#include<windows.h>

#include<iostream>

#include<GL/glut.h>

#include<math.h>

using namespace std;

float x,y,r;//circle

int i;//circle loop

bool run=true;

bool stop=false;

bool rainday = false;

float rain1 = 0.0;

float position\_sun =1; // for sun

float speed\_sun =0.5;

float position\_moon =1; // for moon

float speed\_moon =0.5;

float position\_cloud\_1 =1; // for cloud 1

float speed\_cloud\_1 =1;

float position\_cloud\_2 =1; // for cloud 2

float speed\_cloud\_2 =1;

float position\_cloud\_3 =0.4; // for cloud 3

float speed\_cloud\_3 =0.4;

float position\_cloud\_4 =0.4; // for cloud 3

float speed\_cloud\_4 =0.4;

float position\_rail =1; // for rail

float speed\_rail =1;

float position\_boat\_2 =0.2; // for boat 2

float speed\_boat\_2 =0.2;

float position\_boat\_3 =0.4; // for boat 3

float speed\_boat\_3 =0.4;

void sky(){

//sky

glBegin(GL\_QUADS);

glColor3ub(153,255,255);

glPointSize(5.0);

glVertex2i(0,640);

glVertex2i(1500,640);

glVertex2i(1500,900);

glVertex2i(0,900);

glEnd();

//end

}

void sky\_night(){

//sky

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glPointSize(5.0);

glVertex2i(0,640);

glVertex2i(1500,640);

glVertex2i(1500,900);

glVertex2i(0,900);

glEnd();

//end

}

void back\_hill()

{

glColor3ub(49,175,141);

glBegin(GL\_QUADS);

glVertex2i(0,630); // back 1

glVertex2i(0,740);

glVertex2i(50,760);

glVertex2i(50,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(50,630); // back 2

glVertex2i(50,760);

glVertex2i(120,750);

glVertex2i(120,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(100,630); // back 3

glVertex2i(120,750);

glVertex2i(180,800);

glVertex2i(180,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(180,630); // back 4

glVertex2i(180,800);

glVertex2i(240,810);

glVertex2i(240,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(240,630);

glVertex2i(240,810);

glVertex2i(290,770); //// back 5

glVertex2i(290,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(290,630);

glVertex2i(290,770);

glVertex2i(390,790); ///// back 6

glVertex2i(390,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(400,630);

glVertex2i(470,790); ///////// back 5

glVertex2i(500,790);

glVertex2i(500,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(500,630);

glVertex2i(500,790); //////////// back 6

glVertex2i(570,700);

glVertex2i(570,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(570,630);

glVertex2i(570,700);

glVertex2i(620,790); ////////// back 7

glVertex2i(620,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(620,630);

glVertex2i(620,790); ///////// back 8

glVertex2i(700,750);

glVertex2i(700,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(700,630);

glVertex2i(700,750); //////// back 9

glVertex2i(800,790);

glVertex2i(800,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(800,630);

glVertex2i(800,790); //////////back 10

glVertex2i(890,680);

glVertex2i(890,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(890,630);

glVertex2i(890,680); //// back 11

glVertex2i(950,770);

glVertex2i(950,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(950,630);

glVertex2i(950,770); //////////// back 12

glVertex2i(1100,790);

glVertex2i(1100,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1100,630);

glVertex2i(1100,790); //////// back 13

glVertex2i(1200,700);

glVertex2i(1200,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1100,630);

glVertex2i(1200,700); //////// back 14

glVertex2i(1300,790);

glVertex2i(1300,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1300,630);

glVertex2i(1300,790); //////// back 15

glVertex2i(1400,740);

glVertex2i(1400,630);

glEnd();

glColor3ub(52,203,147);

glBegin(GL\_QUADS);

glVertex2i(0,630); // 1

glVertex2i(20,670);

glVertex2i(80,700);

glVertex2i(80,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(80,630);

glVertex2i(80,700); // 2

glVertex2i(120,700);

glVertex2i(120,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(120,630);

glVertex2i(120,700); // 3

glVertex2i(200,750);

glVertex2i(200,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(200,630);

glVertex2i(200,750); // 4

glVertex2i(270,690);

glVertex2i(270,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(270,630);

glVertex2i(270,690); // 5

glVertex2i(400,820);

glVertex2i(400,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(400,630); // 6

glVertex2i(400,820);

glVertex2i(520,740);

glVertex2i(520,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(520,630);

glVertex2i(520,740); // 7

glVertex2i(570,790);

glVertex2i(570,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(570,630);

glVertex2i(570,790); // 8

glVertex2i(620,740);

glVertex2i(620,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(620,630);

glVertex2i(620,740); // 9

glVertex2i(650,760);

glVertex2i(650,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(650,630);

glVertex2i(650,760); // 10

glVertex2i(750,690);

glVertex2i(750,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(750,630);

glVertex2i(750,690); // 11

glVertex2i(900,740);

glVertex2i(900,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(900,630);

glVertex2i(900,740); // 12

glVertex2i(1020,720);

glVertex2i(1020,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(900,630);

glVertex2i(900,740); // 13

glVertex2i(1020,720);

glVertex2i(1020,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1020,630);

glVertex2i(1020,720); // 14

glVertex2i(1100,740);

glVertex2i(1100,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1100,630);

glVertex2i(1100,740); // 15

glVertex2i(1200,790);

glVertex2i(1200,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1200,630);

glVertex2i(1200,790);

glVertex2i(1300,700); // 16

glVertex2i(1300,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1300,630);

glVertex2i(1300,700); // 17

glVertex2i(1500,800);

glVertex2i(1500,630);

glEnd();

glColor3ub(134,240,197);

glBegin(GL\_QUADS);

glVertex2i(20,745);

glVertex2i(50,755);///// left 1

glVertex2i(30,735);

glVertex2i(10,725);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(70,750);

glVertex2i(100,740);

glVertex2i(110,730);////// left 2

glVertex2i(60,720);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(180,800);

glVertex2i(240,810); ////////// left 3

glVertex2i(280,770);

glVertex2i(140,760);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(240,750);

glVertex2i(230,740);

glVertex2i(290,730);

glVertex2i(270,720);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(470,790);

glVertex2i(480,790); ////////// left 3-4

glVertex2i(480,770);

glVertex2i(467,775);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(300,770); //////left 4

glVertex2i(365,785);

glVertex2i(320,740);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(500,785);

glVertex2i(520,755);

glVertex2i(510,745);////// left 5

glVertex2i(490,760);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(620,790);

glVertex2i(640,780); ////////// left 5-6

glVertex2i(615,775);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(680,740);

glVertex2i(670,760); ////// left 6

glVertex2i(700,745);

glVertex2i(690,740);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(712,755);

glVertex2i(800,790); ////// left 7

glVertex2i(780,760);

glVertex2i(770,750);

glVertex2i(770,740);

glVertex2i(750,720);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(950,770);

glVertex2i(1100,790); ////// left 8

glVertex2i(1050,740);

glVertex2i(1000,750);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1300,790);

glVertex2i(1355,750); ////// left 9

glVertex2i(1270,760);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(40,680);

glVertex2i(80,700);

glVertex2i(120,700); ////// upper 1

glVertex2i(110,680);

glVertex2i(70,660);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(157,720);

glVertex2i(200,750);

glVertex2i(220,730); ////// upper 2

glEnd();

glBegin(GL\_QUADS);

glVertex2i(400,820);

glVertex2i(400,810);

glVertex2i(390,790); ////// upper 3

glVertex2i(370,790);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(370,790);

glVertex2i(390,790);

glVertex2i(400,780);

glVertex2i(420,760);

glVertex2i(350,760);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(350,760);

glVertex2i(420,760);

glVertex2i(400,740);

glVertex2i(400,730);

glVertex2i(430,710);

glVertex2i(290,700);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(570,790);

glVertex2i(590,760);

glVertex2i(520,740);/////upper 4

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(610,730);

glVertex2i(650,760); //////////upper 5

glVertex2i(675,740);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(900,740);

glVertex2i(800,700); ///////// upper 6

glVertex2i(860,710);

glVertex2i(870,670);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1000,720);

glVertex2i(1050,725);

glVertex2i(1025,700); ///////////////upper 7

glVertex2i(1000,700);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(1200,790);

glVertex2i(1100,740); ///////// upper 8

glVertex2i(1235,750);

glVertex2i(1200,730);

glVertex2i(1150,720);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1460,780);

glVertex2i(1370,730);

glVertex2i(1350,710); ////////// upper 10

glVertex2i(1450,760);

glEnd();

glColor3ub(20,153,122);

glBegin(GL\_QUADS);

glVertex2i(450,780);

glVertex2i(530,730);

glVertex2i(550,690);

glVertex2i(460,750);

