(-.42, 0.30);

glVertex2f(-.37, 0.30);

glEnd();

glBegin(GL\_TRIANGLES);//left triangle

glColor3ub(64, 64, 64);

glVertex2f(-.42, .30);

glVertex2f(-.37, .30);

glVertex2f(-.395, .48);

glEnd();

glLoadIdentity();

glTranslatef(.35, 0.0, 0.0);

glBegin(GL\_QUADS);// right 6th building

glColor3ub(64, 64, 64);

glVertex2f(0.35, 0.0);

glVertex2f(.40, 0.0);

glVertex2f(.40, .40);

glVertex2f(0.35, .45);

glEnd();

glBegin(GL\_QUADS);// right 6th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.10);

glVertex2f(.385, 0.10);

glVertex2f(.385, .15);

glVertex2f(0.365, .15);

glEnd();

glBegin(GL\_QUADS);// right 6th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.18);

glVertex2f(.385, 0.18);

glVertex2f(.385, .23);

glVertex2f(0.365, .23);

glEnd();

glLoadIdentity();

glBegin(GL\_QUADS);//road black

glColor3ub(32, 32, 32);

glVertex2f(-1.0, -0.0);

glVertex2f(-1.0, -.15);

glVertex2f(1.0, -.15);

glVertex2f(1.0, -0.0);

glEnd();

glBegin(GL\_QUADS);//road black

glColor3ub(32, 32, 32);

glVertex2f(-1.0, -0.18);

glVertex2f(-1.0, -.35);

glVertex2f(1.0, -.35);

glVertex2f(1.0, -0.18);

glEnd();

////Border///

glBegin(GL\_POLYGON);

glColor3f(0.2, 0.098, 0.0);

glVertex2f(-1.0f, -0.33f);

glVertex2f(1.0f, -0.33f);

glVertex2f(1.0f, -0.416f);

glVertex2f(-1.0f, -0.416f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.0, 0.0, 0.0);

glVertex2f(-1.0f, -0.35f);

glVertex2f(1.0f, -0.35f);

glVertex2f(1.0f, -0.33f);

glVertex2f(-1.0f, -0.33f);

glEnd();

glPushMatrix();

glTranslatef(.50, -.10, 0.0);

glTranslatef(position2, 0.0, 0.0);

glBegin(GL\_POLYGON);//boat2

glColor3f(0.4, 0.0, 0.0);

glVertex2f(-0.833f, -0.66f);

glVertex2f(-0.33f, -0.66f);

glVertex2f(-0.25f, -0.583f);

glVertex2f(-0.916f, -0.583f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(242, 244, 244);

glVertex2f(-0.833f, -0.583f);

glVertex2f(-0.33f, -0.583f);

glVertex2f(-0.416f, -0.5f);

glVertex2f(-0.75f, -0.5f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(212, 172, 13);

glVertex2f(-0.66f, -0.5f);

glVertex2f(-0.5f, -0.5f);

glVertex2f(-0.583f, -0.33f);

glEnd();

glBegin(GL\_LINES);

glColor3f(0.0, 0.0, 0.0);

glVertex2f(-0.583f, -0.33f);

glVertex2f(-0.583f, -0.166f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(1.0, 0.0, 0.0);

glVertex2f(-0.583f, -0.283);

glVertex2f(-0.55f, -0.25f);

glVertex2f(-0.583f, -0.2166f);

glEnd();

////Boatwindows//

glBegin(GL\_POLYGON);

glColor3ub(164,64,64);

glVertex2f(-0.75f, -0.566f);

glVertex2f(-0.7f, -0.566f);

glVertex2f(-0.7, -0.516f);

glVertex2f(-0.75f, -0.516f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(164,64,64);

glVertex2f(-0.633f, -0.566f);

glVertex2f(-0.583f, -0.566f);

glVertex2f(-0.583, -0.516f);

glVertex2f(-0.633f, -0.516f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(164,64,64);

glVertex2f(-0.516f, -0.566f);

glVertex2f(-0.46f, -0.566f);

glVertex2f(-0.46f, -0.516f);

glVertex2f(-0.516f, -0.516f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.0, 0.56, 0.698);

glVertex2f(-0.833f, -0.6833f);

glVertex2f(-0.33f, -0.6833f);

glVertex2f(-0.33f, -0.66f);

glVertex2f(-0.833f, -0.66f);

glEnd();

glLoadIdentity();

glPopMatrix();