glEnd();

glBegin(GL\_TRIANGLES); //upper front 2

glVertex2i(400,630);

glVertex2i(450,670);

glVertex2i(510,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(400,660);

glVertex2i(450,700);

glVertex2i(550,650);

glEnd();

glBegin(GL\_QUAD\_STRIP);

glVertex2i(140,630);

glVertex2i(120,680);

glVertex2i(170,690);

glVertex2i(170,630);

glEnd(); //// front up 1

glBegin(GL\_QUAD\_STRIP);

glVertex2i(170,630);

glVertex2i(170,690);

glVertex2i(220,670);

glVertex2i(230,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(745,690);

glVertex2i(700,630);

glVertex2i(800,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(750,630);

glVertex2i(680,690); ///// front up 3

glVertex2i(680,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(590,630);

glVertex2i(680,660);

glVertex2i(680,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1000,630);

glVertex2i(950,660);

glVertex2i(1050,690);

glVertex2i(1050,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1050,630);

glVertex2i(1050,690);

glVertex2i(1070,660);

glVertex2i(1070,630); /////// front up 4

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1070,630);

glVertex2i(1070,660);

glVertex2i(1150,700);

glVertex2i(1150,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1150,630);

glVertex2i(1100,660);

glVertex2i(1225,690);

glVertex2i(1225,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1500,750);

glVertex2i(1350,670);

glVertex2i(1500,670);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1350,630);

glVertex2i(1450,670);

glVertex2i(1500,670);

glVertex2i(1500,630);

glEnd();

}

void back\_hill\_night()

{

glColor3ub(0,102,0);

glBegin(GL\_QUADS);

glVertex2i(0,630); // back 1

glVertex2i(0,740);

glVertex2i(50,760);

glVertex2i(50,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(50,630); // back 2

glVertex2i(50,760);

glVertex2i(120,750);

glVertex2i(120,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(100,630); // back 3

glVertex2i(120,750);

glVertex2i(180,800);

glVertex2i(180,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(180,630); // back 4

glVertex2i(180,800);

glVertex2i(240,810);

glVertex2i(240,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(240,630);

glVertex2i(240,810);

glVertex2i(290,770); //// back 5

glVertex2i(290,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(290,630);

glVertex2i(290,770);

glVertex2i(390,790); ///// back 6

glVertex2i(390,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(400,630);

glVertex2i(470,790); ///////// back 5

glVertex2i(500,790);

glVertex2i(500,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(500,630);

glVertex2i(500,790); //////////// back 6

glVertex2i(570,700);

glVertex2i(570,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(570,630);

glVertex2i(570,700);

glVertex2i(620,790); ////////// back 7

glVertex2i(620,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(620,630);

glVertex2i(620,790); ///////// back 8

glVertex2i(700,750);

glVertex2i(700,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(700,630);

glVertex2i(700,750); //////// back 9

glVertex2i(800,790);

glVertex2i(800,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(800,630);

glVertex2i(800,790); //////////back 10

glVertex2i(890,680);

glVertex2i(890,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(890,630);

glVertex2i(890,680); //// back 11

glVertex2i(950,770);

glVertex2i(950,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(950,630);

glVertex2i(950,770); //////////// back 12

glVertex2i(1100,790);

glVertex2i(1100,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1100,630);

glVertex2i(1100,790); //////// back 13

glVertex2i(1200,700);

glVertex2i(1200,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1100,630);

glVertex2i(1200,700); //////// back 14

glVertex2i(1300,790);

glVertex2i(1300,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1300,630);

glVertex2i(1300,790); //////// back 15

glVertex2i(1400,740);

glVertex2i(1400,630);

glEnd();

glColor3ub(52,203,147);

glBegin(GL\_QUADS);

glVertex2i(0,630); // 1

glVertex2i(20,670);

glVertex2i(80,700);

glVertex2i(80,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(80,630);

glVertex2i(80,700); // 2

glVertex2i(120,700);

glVertex2i(120,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(120,630);

glVertex2i(120,700); // 3

glVertex2i(200,750);

glVertex2i(200,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(200,630);

glVertex2i(200,750); // 4

glVertex2i(270,690);

glVertex2i(270,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(270,630);

glVertex2i(270,690); // 5

glVertex2i(400,820);

glVertex2i(400,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(400,630); // 6

glVertex2i(400,820);

glVertex2i(520,740);

glVertex2i(520,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(520,630);

glVertex2i(520,740); // 7

glVertex2i(570,790);

glVertex2i(570,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(570,630);

glVertex2i(570,790); // 8

glVertex2i(620,740);

glVertex2i(620,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(620,630);

glVertex2i(620,740); // 9

glVertex2i(650,760);

glVertex2i(650,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(650,630);

glVertex2i(650,760); // 10

glVertex2i(750,690);

glVertex2i(750,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(750,630);

glVertex2i(750,690); // 11

glVertex2i(900,740);

glVertex2i(900,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(900,630);

glVertex2i(900,740); // 12

glVertex2i(1020,720);

glVertex2i(1020,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(900,630);

glVertex2i(900,740); // 13

glVertex2i(1020,720);

glVertex2i(1020,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1020,630);

glVertex2i(1020,720); // 14

glVertex2i(1100,740);

glVertex2i(1100,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1100,630);

glVertex2i(1100,740); // 15

glVertex2i(1200,790);

glVertex2i(1200,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1200,630);

glVertex2i(1200,790);

glVertex2i(1300,700); // 16

glVertex2i(1300,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1300,630);

glVertex2i(1300,700); // 17

glVertex2i(1500,800);

glVertex2i(1500,630);

glEnd();

glColor3ub(134,240,197);

glBegin(GL\_QUADS);

glVertex2i(20,745);

glVertex2i(50,755);///// left 1

glVertex2i(30,735);

glVertex2i(10,725);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(70,750);

glVertex2i(100,740);

glVertex2i(110,730);////// left 2

glVertex2i(60,720);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(180,800);

glVertex2i(240,810); ////////// left 3

glVertex2i(280,770);

glVertex2i(140,760);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(240,750);

glVertex2i(230,740);

glVertex2i(290,730);

glVertex2i(270,720);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(470,790);

glVertex2i(480,790); ////////// left 3-4

glVertex2i(480,770);

glVertex2i(467,775);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(300,770); //////left 4

glVertex2i(365,785);

glVertex2i(320,740);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(500,785);

glVertex2i(520,755);

glVertex2i(510,745);////// left 5

glVertex2i(490,760);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(620,790);

glVertex2i(640,780); ////////// left 5-6

glVertex2i(615,775);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(680,740);

glVertex2i(670,760); ////// left 6

glVertex2i(700,745);

glVertex2i(690,740);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(712,755);

glVertex2i(800,790); ////// left 7

glVertex2i(780,760);

glVertex2i(770,750);

glVertex2i(770,740);

glVertex2i(750,720);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(950,770);

glVertex2i(1100,790); ////// left 8

glVertex2i(1050,740);

glVertex2i(1000,750);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1300,790);

glVertex2i(1355,750); ////// left 9

glVertex2i(1270,760);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(40,680);

glVertex2i(80,700);

glVertex2i(120,700); ////// upper 1

glVertex2i(110,680);

glVertex2i(70,660);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(157,720);

glVertex2i(200,750);

glVertex2i(220,730); ////// upper 2

glEnd();

glBegin(GL\_QUADS);

glVertex2i(400,820);

glVertex2i(400,810);

glVertex2i(390,790); ////// upper 3

glVertex2i(370,790);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(370,790);

glVertex2i(390,790);

glVertex2i(400,780);

glVertex2i(420,760);

glVertex2i(350,760);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(350,760);

glVertex2i(420,760);

glVertex2i(400,740);

glVertex2i(400,730);

glVertex2i(430,710);

glVertex2i(290,700);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(570,790);

glVertex2i(590,760);

glVertex2i(520,740);/////upper 4

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(610,730);

glVertex2i(650,760); //////////upper 5

glVertex2i(675,740);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(900,740);

glVertex2i(800,700); ///////// upper 6

glVertex2i(860,710);

glVertex2i(870,670);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1000,720);

glVertex2i(1050,725);

glVertex2i(1025,700); ///////////////upper 7

glVertex2i(1000,700);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(1200,790);

glVertex2i(1100,740); ///////// upper 8

glVertex2i(1235,750);

glVertex2i(1200,730);

glVertex2i(1150,720);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1460,780);

glVertex2i(1370,730);

glVertex2i(1350,710); ////////// upper 10

glVertex2i(1450,760);

glEnd();

glColor3ub(20,153,122);

glBegin(GL\_QUADS);

glVertex2i(450,780);

glVertex2i(530,730);

glVertex2i(550,690);

glVertex2i(460,750);

glEnd();

glBegin(GL\_TRIANGLES); //upper front 2

glVertex2i(400,630);

glVertex2i(450,670);

glVertex2i(510,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(400,660);

glVertex2i(450,700);

glVertex2i(550,650);

glEnd();

glBegin(GL\_QUAD\_STRIP);

glVertex2i(140,630);

glVertex2i(120,680);

glVertex2i(170,690);

glVertex2i(170,630);

glEnd(); //// front up 1

glBegin(GL\_QUAD\_STRIP);

glVertex2i(170,630);

glVertex2i(170,690);

glVertex2i(220,670);

glVertex2i(230,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(745,690);

glVertex2i(700,630);

glVertex2i(800,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(750,630);

glVertex2i(680,690); ///// front up 3

glVertex2i(680,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(590,630);

glVertex2i(680,660);

glVertex2i(680,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1000,630);

glVertex2i(950,660);

glVertex2i(1050,690);

glVertex2i(1050,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1050,630);

glVertex2i(1050,690);

glVertex2i(1070,660);

glVertex2i(1070,630); /////// front up 4

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1070,630);

glVertex2i(1070,660);

glVertex2i(1150,700);

glVertex2i(1150,630);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1150,630);

glVertex2i(1100,660);

glVertex2i(1225,690);

glVertex2i(1225,630);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1500,750);

glVertex2i(1350,670);

glVertex2i(1500,670);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1350,630);

glVertex2i(1450,670);

glVertex2i(1500,670);

glVertex2i(1500,630);

glEnd();

}

void sun()

{

glPushMatrix();

glTranslatef(position\_sun,0.0, 0.0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255,255, 153);

x=400;y=850;r=40;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255,255, 0);

x=400;y=850;r=30;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glPopMatrix();

glEnd();

}

void cloud\_1()

{

glColor3ub(255,255, 255);

glPushMatrix();

glTranslatef(position\_cloud\_1,0.0, 0.0);

float pi=2\*3.1416l;

int tri=40;

glColor3ub(255,255, 255);

glBegin(GL\_TRIANGLE\_FAN);

x=100;y=870;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=130;y=870;r=30;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=160;y=870;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glPopMatrix();

glEnd();

}

void cloud\_2()

{

glColor3ub(255,255, 255);

glPushMatrix();

glTranslatef(position\_cloud\_2,0.0, 0.0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=1400;y=820;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=1430;y=820;r=30;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=1460;y=820;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glPopMatrix();

glEnd();

}

void cloud\_3()

{

glColor3ub(255,255, 255);

glPushMatrix();

glTranslatef(position\_cloud\_3,0.0, 0.0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=500;y=820;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=530;y=820;r=30;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=560;y=820;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glPopMatrix();

glEnd();

}

void cloud\_4()

{

glColor3ub(255,255, 255);

glPushMatrix();

glTranslatef(position\_cloud\_4,0.0, 0.0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=700;y=850;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=730;y=850;r=30;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=760;y=850;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glPopMatrix();

glEnd();

}

void tree(){

glColor3ub(153,255,153);

glBegin(GL\_TRIANGLES);

glVertex2i(40,640);

glVertex2i(90,640);

glVertex2i(65,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(40,650);

glVertex2i(90,650); ////tree 1 back

glVertex2i(65,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(45,665);

glVertex2i(85,665);

glVertex2i(65,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(140,640);

glVertex2i(190,640);

glVertex2i(165,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(140,650);

glVertex2i(190,650); ////tree 2 back right

glVertex2i(165,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(145,665);

glVertex2i(185,665);

glVertex2i(165,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(480,660);

glVertex2i(530,660);

glVertex2i(505,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(480,670);

glVertex2i(530,670); ////tree 3 back left

glVertex2i(505,700);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(485,685);

glVertex2i(525,685);

glVertex2i(505,710);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(560,660);

glVertex2i(610,660);

glVertex2i(585,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(560,670);

glVertex2i(610,670); ////tree 3 back right up

glVertex2i(585,700);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(565,685);

glVertex2i(605,685);

glVertex2i(585,710);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(800,640);

glVertex2i(850,640);

glVertex2i(825,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(800,650);

glVertex2i(850,650); ////tree 4 left back up

glVertex2i(825,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(805,665);

glVertex2i(845,665);

glVertex2i(825,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(840,640);

glVertex2i(890,640);

glVertex2i(865,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(840,650);

glVertex2i(890,650); ////tree 4 right back up

glVertex2i(865,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(845,665);

glVertex2i(885,665);

glVertex2i(865,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1020,640);

glVertex2i(1070,640);

glVertex2i(1045,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1020,650);

glVertex2i(1070,650); ////tree 5 left back up

glVertex2i(1045,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1025,665);

glVertex2i(1065,665);

glVertex2i(1045,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1120,670);

glVertex2i(1170,670);

glVertex2i(1145,700);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1120,680);

glVertex2i(1170,680); ////tree 5 left back up

glVertex2i(1145,710);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1125,695);

glVertex2i(1165,695);

glVertex2i(1145,720);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1240,640);

glVertex2i(1290,640);

glVertex2i(1265,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1270,650);

glVertex2i(1290,650); ////tree 5 right back up

glVertex2i(1265,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1245,665);

glVertex2i(1285,665);

glVertex2i(1265,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1450,640);

glVertex2i(1510,640);

glVertex2i(1525,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1450,650);

glVertex2i(1550,650); ////tree 6 left back up

glVertex2i(1505,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1460,665);

glVertex2i(1545,665);

glVertex2i(1495,690);

glEnd();

glColor3ub(12,158,17);

glBegin(GL\_TRIANGLES);

glVertex2i(20,640);

glVertex2i(70,640);

glVertex2i(45,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(20,650);

glVertex2i(70,650); ////tree 1 up

glVertex2i(45,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(25,665);

glVertex2i(65,665);

glVertex2i(45,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(120,640);

glVertex2i(170,640);

glVertex2i(145,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(120,650);

glVertex2i(170,650); ////tree 2 up

glVertex2i(145,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(125,665);

glVertex2i(165,665);

glVertex2i(145,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(520,640);

glVertex2i(570,640);

glVertex2i(545,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(520,650);

glVertex2i(570,650); ////tree 3 up

glVertex2i(545,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(525,665);

glVertex2i(565,665);

glVertex2i(545,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(820,640);

glVertex2i(870,640);

glVertex2i(845,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(820,650);

glVertex2i(870,650); ////tree 4 up

glVertex2i(845,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(825,665);

glVertex2i(865,665);

glVertex2i(845,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1220,640);

glVertex2i(1270,640);

glVertex2i(1245,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1220,650);

glVertex2i(1270,650); ////tree 5 up

glVertex2i(1245,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1225,665);

glVertex2i(1265,665);

glVertex2i(1245,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1040,640);

glVertex2i(1090,640);

glVertex2i(1065,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1040,650);

glVertex2i(1090,650); ////tree 5 left up

glVertex2i(1065,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1045,665);

glVertex2i(1085,665);

glVertex2i(1065,690);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1470,640);

glVertex2i(1530,640);

glVertex2i(1545,670);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1470,650);

glVertex2i(1570,650); ////tree 6 up

glVertex2i(1525,680);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1480,665);

glVertex2i(1565,665);

glVertex2i(1515,690);

glEnd();

/////////////////////// land tree ///////////////////

glBegin(GL\_TRIANGLES);

glVertex2i(140,290);

glVertex2i(190,290);

glVertex2i(165,320);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(140,300);

glVertex2i(190,300); ////tree 7 down

glVertex2i(165,330);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(145,315);

glVertex2i(185,315);

glVertex2i(165,340);

glEnd();

glColor3ub(12,158,17);

glBegin(GL\_TRIANGLES);

glVertex2i(20,140);

glVertex2i(70,140);

glVertex2i(45,170);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(20,150);

glVertex2i(70,150); ////tree 8 down

glVertex2i(45,180);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(25,165);

glVertex2i(65,165);

glVertex2i(45,190);

glEnd();

glColor3ub(12,158,17);

glBegin(GL\_TRIANGLES);

glVertex2i(140,140);

glVertex2i(190,140);

glVertex2i(165,170);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(140,150);

glVertex2i(190,150); ////tree 9 down

glVertex2i(165,180);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(145,165);

glVertex2i(185,165);

glVertex2i(165,190);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1440,290);

glVertex2i(1490,290);

glVertex2i(1465,320);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1440,300);

glVertex2i(1490,300); ////tree 10 down

glVertex2i(1465,330);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1445,315);

glVertex2i(1485,315);

glVertex2i(1465,340);

glEnd();

glColor3ub(12,158,17);

glBegin(GL\_TRIANGLES);

glVertex2i(20,540);

glVertex2i(70,540);