////Bus///

glPushMatrix();

glTranslatef(.25, .00, 0.0);

glScalef(0.5, 0.5, 0.0);

glTranslatef(position, 0.0, 0.0);

glBegin(GL\_POLYGON);

glColor3f(1.0, 0.0, 0.0);

glVertex2f(0.5f, -0.166f);

glVertex2f(1.0f, -0.166f);

glVertex2f(1.0f, 0.0f);

glVertex2f(0.55f, 0.0f);

glVertex2f(0.5f, -0.033f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.5f, -0.1f);

glVertex2f(0.5166f, -0.1f);

glVertex2f(0.5166f, -0.066f);

glVertex2f(0.5f, -0.066f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(1.0, 0.0, 0.0);

glVertex2f(0.55f, 0.0f);

glVertex2f(1.0f, 0.0f);

glVertex2f(1.0f, 0.116f);

glVertex2f(0.55f, 0.116f);

glEnd();

////Buswindows///

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.5833f, 0.016f);

glVertex2f(0.633f, 0.016f);

glVertex2f(0.633f, 0.1f);

glVertex2f(0.5833f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.65f, 0.016f);

glVertex2f(0.7f, 0.016f);

glVertex2f(0.7f, 0.1f);

glVertex2f(0.65f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.716f, 0.016f);

glVertex2f(0.766f, 0.016f);

glVertex2f(0.766f, 0.1f);

glVertex2f(0.716f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.783f, 0.016f);

glVertex2f(0.833f, 0.016f);

glVertex2f(0.833f, 0.1f);

glVertex2f(0.783f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.85f, 0.016f);

glVertex2f(0.9f, 0.016f);

glVertex2f(0.9f, 0.1f);

glVertex2f(0.85f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.916f, 0.016f);

glVertex2f(0.966f, 0.016f);

glVertex2f(0.966f, 0.1f);

glVertex2f(0.916f, 0.1f);

glEnd();

x = .58f; y = -0.18; radius = .025f; //first wheel

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 204, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = .88f; y = -0.18; radius = .025f; //second wheel

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 204, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glLoadIdentity();

glPopMatrix();

//bus2

glPushMatrix();

glTranslatef(.05, -.20, 0.0);

glScalef(0.5, 0.5, 0.0);

glTranslatef(position, 0.0, 0.0);

glBegin(GL\_POLYGON);

glColor3f(0.10, 0.55, 0.2);

glVertex2f(0.5f, -0.166f);

glVertex2f(1.0f, -0.166f);

glVertex2f(1.0f, 0.0f);

glVertex2f(0.55f, 0.0f);

glVertex2f(0.5f, -0.033f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.5f, -0.1f);

glVertex2f(0.5166f, -0.1f);

glVertex2f(0.5166f, -0.066f);

glVertex2f(0.5f, -0.066f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.10, 0.55, 0.2);

glVertex2f(0.55f, 0.0f);

glVertex2f(1.0f, 0.0f);

glVertex2f(1.0f, 0.116f);

glVertex2f(0.55f, 0.116f);

glEnd();

////Buswindows///

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.5833f, 0.016f);

glVertex2f(0.633f, 0.016f);

glVertex2f(0.633f, 0.1f);

glVertex2f(0.5833f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.65f, 0.016f);

glVertex2f(0.7f, 0.016f);

glVertex2f(0.7f, 0.1f);

glVertex2f(0.65f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.716f, 0.016f);

glVertex2f(0.766f, 0.016f);

glVertex2f(0.766f, 0.1f);

glVertex2f(0.716f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.783f, 0.016f);

glVertex2f(0.833f, 0.016f);

glVertex2f(0.833f, 0.1f);

glVertex2f(0.783f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.85f, 0.016f);

glVertex2f(0.9f, 0.016f);

glVertex2f(0.9f, 0.1f);

glVertex2f(0.85f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.916f, 0.016f);

glVertex2f(0.966f, 0.016f);

glVertex2f(0.966f, 0.1f);

glVertex2f(0.916f, 0.1f);

glEnd();

x = .58f; y = -0.18; radius = .025f; //first wheel

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 204, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = .88f; y = -0.18; radius = .025f; //second wheel

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 204, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glLoadIdentity();

glPopMatrix();

if(speed4>1){

rainAnimation();

}

glFlush();

}

void night()

{

glClear(GL\_COLOR\_BUFFER\_BIT);

glClearColor(0.0f, 0.0f, 0.0f, 1.0f); // Set background color to black and opaque

//glClear(GL\_COLOR\_BUFFER\_BIT);

//gluOrtho2D(-2.0,2.0,-2.0,2.0);

glBegin(GL\_QUADS);//road

glColor3f(1.0, 1.0, 1.0);

glVertex2f(-1.0, -.3);

glVertex2f(1.0, -.3);

glVertex2f(1.0, 0.0);

glVertex2f(-1.0, 0.0);

glEnd();