glVertex2i(45,570);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(20,550);

glVertex2i(70,550); ////tree 11 down

glVertex2i(45,580);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(25,565);

glVertex2i(65,565);

glVertex2i(45,590);

glEnd();

glColor3ub(12,158,17);

glBegin(GL\_TRIANGLES);

glVertex2i(320,540);

glVertex2i(370,540);

glVertex2i(345,570);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(320,550);

glVertex2i(370,550); ////tree 12 down

glVertex2i(345,580);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(325,565);

glVertex2i(365,565);

glVertex2i(345,590);

glEnd();

glColor3ub(12,158,17);

glBegin(GL\_TRIANGLES);

glVertex2i(1270,540);

glVertex2i(1320,540);

glVertex2i(1295,570);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1270,550);

glVertex2i(1320,550); ////tree 13 down

glVertex2i(1295,580);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(1275,565);

glVertex2i(1315,565);

glVertex2i(1295,590);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(60,630);

glVertex2i(70,630); ///// tree 1 back lower part

glVertex2i(70,640);

glVertex2i(60,640);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(40,630);

glVertex2i(50,630); ///// tree 1 lower part

glVertex2i(50,640);

glVertex2i(40,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(160,630);

glVertex2i(170,630); ///// tree 2 back right lower part

glVertex2i(170,640);

glVertex2i(160,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(140,630);

glVertex2i(150,630); ///// tree 2 lower part

glVertex2i(150,640);

glVertex2i(140,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(500,630);

glVertex2i(510,630); ///// tree 3 back left lower part

glVertex2i(510,660);

glVertex2i(500,660);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(540,630);

glVertex2i(550,630); ///// tree 3 lower part

glVertex2i(550,640);

glVertex2i(540,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(580,630);

glVertex2i(590,630); ///// tree 3 lower right part

glVertex2i(590,660);

glVertex2i(580,660);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(820,630);

glVertex2i(830,630); ///// tree 4 left lower part

glVertex2i(830,640);

glVertex2i(820,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(840,630);

glVertex2i(850,630); ///// tree 4 lower part

glVertex2i(850,640);

glVertex2i(840,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(860,630);

glVertex2i(870,630); ///// tree 4 right lower part

glVertex2i(870,640);

glVertex2i(860,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1140,630);

glVertex2i(1150,630); ///// tree 5 left lower part

glVertex2i(1150,670);

glVertex2i(1140,670);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1040,630);

glVertex2i(1050,630); ///// (tree 5 left lower) left part

glVertex2i(1050,640);

glVertex2i(1040,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1060,630);

glVertex2i(1070,630); ///// tree 5 lower part

glVertex2i(1070,640);

glVertex2i(1060,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1240,630);

glVertex2i(1250,630); ///// tree 5 lower part

glVertex2i(1250,640);

glVertex2i(1240,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1260,630);

glVertex2i(1270,630); ///// tree 5 lower part

glVertex2i(1270,640);

glVertex2i(1260,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1495,630);

glVertex2i(1500,630); ///// tree 6 lower part

glVertex2i(1500,640);

glVertex2i(1495,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1475,630);

glVertex2i(1490,630); ///// tree 6 lower part

glVertex2i(1490,640);

glVertex2i(1475,640);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(160,290);

glVertex2i(170,290); ///// tree 7 lower part

glVertex2i(170,260);

glVertex2i(160,260);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(40,100);

glVertex2i(50,100); ///// tree 8 lower part

glVertex2i(50,140);

glVertex2i(40,140);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(160,100);

glVertex2i(170,100); ///// tree 9 lower part

glVertex2i(170,140);

glVertex2i(160,140);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(1460,290);

glVertex2i(1470,290); ///// tree 10 lower part

glVertex2i(1470,260);

glVertex2i(1460,260);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(40,500);

glVertex2i(50,500); ///// tree 11 lower part

glVertex2i(50,540);

glVertex2i(40,540);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(340,500);

glVertex2i(350,500); ///// tree 11 lower part

glVertex2i(350,540);

glVertex2i(340,540);

glEnd();

glColor3ub(153,76,0);

glBegin(GL\_QUADS);

glVertex2i(1290,500);

glVertex2i(1300,500); ///// tree 12 lower part

glVertex2i(1300,540);

glVertex2i(1290,540);

glEnd();

}

void river(){

glBegin(GL\_QUADS);

glColor3ub(153,255,255);

glVertex2i(0,0);

glVertex2i(1500,0);

glVertex2i(1500,630);

glVertex2i(0,630);

glEnd();

}

void left\_land()

{

glColor3ub(204,102,02);

glBegin(GL\_QUADS);

glPointSize(3.0);

glVertex2i(0,630);

glVertex2i(403,630);

glVertex2i(553,400);

glVertex2i(0,400);

glBegin(GL\_QUADS);

glVertex2i(553,400);

glVertex2i(393,150);

glVertex2i(0,0);

glVertex2i(0,493);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(68,196,102);

glPointSize(3.0);

glVertex2i(0,630);

glVertex2i(400,630);

glVertex2i(550,400);

glVertex2i(0,400);

glBegin(GL\_QUADS);

glColor3ub(68,196,102);

glVertex2i(550,400);

glVertex2i(390,150);

glVertex2i(0,0);

glVertex2i(0,400);

glEnd();

}

void left\_land\_night()

{

glColor3ub(192,192,192);

glBegin(GL\_QUADS);

glPointSize(3.0);

glVertex2i(0,630);

glVertex2i(403,630);

glVertex2i(553,400);

glVertex2i(0,400);

glBegin(GL\_QUADS);

glVertex2i(553,400);

glVertex2i(393,150);

glVertex2i(0,0);

glVertex2i(0,493);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(9,51,25);

glPointSize(3.0);

glVertex2i(0,630);

glVertex2i(400,630);

glVertex2i(550,400);

glVertex2i(0,400);

glBegin(GL\_QUADS);

glColor3ub(9,51,25);

glVertex2i(550,400);

glVertex2i(390,150);

glVertex2i(0,0);

glVertex2i(0,400);

glEnd();

}

void right\_land()

{

glColor3ub(204,102,02);

glBegin(GL\_POLYGON);

glVertex2i(1500,630);

glVertex2i(893,630);

glVertex2i(1443,400);

glVertex2i(993,400);

glVertex2i(1500,400);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(1493,400);

glVertex2i(993,400);

glVertex2i(1243,250);

glVertex2i(1093,200);

glVertex2i(1500,93);

glEnd();

glColor3ub(68,196,102);

glPointSize(3.0);

glBegin(GL\_POLYGON);

glVertex2i(1500,630);

glVertex2i(900,630);

glVertex2i(1450,400);

glVertex2i(1000,400);

glVertex2i(1500,400);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(1500,400);

glVertex2i(1000,400);

glVertex2i(1250,250);

glVertex2i(1100,200);

glVertex2i(1500,100);

glEnd();

}

void right\_land\_night()

{

glColor3ub(192,192,192);

glBegin(GL\_POLYGON);

glVertex2i(1500,630);

glVertex2i(893,630);

glVertex2i(1443,400);

glVertex2i(993,400);

glVertex2i(1500,400);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(1493,400);

glVertex2i(993,400);

glVertex2i(1243,250);

glVertex2i(1093,200);

glVertex2i(1500,93);

glEnd();

glColor3ub(9,51,25);

glPointSize(3.0);

glBegin(GL\_POLYGON);

glVertex2i(1500,630);

glVertex2i(900,630);

glVertex2i(1450,400);

glVertex2i(1000,400);

glVertex2i(1500,400);

glEnd();

glBegin(GL\_POLYGON);

glVertex2i(1500,400);

glVertex2i(1000,400);

glVertex2i(1250,250);

glVertex2i(1100,200);

glVertex2i(1500,100);

glEnd();

}

void left\_homes(){

//////left house/////////

glBegin(GL\_QUADS);

glColor3ub(205,102,0);

glVertex2i(0,300);

glVertex2i(100,300);

glVertex2i(100,350);

glVertex2i(0,350);

glBegin(GL\_QUADS);

glColor3ub(153,76,0);

glVertex2i(100,350);

glVertex2i(130,360);

glVertex2i(130,290);

glVertex2i(100,290);

glBegin(GL\_QUADS);

glColor3ub(96,96,96);

glVertex2i(0,300);

glVertex2i(100,300);

glVertex2i(100,290);

glVertex2i(0,290);

glBegin(GL\_QUADS);

glColor3ub(205,102,0);

glVertex2i(0,290);

glVertex2i(100,290);

glVertex2i(100,250);

glVertex2i(0,250);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(96,96,96);

glVertex2i(0,350);

glVertex2i(100,350);

glVertex2i(130,360);

glVertex2i(0,360);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(96,96,96);

glVertex2i(30,430);

glVertex2i(60,430);

glVertex2i(45,460);

glEnd();

glColor3ub(205,102,0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=45;y=400;r=40;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(5,350);

glVertex2i(85,350);

glVertex2i(85,400);

glVertex2i(5,400);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(99,96,96);

glVertex2i(100,250);

glVertex2i(100,290);

glVertex2i(130,290);

glEnd();

///////////// end //////////

///////////// house 1 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(250,350);

glVertex2i(270,300);

glVertex2i(400,300);

glVertex2i(370,350);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(250,350);

glVertex2i(270,300);

glVertex2i(230,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(270,300);

glVertex2i(270,250);

glVertex2i(390,250);

glVertex2i(390,300);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(270,250);

glVertex2i(270,300);

glVertex2i(240,310);

glVertex2i(240,270);

glEnd();

/////////// end /////////

///////////// house 2 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(150,630);

glVertex2i(160,600);

glVertex2i(250,600);

glVertex2i(230,630);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(150,630);

glVertex2i(160,600);

glVertex2i(120,610);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(160,600);

glVertex2i(160,560);

glVertex2i(240,560);

glVertex2i(240,600);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(160,560);

glVertex2i(160,600);

glVertex2i(130,610);

glVertex2i(130,580);

glEnd();

/////////// end /////////

///////////// house 3 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(1150,630);

glVertex2i(1160,600);

glVertex2i(1250,600);

glVertex2i(1230,630);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(1150,630);

glVertex2i(1160,600);

glVertex2i(1120,610);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(1160,600);

glVertex2i(1160,560);

glVertex2i(1240,560);

glVertex2i(1240,600);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(1160,560);

glVertex2i(1160,600);

glVertex2i(1130,610);

glVertex2i(1130,580);

glEnd();

/////////// end /////////

///////////// house 4 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(1350,630);

glVertex2i(1360,600);

glVertex2i(1450,600);

glVertex2i(1430,630);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(1350,630);

glVertex2i(1360,600);

glVertex2i(1320,610);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(1360,600);

glVertex2i(1360,560);

glVertex2i(1440,560);

glVertex2i(1440,600);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(1360,560);

glVertex2i(1360,600);

glVertex2i(1330,610);

glVertex2i(1330,580);

glEnd();

/////////// end /////////

///////////// house 5 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(1250,350);

glVertex2i(1270,300);

glVertex2i(1400,300);

glVertex2i(1370,350);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(1250,350);

glVertex2i(1270,300);

glVertex2i(1230,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(1270,300);

glVertex2i(1270,250);

glVertex2i(1390,250);

glVertex2i(1390,300);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(1270,250);

glVertex2i(1270,300);

glVertex2i(1240,310);

glVertex2i(1240,270);

glEnd();

/////////// end /////////

//// window big house //

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(10,330);

glVertex2i(30,330);

glVertex2i(30,310);

glVertex2i(10,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(50,330);

glVertex2i(70,330);

glVertex2i(70,310);

glVertex2i(50,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(110,330);

glVertex2i(120,335);

glVertex2i(120,310);

glVertex2i(110,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(30,270);

glVertex2i(50,270);

glVertex2i(50,250);

glVertex2i(30,250);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(30,360);

glVertex2i(60,360);

glVertex2i(60,380);

glVertex2i(30,380);

glEnd();

/////////// end ////////////

/////////// window house 1 ///////

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(320,250);

glVertex2i(350,250);

glVertex2i(350,280);

glVertex2i(320,280);

glVertex2i(280,270);

glVertex2i(300,270);

glVertex2i(300,290);

glVertex2i(280,290);

glVertex2i(360,270);

glVertex2i(380,270);

glVertex2i(380,290);

glVertex2i(360,290);

glVertex2i(260,270);

glVertex2i(250,275);

glVertex2i(250,295);

glVertex2i(260,290);

glEnd();

/////////// end ////////////

/////////// window house 2 ///////

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(190,560);

glVertex2i(210,560);

glVertex2i(210,580);

glVertex2i(190,580);

glVertex2i(165,575);

glVertex2i(185,575);

glVertex2i(185,595);

glVertex2i(165,595);

glVertex2i(220,575);

glVertex2i(235,575);

glVertex2i(235,595);

glVertex2i(220,595);

glVertex2i(150,580);

glVertex2i(140,585);

glVertex2i(140,600);

glVertex2i(150,598);

glEnd();

/////////// end ////////////

/////////// window house 3 ///////

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(1190,560);

glVertex2i(1210,560);

glVertex2i(1210,580);

glVertex2i(1190,580);

glVertex2i(1165,575);

glVertex2i(1185,575);

glVertex2i(1185,595);

glVertex2i(1165,595);

glVertex2i(1220,575);

glVertex2i(1235,575);

glVertex2i(1235,595);

glVertex2i(1220,595);

glVertex2i(1150,580);

glVertex2i(1140,585);

glVertex2i(1140,600);

glVertex2i(1150,598);

glEnd();

/////////// end ////////////

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(1390,560);

glVertex2i(1410,560);

glVertex2i(1410,580);

glVertex2i(1390,580);

glVertex2i(1365,575);

glVertex2i(1385,575);

glVertex2i(1385,595);

glVertex2i(1365,595);

glVertex2i(1420,575);

glVertex2i(1435,575);

glVertex2i(1435,595);

glVertex2i(1420,595);

glVertex2i(1350,580);

glVertex2i(1340,585);

glVertex2i(1340,600);

glVertex2i(1350,598);

glEnd();

/////////// end ////////////

//////////// window house 5 /////////////

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(1320,250);

glVertex2i(1350,250);

glVertex2i(1350,280);

glVertex2i(1320,280);

glVertex2i(1280,270);

glVertex2i(1300,270);

glVertex2i(1300,290);

glVertex2i(1280,290);

glVertex2i(1360,270);

glVertex2i(1380,270);

glVertex2i(1380,290);

glVertex2i(1360,290);

glVertex2i(1260,270);

glVertex2i(1250,275);

glVertex2i(1250,295);

glVertex2i(1260,290);

glEnd();

}

void left\_homes\_night(){

//////left house/////////

glBegin(GL\_QUADS);

glColor3ub(205,102,0);

glVertex2i(0,300);

glVertex2i(100,300);

glVertex2i(100,350);

glVertex2i(0,350);

glBegin(GL\_QUADS);

glColor3ub(153,76,0);

glVertex2i(100,350);

glVertex2i(130,360);

glVertex2i(130,290);

glVertex2i(100,290);

glBegin(GL\_QUADS);

glColor3ub(96,96,96);

glVertex2i(0,300);

glVertex2i(100,300);

glVertex2i(100,290);

glVertex2i(0,290);

glBegin(GL\_QUADS);

glColor3ub(205,102,0);

glVertex2i(0,290);

glVertex2i(100,290);

glVertex2i(100,250);

glVertex2i(0,250);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(96,96,96);

glVertex2i(0,350);

glVertex2i(100,350);

glVertex2i(130,360);

glVertex2i(0,360);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(96,96,96);

glVertex2i(30,430);

glVertex2i(60,430);

glVertex2i(45,460);

glEnd();

glColor3ub(205,102,0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=45;y=400;r=40;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(5,350);

glVertex2i(85,350);

glVertex2i(85,400);

glVertex2i(5,400);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(99,96,96);

glVertex2i(100,250);

glVertex2i(100,290);

glVertex2i(130,290);

glEnd();

///////////// end //////////

///////////// house 1 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(250,350);

glVertex2i(270,300);

glVertex2i(400,300);

glVertex2i(370,350);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(250,350);

glVertex2i(270,300);

glVertex2i(230,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(270,300);

glVertex2i(270,250);

glVertex2i(390,250);

glVertex2i(390,300);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(270,250);

glVertex2i(270,300);

glVertex2i(240,310);

glVertex2i(240,270);

glEnd();

/////////// end /////////

///////////// house 2 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(150,630);

glVertex2i(160,600);

glVertex2i(250,600);

glVertex2i(230,630);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(150,630);

glVertex2i(160,600);

glVertex2i(120,610);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(160,600);

glVertex2i(160,560);

glVertex2i(240,560);

glVertex2i(240,600);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(160,560);

glVertex2i(160,600);

glVertex2i(130,610);

glVertex2i(130,580);

glEnd();

/////////// end /////////

///////////// house 3 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(1150,630);

glVertex2i(1160,600);

glVertex2i(1250,600);

glVertex2i(1230,630);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(1150,630);

glVertex2i(1160,600);

glVertex2i(1120,610);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(1160,600);

glVertex2i(1160,560);

glVertex2i(1240,560);

glVertex2i(1240,600);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(1160,560);

glVertex2i(1160,600);

glVertex2i(1130,610);

glVertex2i(1130,580);

glEnd();