//glEnable(GL\_LIGHTING);//Enable Light Effect

//

// GLfloat global\_ambient2[] = {0,0,0.5, 0.1};//ambient RGBA intensity of light

// glLightModelfv(GL\_LIGHT\_MODEL\_AMBIENT, global\_ambient2);

glBegin(GL\_QUADS);//water

glColor3ub(12, 30, 97);

glVertex2f(-1.0, -1.0);

glVertex2f(1.0, -1.0);

glVertex2f(1.0, -.3);

glVertex2f(-1.0, -.3);

glEnd();

//glDisable(GL\_LIGHTING);

glBegin(GL\_QUADS);// petronas tower lower left

glColor3ub(25, 0, 51);

glVertex2f(-.35, 0.0);

glVertex2f(-.30, 0.0);

glVertex2f(-.30, .30);

glVertex2f(-.35, .30);

glEnd();

//glColor3ub(229,204,255);

glBegin(GL\_QUADS);// petronas tower lower left ,window

glColor3ub(229, 204, 255);

glVertex2f(-.335, 0.10);

glVertex2f(-.315, 0.10);

glVertex2f(-.315, .15);

glVertex2f(-.335, .15);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower left ,window

glColor3ub(229, 204, 255);

glVertex2f(-.335, 0.18);

glVertex2f(-.315, 0.18);

glVertex2f(-.315, .23);

glVertex2f(-.335, .23);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower right

glColor3ub(25, 0, 51);

glVertex2f(-.22, 0.0);

glVertex2f(-.17, 0.0);

glVertex2f(-.17, .30);

glVertex2f(-.22, .30);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower right ,window

glColor3ub(229, 204, 255);

glVertex2f(-.205, 0.10);

glVertex2f(-.185, 0.10);

glVertex2f(-.185, .15);

glVertex2f(-.205, .15);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower right ,window

glColor3ub(229, 204, 255);

glVertex2f(-.205, 0.18);

glVertex2f(-.185, 0.18);

glVertex2f(-.185, .23);

glVertex2f(-.205, .23);

glEnd();

glBegin(GL\_QUADS);// petronas tower lower middle

glColor3ub(25, 0, 51);

glVertex2f(-.30, .15);

glVertex2f(-.22, 0.15);

glVertex2f(-.22, .20);

glVertex2f(-.30, .20);

glEnd();

glBegin(GL\_QUADS);// petronas tower upper left

glColor3ub(25, 0, 51);

glVertex2f(-.345, .30);

glVertex2f(-.305, 0.30);

glVertex2f(-.305, .45);

glVertex2f(-.345, .45);

glEnd();

glBegin(GL\_QUADS);// petronas tower upper right

glColor3ub(25, 0, 51);

glVertex2f(-.215, .30);

glVertex2f(-.175, 0.30);

glVertex2f(-.175, .45);

glVertex2f(-.215, .45);

glEnd();

glBegin(GL\_TRIANGLES);//petronas left triangle

glColor3ub(25, 0, 51);

glVertex2f(-.345, .45);

glVertex2f(-.305, .45);

glVertex2f(-.325, .75);

glEnd();

glBegin(GL\_TRIANGLES);//petronas right triangle

glColor3ub(25, 0, 51);

glVertex2f(-.215, .45);

glVertex2f(-.175, .45);

glVertex2f(-.195, .75);

glEnd();

//-------------------------------optional---------------------------------------

glTranslatef(-.75, .68, 0.0);//star 1(from left)

glScalef(0.2, 0.2, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(-.70, .74, 0.0);//star 2(from left)

glScalef(0.1, 0.1, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(-.60, .80, 0.0);//star 3(from left)

glScalef(0.1, 0.1, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.60, .80, 0.0);//star 4(from left)

glScalef(0.1, 0.1, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.75, .85, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.75, .85, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.15, .71, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.25, .73, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.45, .78, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(-.35, .78, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(-.25, .80, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(-.45, .81, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

glTranslatef(.0, .81, 0.0);//star 5(from left)

glScalef(0.15, 0.15, 0.0);

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .98);

glVertex2f(-.89, .88);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(255, 255, 102);

glVertex2f(-.99, .88);

glVertex2f(-.94, .80);

glVertex2f(-.89, .88);

glEnd();

glLoadIdentity();