/////////// end /////////

///////////// house 4 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(1350,630);

glVertex2i(1360,600);

glVertex2i(1450,600);

glVertex2i(1430,630);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(1350,630);

glVertex2i(1360,600);

glVertex2i(1320,610);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(1360,600);

glVertex2i(1360,560);

glVertex2i(1440,560);

glVertex2i(1440,600);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(1360,560);

glVertex2i(1360,600);

glVertex2i(1330,610);

glVertex2i(1330,580);

glEnd();

/////////// end /////////

///////////// house 5 //////////

glBegin(GL\_QUADS);

glColor3ub(255,178,102);

glVertex2i(1250,350);

glVertex2i(1270,300);

glVertex2i(1400,300);

glVertex2i(1370,350);

glEnd();

glBegin(GL\_TRIANGLES);

glColor3ub(205,102,0);

glVertex2i(1250,350);

glVertex2i(1270,300);

glVertex2i(1230,310);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(178,122,49);

glVertex2i(1270,300);

glVertex2i(1270,250);

glVertex2i(1390,250);

glVertex2i(1390,300);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(104,74,35);

glVertex2i(1270,250);

glVertex2i(1270,300);

glVertex2i(1240,310);

glVertex2i(1240,270);

glEnd();

/////////// end /////////

//// window big house //

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(10,330);

glVertex2i(30,330);

glVertex2i(30,310);

glVertex2i(10,310);

glVertex2i(50,330);

glVertex2i(70,330);

glVertex2i(70,310);

glVertex2i(50,310);

glVertex2i(110,330);

glVertex2i(120,335);

glVertex2i(120,310);

glVertex2i(110,310);

glVertex2i(30,270);

glVertex2i(50,270);

glVertex2i(50,250);

glVertex2i(30,250);

glVertex2i(30,360);

glVertex2i(60,360);

glVertex2i(60,380);

glVertex2i(30,380);

glEnd();

/////////// end ////////////

/////////// window house 1 ///////

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(320,250);

glVertex2i(350,250);

glVertex2i(350,280);

glVertex2i(320,280);

glVertex2i(280,270);

glVertex2i(300,270);

glVertex2i(300,290);

glVertex2i(280,290);

glVertex2i(360,270);

glVertex2i(380,270);

glVertex2i(380,290);

glVertex2i(360,290);

glVertex2i(260,270);

glVertex2i(250,275);

glVertex2i(250,295);

glVertex2i(260,290);

glEnd();

/////////// end ////////////

/////////// window house 2 ///////

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(190,560);

glVertex2i(210,560);

glVertex2i(210,580);

glVertex2i(190,580);

glVertex2i(165,575);

glVertex2i(185,575);

glVertex2i(185,595);

glVertex2i(165,595);

glVertex2i(220,575);

glVertex2i(235,575);

glVertex2i(235,595);

glVertex2i(220,595);

glVertex2i(150,580);

glVertex2i(140,585);

glVertex2i(140,600);

glVertex2i(150,598);

glEnd();

/////////// end ////////////

/////////// window house 3 ///////

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(1190,560);

glVertex2i(1210,560);

glVertex2i(1210,580);

glVertex2i(1190,580);

glVertex2i(1165,575);

glVertex2i(1185,575);

glVertex2i(1185,595);

glVertex2i(1165,595);

glVertex2i(1220,575);

glVertex2i(1235,575);

glVertex2i(1235,595);

glVertex2i(1220,595);

glVertex2i(1150,580);

glVertex2i(1140,585);

glVertex2i(1140,600);

glVertex2i(1150,598);

glEnd();

/////////// end ////////////

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(1390,560);

glVertex2i(1410,560);

glVertex2i(1410,580);

glVertex2i(1390,580);

glVertex2i(1365,575);

glVertex2i(1385,575);

glVertex2i(1385,595);

glVertex2i(1365,595);

glVertex2i(1420,575);

glVertex2i(1435,575);

glVertex2i(1435,595);

glVertex2i(1420,595);

glVertex2i(1350,580);

glVertex2i(1340,585);

glVertex2i(1340,600);

glVertex2i(1350,598);

glEnd();

/////////// end ////////////

//////////// window house 5 /////////////

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(1320,250);

glVertex2i(1350,250);

glVertex2i(1350,280);

glVertex2i(1320,280);

glVertex2i(1280,270);

glVertex2i(1300,270);

glVertex2i(1300,290);

glVertex2i(1280,290);

glVertex2i(1360,270);

glVertex2i(1380,270);

glVertex2i(1380,290);

glVertex2i(1360,290);

glVertex2i(1260,270);

glVertex2i(1250,275);

glVertex2i(1250,295);

glVertex2i(1260,290);

glEnd();

}

void rail\_line()

{

glColor3ub(0,0,0);

glPointSize(10.0);

glBegin(GL\_LINES);

glVertex2i(0,450);

glVertex2i(1500,450);

glEnd();

glBegin(GL\_LINES);

glVertex2i(0,480);

glVertex2i(1500,480);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(192,192,192);

glVertex2i(0,450);

glVertex2i(1500,450);

glVertex2i(1500,480);

glVertex2i(0,480);

glEnd();

glColor3ub(0,0,0);

glBegin(GL\_LINES);

glVertex2i(40,450);

glVertex2i(40,480);

glVertex2i(80,450);

glVertex2i(80,480);

glVertex2i(120,450);

glVertex2i(120,480);

glVertex2i(160,450);

glVertex2i(160,480);

glVertex2i(200,450);

glVertex2i(200,480);

glVertex2i(240,450);

glVertex2i(240,480);

glVertex2i(280,450);

glVertex2i(280,480);

glVertex2i(300,450);

glVertex2i(300,480);

glVertex2i(340,450);

glVertex2i(340,480);

glVertex2i(380,450);

glVertex2i(380,480);

glVertex2i(420,450);

glVertex2i(420,480);

glVertex2i(460,450);

glVertex2i(460,480);

glVertex2i(500,450);

glVertex2i(500,480);

glVertex2i(540,450);

glVertex2i(540,480);

glVertex2i(580,450);

glVertex2i(580,480);

glVertex2i(620,450);

glVertex2i(620,480);

glVertex2i(660,450);

glVertex2i(660,480);

glVertex2i(700,450);

glVertex2i(700,480);

glVertex2i(740,450);

glVertex2i(740,480);

glVertex2i(780,450);

glVertex2i(780,480);

glVertex2i(820,450);

glVertex2i(820,480);

glVertex2i(860,450);

glVertex2i(860,480);

glVertex2i(900,450);

glVertex2i(900,480);

glVertex2i(940,450);

glVertex2i(940,480);

glVertex2i(980,450);

glVertex2i(980,480);

glVertex2i(1020,450);

glVertex2i(1020,480);

glVertex2i(1060,450);

glVertex2i(1060,480);

glVertex2i(1100,450);

glVertex2i(1100,480);

glVertex2i(1140,450);

glVertex2i(1140,480);

glVertex2i(1180,450);

glVertex2i(1180,480);

glVertex2i(1220,450);

glVertex2i(1220,480);

glVertex2i(1260,450);

glVertex2i(1260,480);

glVertex2i(1300,450);

glVertex2i(1300,480);

glVertex2i(1340,450);

glVertex2i(1340,480);

glVertex2i(1380,450);

glVertex2i(1380,480);

glVertex2i(1420,450);

glVertex2i(1420,480);

glVertex2i(1460,450);

glVertex2i(1460,480);

glEnd();

glColor3ub(255,255,255);

glBegin(GL\_QUADS);

glVertex2i(540,450);

glVertex2i(580,450);

glVertex2i(580,420);

glVertex2i(540,420);

glVertex2i(550,420);

glVertex2i(570,420);

glVertex2i(570,390);

glVertex2i(550,390);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(540,420);

glVertex2i(500,450);

glVertex2i(540,450);

glVertex2i(580,420);

glVertex2i(620,450);

glVertex2i(580,450);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(740,450);

glVertex2i(780,450);

glVertex2i(780,420);

glVertex2i(740,420);

glVertex2i(750,420);

glVertex2i(770,420);

glVertex2i(770,390);

glVertex2i(750,390);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(740,420);

glVertex2i(700,450);

glVertex2i(740,450);

glVertex2i(780,420);

glVertex2i(820,450);

glVertex2i(780,450);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(940,450);

glVertex2i(980,450);

glVertex2i(980,420);

glVertex2i(940,420);

glVertex2i(950,420);

glVertex2i(970,420);

glVertex2i(970,390);

glVertex2i(950,390);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(940,420);

glVertex2i(900,450);

glVertex2i(940,450);

glVertex2i(980,420);

glVertex2i(1020,450);

glVertex2i(940,450);

glEnd();