GLfloat x = -.68f; GLfloat y = 0.7; GLfloat radius = .065f; //moon

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 255, 102);

int i;

int lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

GLfloat twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glLoadIdentity();

glBegin(GL\_QUADS);//1st building

glColor3ub(64, 64, 64);

glVertex2f(-1.0, 0.0);

glVertex2f(-.92, 0.0);

glVertex2f(-.92, .2);

glVertex2f(-1.0, .2);

glEnd();

glBegin(GL\_QUADS);//1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.96, 0.07);

glVertex2f(-.94, 0.07);

glVertex2f(-.94, .1);

glVertex2f(-.96, .1);

glEnd();

glBegin(GL\_QUADS);//1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.96, 0.12);

glVertex2f(-.94, 0.12);

glVertex2f(-.94, .15);

glVertex2f(-.96, .15);

glEnd();

glBegin(GL\_QUADS);//2nd building

glColor3ub(64, 64, 64);

glVertex2f(-.91, 0.0);

glVertex2f(-.85, 0.0);

glVertex2f(-.85, .25);

glVertex2f(-.91, .25);

glEnd();

glBegin(GL\_QUADS);//2nd building window

glColor3ub(229, 204, 255);

glVertex2f(-.89, 0.07);

glVertex2f(-.87, 0.07);

glVertex2f(-.87, .1);

glVertex2f(-.89, .1);

glEnd();

glBegin(GL\_QUADS);//2nd building window

glColor3ub(229, 204, 255);

glVertex2f(-.89, 0.12);

glVertex2f(-.87, 0.12);

glVertex2f(-.87, .15);

glVertex2f(-.89, .15);

glEnd();

glBegin(GL\_QUADS);//2nd building window

glColor3ub(229, 204, 255);

glVertex2f(-.89, 0.18);

glVertex2f(-.87, 0.18);

glVertex2f(-.87, .21);

glVertex2f(-.89, .21);

glEnd();

glBegin(GL\_QUADS);//watch tower

glColor3ub(0, 102, 51);

glVertex2f(-.83, 0.0);

glVertex2f(-.80, 0.0);

glVertex2f(-.80, .15);

glVertex2f(-.83, .15);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(64, 64, 64);

glVertex2f(-.83, .15);

glVertex2f(-.80, .15);

glVertex2f(-.815, .25);

glEnd();

x = -.815f; y = 0.12; radius = .01f; //watch

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 255, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);//3rd building

glColor3ub(64, 64, 64);

glVertex2f(-.79, 0.0);

glVertex2f(-.74, 0.0);

glVertex2f(-.74, .25);

glVertex2f(-.79, .15);

glEnd();

glBegin(GL\_QUADS);//3rd building window

glColor3ub(229, 204, 255);

glVertex2f(-.77, 0.05);

glVertex2f(-.75, 0.05);

glVertex2f(-.75, .08);

glVertex2f(-.77, .08);

glEnd();

glBegin(GL\_QUADS);//3rd building window

glColor3ub(229, 204, 255);

glVertex2f(-.77, 0.09);

glVertex2f(-.75, 0.09);

glVertex2f(-.75, .12);

glVertex2f(-.77, .12);

glEnd();

glPushMatrix();

glTranslatef(position1, 0.0, 0.0);

glBegin(GL\_TRIANGLES);//plane front

glColor3ub(96, 96, 96);

glVertex2f(.38, .65);

glVertex2f(.40, .62);

glVertex2f(.40, .68);

glEnd();

glBegin(GL\_POLYGON);//plane body

glColor3ub(179, 177, 234);

glVertex2f(.40, .62);

glVertex2f(.49, .62);

glVertex2f(.52, .71);

glVertex2f(.50, .71);

glVertex2f(.49, .68);

glVertex2f(.40, .68);

glEnd();

glBegin(GL\_QUADS);//plane wing upper

glColor3ub(179, 177, 234);

glVertex2f(.44, .68);

glVertex2f(.46, .68);

glVertex2f(.47, .71);

glVertex2f(.45, .71);

glEnd();

glBegin(GL\_QUADS);//plane wing lower

glColor3ub(179, 177, 234);

glVertex2f(.44, .62);

glVertex2f(.46, .62);

glVertex2f(.47, .58);

glVertex2f(.45, .58);

glEnd();

glPopMatrix();

glBegin(GL\_QUADS);// left 1st building

glColor3ub(64, 64, 64);

glVertex2f(-.42, 0.0);

glVertex2f(-.37, 0.0);

glVertex2f(-.37, .30);

glVertex2f(-.42, .30);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(-.42, 0.30);

glVertex2f(-.37, 0.30);

glEnd();

glBegin(GL\_QUADS);// left 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.10);

glVertex2f(-.385, 0.10);

glVertex2f(-.385, .15);

glVertex2f(-.405, .15);

glEnd();

glBegin(GL\_QUADS);// left 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.18);

glVertex2f(-.385, 0.18);

glVertex2f(-.385, .23);

glVertex2f(-.405, .23);

glEnd();

glBegin(GL\_TRIANGLES);//left triangle

glColor3ub(64, 64, 64);

glVertex2f(-.42, .30);

glVertex2f(-.37, .30);