////////////// rail body ///////////////

glPushMatrix();

glTranslatef(position\_rail,0,0);

glBegin(GL\_POLYGON);

glColor3ub(255,255,255);

glVertex2i(300,460);

glVertex2i(310,470);

glVertex2i(310,520);

glVertex2i(200,520);

glVertex2i(200,460);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(200,460);

glVertex2i(300,460);

glVertex2i(300,510);

glVertex2i(200,510);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(255,255,255);

glVertex2i(410,460);

glVertex2i(420,470);

glVertex2i(420,520);

glVertex2i(320,520);

glVertex2i(310,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(310,460);

glVertex2i(410,460);

glVertex2i(410,510);

glVertex2i(310,510);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(255,255,255);

glVertex2i(520,460);

glVertex2i(530,470);

glVertex2i(530,520);

glVertex2i(430,520);

glVertex2i(420,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(420,460);

glVertex2i(520,460);

glVertex2i(520,510);

glVertex2i(420,510);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(255,255,255);

glVertex2i(640,460);

glVertex2i(650,470);

glVertex2i(650,520);

glVertex2i(540,520);

glVertex2i(530,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(530,460);

glVertex2i(640,460);

glVertex2i(640,510);

glVertex2i(530,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(635,512);

glVertex2i(610,512);

glVertex2i(610,518);

glVertex2i(635,518);

glVertex2i(600,512);

glVertex2i(580,512);

glVertex2i(580,518);

glVertex2i(600,518);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,0,0);

glVertex2i(642,480);

glVertex2i(642,500);

glVertex2i(648,500);

glVertex2i(646,480);

glEnd();

///////////// rail circle ///////////////

glColor3ub(0,0,0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=620;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=550;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=500;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=440;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=390;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=330;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=280;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=220;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

//////////// end rail circle //////////

////////////// window start //////////////

glColor3ub(255,255,255);

glBegin(GL\_QUADS);

glVertex2i(205,480);

glVertex2i(205,500);

glVertex2i(225,500);

glVertex2i(225,480);

glVertex2i(235,480);

glVertex2i(235,500);

glVertex2i(260,500);

glVertex2i(260,480);

glVertex2i(270,480);

glVertex2i(270,500);

glVertex2i(295,500);

glVertex2i(295,480);

glVertex2i(315,480);

glVertex2i(315,500);

glVertex2i(335,500);

glVertex2i(335,480);

glVertex2i(345,480);

glVertex2i(345,500);

glVertex2i(370,500);

glVertex2i(370,480);

glVertex2i(380,480);

glVertex2i(380,500);

glVertex2i(405,500);

glVertex2i(405,480);

glVertex2i(425,480);

glVertex2i(425,500);

glVertex2i(450,500);

glVertex2i(450,480);

glVertex2i(460,480);

glVertex2i(460,500);

glVertex2i(485,500);

glVertex2i(485,480);

glVertex2i(490,480);

glVertex2i(490,500);

glVertex2i(515,500);

glVertex2i(515,480);

glVertex2i(535,480);

glVertex2i(535,500);

glVertex2i(555,500);

glVertex2i(555,480);

glVertex2i(560,480);

glVertex2i(560,500);

glVertex2i(585,500);

glVertex2i(585,480);

glVertex2i(590,480);

glVertex2i(590,500);

glVertex2i(620,500);

glVertex2i(620,480);

glEnd();

/////////// window end ///////

glPopMatrix();

glEnd();

////////////////////// rail light //////////////

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(430,550);

glVertex2i(460,560);

glVertex2i(460,540);

glVertex2i(430,530);

glVertex2i(530,550);

glVertex2i(560,560);

glVertex2i(560,540);

glVertex2i(530,530);

glVertex2i(630,550);

glVertex2i(660,560);

glVertex2i(660,540);

glVertex2i(630,530);

glVertex2i(730,550);

glVertex2i(760,560);

glVertex2i(760,540);

glVertex2i(730,530);

glVertex2i(830,550);

glVertex2i(860,560);

glVertex2i(860,540);

glVertex2i(830,530);

glVertex2i(930,550);

glVertex2i(960,560);

glVertex2i(960,540);

glVertex2i(930,530);

glVertex2i(1030,550);

glVertex2i(1060,560);

glVertex2i(1060,540);

glVertex2i(1030,530);

glVertex2i(1130,550);

glVertex2i(1160,560);

glVertex2i(1160,540);

glVertex2i(1130,530);

glEnd();

///////////////// end of light ///////////

////////////// light stand ////////////

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(430,450);

glVertex2i(440,450);

glVertex2i(440,550);

glVertex2i(430,550);

glVertex2i(530,450);

glVertex2i(540,450);

glVertex2i(540,550);

glVertex2i(530,550);

glVertex2i(630,450);

glVertex2i(640,450);

glVertex2i(640,550);

glVertex2i(630,550);

glVertex2i(730,450);

glVertex2i(740,450);

glVertex2i(740,550);

glVertex2i(730,550);

glVertex2i(830,450);

glVertex2i(840,450);

glVertex2i(840,550);

glVertex2i(830,550);

glVertex2i(930,450);

glVertex2i(940,450);

glVertex2i(940,550);

glVertex2i(930,550);

glVertex2i(1030,450);

glVertex2i(1040,450);

glVertex2i(1040,550);

glVertex2i(1030,550);

glVertex2i(1130,450);

glVertex2i(1140,450);

glVertex2i(1140,550);

glVertex2i(1130,550);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(420,450);

glVertex2i(1180,450);

glVertex2i(1180,460);

glVertex2i(420,460);

glEnd();

}

void rail\_line\_night()

{

glColor3ub(0,0,0);

glPointSize(10.0);

glBegin(GL\_LINES);

glVertex2i(0,450);

glVertex2i(1500,450);

glEnd();

glBegin(GL\_LINES);

glVertex2i(0,480);

glVertex2i(1500,480);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(128,128,128);

glVertex2i(0,450);

glVertex2i(1500,450);

glVertex2i(1500,480);

glVertex2i(0,480);

glEnd();

glColor3ub(0,0,0);

glBegin(GL\_LINES);

glVertex2i(40,450);

glVertex2i(40,480);

glVertex2i(80,450);

glVertex2i(80,480);

glVertex2i(120,450);

glVertex2i(120,480);

glVertex2i(160,450);

glVertex2i(160,480);

glVertex2i(200,450);

glVertex2i(200,480);

glVertex2i(240,450);

glVertex2i(240,480);

glVertex2i(280,450);

glVertex2i(280,480);

glVertex2i(300,450);

glVertex2i(300,480);

glVertex2i(340,450);

glVertex2i(340,480);

glVertex2i(380,450);

glVertex2i(380,480);

glVertex2i(420,450);

glVertex2i(420,480);

glVertex2i(460,450);

glVertex2i(460,480);

glVertex2i(500,450);

glVertex2i(500,480);

glVertex2i(540,450);

glVertex2i(540,480);

glVertex2i(580,450);

glVertex2i(580,480);

glVertex2i(620,450);

glVertex2i(620,480);

glVertex2i(660,450);

glVertex2i(660,480);

glVertex2i(700,450);

glVertex2i(700,480);

glVertex2i(740,450);

glVertex2i(740,480);

glVertex2i(780,450);

glVertex2i(780,480);

glVertex2i(820,450);

glVertex2i(820,480);

glVertex2i(860,450);

glVertex2i(860,480);

glVertex2i(900,450);

glVertex2i(900,480);

glVertex2i(940,450);

glVertex2i(940,480);

glVertex2i(980,450);

glVertex2i(980,480);

glVertex2i(1020,450);

glVertex2i(1020,480);

glVertex2i(1060,450);

glVertex2i(1060,480);

glVertex2i(1100,450);

glVertex2i(1100,480);

glVertex2i(1140,450);

glVertex2i(1140,480);

glVertex2i(1180,450);

glVertex2i(1180,480);

glVertex2i(1220,450);

glVertex2i(1220,480);

glVertex2i(1260,450);

glVertex2i(1260,480);

glVertex2i(1300,450);

glVertex2i(1300,480);

glVertex2i(1340,450);

glVertex2i(1340,480);

glVertex2i(1380,450);

glVertex2i(1380,480);

glVertex2i(1420,450);

glVertex2i(1420,480);

glVertex2i(1460,450);

glVertex2i(1460,480);

glEnd();

glColor3ub(0,0,0);

glBegin(GL\_QUADS);

glVertex2i(540,450);

glVertex2i(580,450);

glVertex2i(580,420);

glVertex2i(540,420);

glVertex2i(550,420);

glVertex2i(570,420);

glVertex2i(570,390);

glVertex2i(550,390);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(540,420);

glVertex2i(500,450);

glVertex2i(540,450);

glVertex2i(580,420);

glVertex2i(620,450);

glVertex2i(580,450);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(740,450);

glVertex2i(780,450);

glVertex2i(780,420);

glVertex2i(740,420);

glVertex2i(750,420);

glVertex2i(770,420);

glVertex2i(770,390);

glVertex2i(750,390);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(740,420);

glVertex2i(700,450);

glVertex2i(740,450);

glVertex2i(780,420);

glVertex2i(820,450);

glVertex2i(780,450);

glEnd();

glBegin(GL\_QUADS);

glVertex2i(940,450);

glVertex2i(980,450);

glVertex2i(980,420);

glVertex2i(940,420);

glVertex2i(950,420);

glVertex2i(970,420);

glVertex2i(970,390);

glVertex2i(950,390);

glEnd();

glBegin(GL\_TRIANGLES);

glVertex2i(940,420);

glVertex2i(900,450);

glVertex2i(940,450);

glVertex2i(980,420);

glVertex2i(1020,450);

glVertex2i(940,450);

glEnd();