glVertex2f(-.395, .48);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left)

glColor3ub(64, 64, 64);

glVertex2f(-.58, 0.0);

glVertex2f(-.53, 0.0);

glVertex2f(-.53, .30);

glVertex2f(-.58, .28);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left) window

glColor3ub(229, 204, 255);

glVertex2f(-.565, 0.10);

glVertex2f(-.545, 0.10);

glVertex2f(-.545, .15);

glVertex2f(-.565, .15);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left) window

glColor3ub(229, 204, 255);

glVertex2f(-.565, 0.18);

glVertex2f(-.545, 0.18);

glVertex2f(-.545, .23);

glVertex2f(-.565, .23);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(left)up

glColor3ub(64, 64, 64);

glVertex2f(-.57, 0.284);

glVertex2f(-.53, 0.30);

glVertex2f(-.53, .35);

glVertex2f(-.57, .33);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right)

glColor3ub(64, 64, 64);

glVertex2f(-.53, 0.0);

glVertex2f(-.48, 0.0);

glVertex2f(-.48, .28);

glVertex2f(-.53, .30);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right) window

glColor3ub(229, 204, 255);

glVertex2f(-.515, 0.10);

glVertex2f(-.495, 0.10);

glVertex2f(-.495, .15);

glVertex2f(-.515, .15);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right) window

glColor3ub(229, 204, 255);

glVertex2f(-.515, 0.18);

glVertex2f(-.495, 0.18);

glVertex2f(-.495, .23);

glVertex2f(-.515, .23);

glEnd();

glBegin(GL\_QUADS);// left 2nd building(right)up

glColor3ub(64, 64, 64);

glVertex2f(-.53, 0.30);

glVertex2f(-.49, 0.284);

glVertex2f(-.49, .33);

glVertex2f(-.53, .35);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(-.53, 0.0);

glVertex2f(-.53, 0.34);

glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.0, 0.0);

glVertex2f(.05, 0.0);

glVertex2f(.05, .20);

glVertex2f(0.0, .17);

glEnd();

glBegin(GL\_QUADS);// right 2nd building window

glColor3ub(229, 204, 255);

glVertex2f(0.0205, 0.10);

glVertex2f(.045, 0.10);

glVertex2f(.045, .15);

glVertex2f(0.0205, .15);

glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.05, 0.0);

glVertex2f(.10, 0.0);

glVertex2f(.10, .20);

glVertex2f(0.05, .20);

glEnd();

glBegin(GL\_QUADS);// right 2nd building window

glColor3ub(229, 204, 255);

glVertex2f(0.075, 0.07);

glVertex2f(.095, 0.07);

glVertex2f(.095, .12);

glVertex2f(0.075, .12);

glEnd();

glBegin(GL\_QUADS);// right 2nd building window

glColor3ub(229, 204, 255);

glVertex2f(0.075, 0.15);

glVertex2f(.095, 0.15);

glVertex2f(.095, .20);

glVertex2f(0.075, .20);

glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.10, 0.0);

glVertex2f(.15, 0.0);

glVertex2f(.15, .20);

glVertex2f(0.10, .20);

glEnd();

glBegin(GL\_QUADS);// right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.15, 0.0);

glVertex2f(.20, 0.0);

glVertex2f(.20, .17);

glVertex2f(0.15, .20);

glEnd();

glBegin(GL\_QUADS);// upper right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.05, 0.20);

glVertex2f(.10, 0.20);

glVertex2f(.10, .38);

glVertex2f(0.05, .38);

glEnd();

glBegin(GL\_QUADS);// upper right 2nd building

glColor3ub(64, 64, 64);

glVertex2f(0.10, 0.20);

glVertex2f(.15, 0.20);

glVertex2f(.15, .38);

glVertex2f(0.10, .38);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(.10, 0.20);

glVertex2f(0.10, .38);

glEnd();

glBegin(GL\_QUADS);// right 3rd building

glColor3ub(164, 64, 64);

glVertex2f(0.25, 0.0);

glVertex2f(.30, 0.0);

glVertex2f(.30, .20);

glVertex2f(0.25, .20);

glEnd();

glBegin(GL\_QUADS);// right 3rd building window

glColor3ub(229, 204, 255);

glVertex2f(0.265, 0.10);

glVertex2f(.285, 0.10);

glVertex2f(.285, .15);

glVertex2f(0.265, .15);

glEnd();

glBegin(GL\_QUADS);// right 3rd building window

glColor3ub(229, 204, 255);

glVertex2f(0.265, 0.05);

glVertex2f(.285, 0.05);

glVertex2f(.285, .08);

glVertex2f(0.265, .08);

glEnd();

glBegin(GL\_QUADS);// right 4th building

glColor3ub(64, 64, 64);

glVertex2f(0.35, 0.0);

glVertex2f(.40, 0.0);

glVertex2f(.40, .40);

glVertex2f(0.35, .35);

glEnd();

glBegin(GL\_QUADS);// right 4th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.10);

glVertex2f(.385, 0.10);

glVertex2f(.385, .15);

glVertex2f(0.365, .15);

glEnd();

glBegin(GL\_QUADS);// right 4th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.18);

glVertex2f(.385, 0.18);

glVertex2f(.385, .23);

glVertex2f(0.365, .23);

glEnd();

glBegin(GL\_QUADS);// right 5th building

glColor3ub(64, 64, 64);

glVertex2f(0.45, 0.0);

glVertex2f(.50, 0.0);

glVertex2f(.50, .25);

glVertex2f(0.45, .17);

glEnd();

glBegin(GL\_QUADS);// right 5th building window

glColor3ub(229, 204, 255);

glVertex2f(0.465, 0.10);

glVertex2f(.485, 0.10);

glVertex2f(.485, .12);

glVertex2f(0.465, .12);

glEnd();

glBegin(GL\_QUADS);// right 5th building window

glColor3ub(229, 204, 255);

glVertex2f(0.465, 0.14);

glVertex2f(.485, 0.14);

glVertex2f(.485, .16);

glVertex2f(0.465, .16);

glEnd();

glBegin(GL\_QUADS);// tree 1

glColor3ub(64, 64, 64);

glVertex2f(0.80, 0.0);

glVertex2f(.81, 0.0);

glVertex2f(.81, .10);

glVertex2f(0.80, .10);

glEnd();

x = .805f; y = 0.11; radius = .03f; //tree1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 2

glColor3ub(64, 64, 64);

glVertex2f(0.83, 0.0);

glVertex2f(.84, 0.0);

glVertex2f(.84, .07);

glVertex2f(0.83, .07);

glEnd();

x = .835f; y = 0.07; radius = .02f; //tree2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 3

glColor3ub(64, 64, 64);

glVertex2f(0.85, 0.0);

glVertex2f(.86, 0.0);

glVertex2f(.86, .07);

glVertex2f(0.85, .07);

glEnd();

x = .855f; y = 0.08; radius = .02f; //tree3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 4

glColor3ub(64, 64, 64);

glVertex2f(0.89, 0.0);

glVertex2f(.90, 0.0);

glVertex2f(.90, .07);

glVertex2f(0.89, .07);

glEnd();

x = .895f; y = 0.08; radius = .03f; //tree4

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree 5

glColor3ub(64, 64, 64);

glVertex2f(0.92, 0.0);

glVertex2f(.93, 0.0);

glVertex2f(.93, .07);

glVertex2f(0.92, .07);

glEnd();

x = .925f; y = 0.08; radius = .03f; //tree5

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -1

glColor3ub(64, 64, 64);

glVertex2f(-0.72, 0.0);

glVertex2f(-.71, 0.0);

glVertex2f(-.71, .04);

glVertex2f(-0.72, .04);

glEnd();

x = -.7155f; y = 0.05; radius = .015f; //tree-1

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -2

glColor3ub(64, 64, 64);

glVertex2f(-0.69, 0.0);

glVertex2f(-.68, 0.0);

glVertex2f(-.68, .04);

glVertex2f(-0.69, .04);

glEnd();

x = -.685f; y = 0.05; radius = .020f; //tree-2

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -3

glColor3ub(64, 64, 64);

glVertex2f(-0.67, 0.0);

glVertex2f(-.66, 0.0);

glVertex2f(-.66, .06);

glVertex2f(-0.67, .06);

glEnd();

x = -.665f; y = 0.07; radius = .025f; //tree-3

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glBegin(GL\_QUADS);// tree -4

glColor3ub(64, 64, 64);

glVertex2f(-0.64, 0.0);

glVertex2f(-.63, 0.0);

glVertex2f(-.63, .04);

glVertex2f(-0.64, .04);

glEnd();

x = -.635f; y = 0.05; radius = .020f; //tree-4

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(60, 128, 72);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glLoadIdentity();

glTranslatef(.30, 0.0, 0.0);

glBegin(GL\_QUADS);// right 1st building

glColor3ub(64, 64, 64);

glVertex2f(-.42, 0.0);

glVertex2f(-.37, 0.0);

glVertex2f(-.37, .30);

glVertex2f(-.42, .30);

glEnd();

glBegin(GL\_QUADS);// right 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.10);

glVertex2f(-.385, 0.10);

glVertex2f(-.385, .15);

glVertex2f(-.405, .15);

glEnd();

glBegin(GL\_QUADS);// right 1st building window

glColor3ub(229, 204, 255);

glVertex2f(-.405, 0.18);

glVertex2f(-.385, 0.18);

glVertex2f(-.385, .23);

glVertex2f(-.405, .23);

glEnd();

glBegin(GL\_LINES);

glColor3ub(255, 255, 255);

glVertex2f(-.42, 0.30);

glVertex2f(-.37, 0.30);

glEnd();

glBegin(GL\_TRIANGLES);//left triangle

glColor3ub(64, 64, 64);

glVertex2f(-.42, .30);

glVertex2f(-.37, .30);

glVertex2f(-.395, .48);

glEnd();

glLoadIdentity();

glTranslatef(.35, 0.0, 0.0);

glBegin(GL\_QUADS);// right 6th building

glColor3ub(64, 64, 64);

glVertex2f(0.35, 0.0);

glVertex2f(.40, 0.0);

glVertex2f(.40, .40);

glVertex2f(0.35, .45);

glEnd();

glBegin(GL\_QUADS);// right 6th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.10);

glVertex2f(.385, 0.10);

glVertex2f(.385, .15);

glVertex2f(0.365, .15);

glEnd();

glBegin(GL\_QUADS);// right 6th building window

glColor3ub(229, 204, 255);

glVertex2f(0.365, 0.18);

glVertex2f(.385, 0.18);

glVertex2f(.385, .23);

glVertex2f(0.365, .23);

glEnd();

glLoadIdentity();

glBegin(GL\_QUADS);//road black

glColor3ub(32, 32, 32);

glVertex2f(-1.0, -0.0);

glVertex2f(-1.0, -.15);

glVertex2f(1.0, -.15);

glVertex2f(1.0, -0.0);

glEnd();

glBegin(GL\_QUADS);//road black

glColor3ub(32, 32, 32);

glVertex2f(-1.0, -0.18);

glVertex2f(-1.0, -.35);

glVertex2f(1.0, -.35);

glVertex2f(1.0, -0.18);

glEnd();

////Border///

glBegin(GL\_POLYGON);

glColor3f(0.2, 0.098, 0.0);

glVertex2f(-1.0f, -0.33f);

glVertex2f(1.0f, -0.33f);

glVertex2f(1.0f, -0.416f);

glVertex2f(-1.0f, -0.416f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.0, 0.0, 0.0);

glVertex2f(-1.0f, -0.35f);

glVertex2f(1.0f, -0.35f);

glVertex2f(1.0f, -0.33f);

glVertex2f(-1.0f, -0.33f);

glEnd();

//glPushMatrix();//boat2

glTranslatef(.48, -.18, 0.0);

glScalef(0.4, 0.4, 0.0);

//glTranslatef(position2,0.0,0.0);

glBegin(GL\_POLYGON);//boat2

glColor3f(0.4, 0.0, 0.0);

glVertex2f(-0.833f, -0.66f);

glVertex2f(-0.33f, -0.66f);

glVertex2f(-0.25f, -0.583f);

glVertex2f(-0.916f, -0.583f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(242, 244, 244);

glVertex2f(-0.833f, -0.583f);

glVertex2f(-0.33f, -0.583f);

glVertex2f(-0.416f, -0.5f);

glVertex2f(-0.75f, -0.5f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(212, 172, 13);

glVertex2f(-0.66f, -0.5f);

glVertex2f(-0.5f, -0.5f);

glVertex2f(-0.583f, -0.33f);

glEnd();

glBegin(GL\_LINES);

glColor3f(0.0, 0.0, 0.0);

glVertex2f(-0.583f, -0.33f);

glVertex2f(-0.583f, -0.166f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(1.0, 0.0, 0.0);

glVertex2f(-0.583f, -0.283);

glVertex2f(-0.55f, -0.25f);

glVertex2f(-0.583f, -0.2166f);

glEnd();

////Boatwindows//

glBegin(GL\_POLYGON);

glColor3ub(164,64,64);

glVertex2f(-0.75f, -0.566f);

glVertex2f(-0.7f, -0.566f);

glVertex2f(-0.7, -0.516f);

glVertex2f(-0.75f, -0.516f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(164,64,64);

glVertex2f(-0.633f, -0.566f);

glVertex2f(-0.583f, -0.566f);

glVertex2f(-0.583, -0.516f);

glVertex2f(-0.633f, -0.516f);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(164,64,64);

glVertex2f(-0.516f, -0.566f);

glVertex2f(-0.46f, -0.566f);

glVertex2f(-0.46f, -0.516f);

glVertex2f(-0.516f, -0.516f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.0, 0.56, 0.698);

glVertex2f(-0.833f, -0.6833f);

glVertex2f(-0.33f, -0.6833f);

glVertex2f(-0.33f, -0.66f);

glVertex2f(-0.833f, -0.66f);

glEnd();

glLoadIdentity();

//glPopMatrix();

////Bus///

glPushMatrix();

glTranslatef(.25, .00, 0.0);

glScalef(0.5, 0.5, 0.0);

glTranslatef(position, 0.0, 0.0);

glBegin(GL\_POLYGON);

glColor3f(1.0, 0.0, 0.0);

glVertex2f(0.5f, -0.166f);

glVertex2f(1.0f, -0.166f);

glVertex2f(1.0f, 0.0f);

glVertex2f(0.55f, 0.0f);

glVertex2f(0.5f, -0.033f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(1.0, 1.0, 0.0);

glVertex2f(0.5f, -0.1f);

glVertex2f(0.5166f, -0.1f);

glVertex2f(0.5166f, -0.066f);

glVertex2f(0.5f, -0.066f);

glEnd();

//light

glBegin(GL\_TRIANGLES);//left triangle

glColor3ub(255, 255, 204);

glVertex2f(.51, -0.08);

glVertex2f(.2, -0.06);

glVertex2f(.2, -0.2);

glEnd();

//light

glBegin(GL\_POLYGON);

glColor3f(1.0, 0.0, 0.0);

glVertex2f(0.55f, 0.0f);

glVertex2f(1.0f, 0.0f);

glVertex2f(1.0f, 0.116f);

glVertex2f(0.55f, 0.116f);

glEnd();

////Buswindows///

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.5833f, 0.016f);

glVertex2f(0.633f, 0.016f);

glVertex2f(0.633f, 0.1f);

glVertex2f(0.5833f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.65f, 0.016f);

glVertex2f(0.7f, 0.016f);

glVertex2f(0.7f, 0.1f);

glVertex2f(0.65f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.716f, 0.016f);

glVertex2f(0.766f, 0.016f);

glVertex2f(0.766f, 0.1f);

glVertex2f(0.716f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.783f, 0.016f);

glVertex2f(0.833f, 0.016f);

glVertex2f(0.833f, 0.1f);

glVertex2f(0.783f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.85f, 0.016f);

glVertex2f(0.9f, 0.016f);

glVertex2f(0.9f, 0.1f);

glVertex2f(0.85f, 0.1f);

glEnd();

glBegin(GL\_POLYGON);

glColor3f(0.26, 0.26, 0.26);

glVertex2f(0.916f, 0.016f);

glVertex2f(0.966f, 0.016f);

glVertex2f(0.966f, 0.1f);

glVertex2f(0.916f, 0.1f);

glEnd();

x = .58f; y = -0.18; radius = .025f; //first wheel

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 204, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

x = .88f; y = -0.18; radius = .025f; //second wheel

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 204, 255);

i;

lineAmount = 100; //# of triangles used to draw circle

//GLfloat radius = 0.8f; //radius

twicePi = 2.0f \* PI;

for (i = 0; i <= lineAmount; i++) {

glVertex2f(

x + (radius \* cos(i \* twicePi / lineAmount)),

y + (radius\* sin(i \* twicePi / lineAmount))

);

}

glEnd();

glLoadIdentity();

glPopMatrix();

if(speed4>3){

rainAnimation();

}

glFlush();

}

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

switch (key) {

case 'd':

speed4 = 0;

glutDisplayFunc(day);

glutPostRedisplay();

break;

case 'n':

speed4 = 2;

glutDisplayFunc(night);

glutPostRedisplay();

break;

glutPostRedisplay();

}

}

//update -----------------------------------------4--------------------

void update4(int value) { //day night shift

//time

if (speed4>4.0){

speed4 = 0.0;

}

else{

speed4 += 0.02;

}

//shift day night

if (speed4>2.0){

glutDisplayFunc(night);

glutPostRedisplay();

}

else{

glutDisplayFunc(day);

glutPostRedisplay();

}

glutPostRedisplay();

glutTimerFunc(100, update4, 0);

}

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

glutInit(&argc, argv);

glutInitWindowSize(800, 420);

glutInitWindowPosition(300, 200);

glutCreateWindow("City River View Scenario");

glutDisplayFunc(day);

//glutDisplayFunc(rainAnimation);

glutTimerFunc(100, update, 0);

glutTimerFunc(100, update1, 0);

glutTimerFunc(100, update2, 0);

glutTimerFunc(100, update3, 0);

glutTimerFunc(100, update4, 0);

glutTimerFunc(100, updateRain, 0);

sndPlaySound("2.wav",SND\_ASYNC);

glutKeyboardFunc(handleKeypress);

glutSpecialFunc(SpecialInput);

glutMainLoop();

return 0;

}