////////////// rail body ///////////////

glPushMatrix();

glTranslatef(position\_rail,0,0);

glBegin(GL\_POLYGON);

glColor3ub(0,0,0);

glVertex2i(300,460);

glVertex2i(310,470);

glVertex2i(310,520);

glVertex2i(200,520);

glVertex2i(200,460);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(200,460);

glVertex2i(300,460);

glVertex2i(300,510);

glVertex2i(200,510);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(0,0,0);

glVertex2i(410,460);

glVertex2i(420,470);

glVertex2i(420,520);

glVertex2i(320,520);

glVertex2i(310,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(310,460);

glVertex2i(410,460);

glVertex2i(410,510);

glVertex2i(310,510);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(0,0,0);

glVertex2i(520,460);

glVertex2i(530,470);

glVertex2i(530,520);

glVertex2i(430,520);

glVertex2i(420,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(420,460);

glVertex2i(520,460);

glVertex2i(520,510);

glVertex2i(420,510);

glEnd();

glBegin(GL\_POLYGON);

glColor3ub(0,0,0);

glVertex2i(640,460);

glVertex2i(650,470);

glVertex2i(650,520);

glVertex2i(540,520);

glVertex2i(530,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,153,153);

glVertex2i(530,460);

glVertex2i(640,460);

glVertex2i(640,510);

glVertex2i(530,510);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(635,512);

glVertex2i(610,512);

glVertex2i(610,518);

glVertex2i(635,518);

glVertex2i(600,512);

glVertex2i(580,512);

glVertex2i(580,518);

glVertex2i(600,518);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255,255,255);

glVertex2i(642,480);

glVertex2i(642,500);

glVertex2i(648,500);

glVertex2i(646,480);

glEnd();

///////////// rail circle ///////////////

glColor3ub(0,0,0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

x=620;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=550;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=500;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=440;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=390;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=330;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=280;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_TRIANGLE\_FAN);

x=220;y=460;r=10;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

//////////// end rail circle //////////

////////////// window start //////////////

glColor3ub(255,255,102);

glBegin(GL\_QUADS);

glVertex2i(205,480);

glVertex2i(205,500);

glVertex2i(225,500);

glVertex2i(225,480);

glVertex2i(235,480);

glVertex2i(235,500);

glVertex2i(260,500);

glVertex2i(260,480);

glVertex2i(270,480);

glVertex2i(270,500);

glVertex2i(295,500);

glVertex2i(295,480);

glVertex2i(315,480);

glVertex2i(315,500);

glVertex2i(335,500);

glVertex2i(335,480);

glVertex2i(345,480);

glVertex2i(345,500);

glVertex2i(370,500);

glVertex2i(370,480);

glVertex2i(380,480);

glVertex2i(380,500);

glVertex2i(405,500);

glVertex2i(405,480);

glVertex2i(425,480);

glVertex2i(425,500);

glVertex2i(450,500);

glVertex2i(450,480);

glVertex2i(460,480);

glVertex2i(460,500);

glVertex2i(485,500);

glVertex2i(485,480);

glVertex2i(490,480);

glVertex2i(490,500);

glVertex2i(515,500);

glVertex2i(515,480);

glVertex2i(535,480);

glVertex2i(535,500);

glVertex2i(555,500);

glVertex2i(555,480);

glVertex2i(560,480);

glVertex2i(560,500);

glVertex2i(585,500);

glVertex2i(585,480);

glVertex2i(590,480);

glVertex2i(590,500);

glVertex2i(620,500);

glVertex2i(620,480);

glEnd();

/////////// window end ///////

glPopMatrix();

glEnd();

////////////////////// rail light //////////////

glBegin(GL\_QUADS);

glColor3ub(255,255,0);

glVertex2i(430,550);

glVertex2i(460,560);

glVertex2i(460,540);

glVertex2i(430,530);

glVertex2i(530,550);

glVertex2i(560,560);

glVertex2i(560,540);

glVertex2i(530,530);

glVertex2i(630,550);

glVertex2i(660,560);

glVertex2i(660,540);

glVertex2i(630,530);

glVertex2i(730,550);

glVertex2i(760,560);

glVertex2i(760,540);

glVertex2i(730,530);

glVertex2i(830,550);

glVertex2i(860,560);

glVertex2i(860,540);

glVertex2i(830,530);

glVertex2i(930,550);

glVertex2i(960,560);

glVertex2i(960,540);

glVertex2i(930,530);

glVertex2i(1030,550);

glVertex2i(1060,560);

glVertex2i(1060,540);

glVertex2i(1030,530);

glVertex2i(1130,550);

glVertex2i(1160,560);

glVertex2i(1160,540);

glVertex2i(1130,530);

glEnd();

///////////////// end of light ///////////

////////////// light stand ////////////

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(430,450);

glVertex2i(440,450);

glVertex2i(440,550);

glVertex2i(430,550);

glVertex2i(530,450);

glVertex2i(540,450);

glVertex2i(540,550);

glVertex2i(530,550);

glVertex2i(630,450);

glVertex2i(640,450);

glVertex2i(640,550);

glVertex2i(630,550);

glVertex2i(730,450);

glVertex2i(740,450);

glVertex2i(740,550);

glVertex2i(730,550);

glVertex2i(830,450);

glVertex2i(840,450);

glVertex2i(840,550);

glVertex2i(830,550);

glVertex2i(930,450);

glVertex2i(940,450);

glVertex2i(940,550);

glVertex2i(930,550);

glVertex2i(1030,450);

glVertex2i(1040,450);

glVertex2i(1040,550);

glVertex2i(1030,550);

glVertex2i(1130,450);

glVertex2i(1140,450);

glVertex2i(1140,550);

glVertex2i(1130,550);

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(420,450);

glVertex2i(1180,450);

glVertex2i(1180,460);

glVertex2i(420,460);

glEnd();

}

void star()

{

glBegin(GL\_TRIANGLES);

glColor3ub(255,255,255);

glVertex2i(10,860);

glVertex2i(20,860);

glVertex2i(15,875);

glVertex2i(10,870);

glVertex2i(20,870);

glVertex2i(15,855);

glVertex2i(110,860);

glVertex2i(120,860);

glVertex2i(115,875);

glVertex2i(110,870);

glVertex2i(120,870);

glVertex2i(115,855);

glVertex2i(410,860);

glVertex2i(420,860);

glVertex2i(415,875);

glVertex2i(410,870);

glVertex2i(420,870);

glVertex2i(415,855);

glVertex2i(710,860);

glVertex2i(720,860);

glVertex2i(715,875);

glVertex2i(710,870);

glVertex2i(720,870);

glVertex2i(715,855);

glVertex2i(1010,860);

glVertex2i(1020,860);

glVertex2i(1015,875);

glVertex2i(1010,870);

glVertex2i(1020,870);

glVertex2i(1015,855);

glVertex2i(1410,760);

glVertex2i(1420,760);

glVertex2i(1415,775);

glVertex2i(1410,770);

glVertex2i(1420,770);

glVertex2i(1415,755);

glVertex2i(310,800);

glVertex2i(320,800);

glVertex2i(315,815);

glVertex2i(310,810);

glVertex2i(320,810);

glVertex2i(315,795);

glVertex2i(510,800);

glVertex2i(520,800);

glVertex2i(515,815);

glVertex2i(510,810);

glVertex2i(520,810);

glVertex2i(515,795);

glVertex2i(610,840);

glVertex2i(620,840);

glVertex2i(615,855);

glVertex2i(610,850);

glVertex2i(620,850);

glVertex2i(615,835);

glVertex2i(910,800);

glVertex2i(920,800);

glVertex2i(915,815);

glVertex2i(910,810);

glVertex2i(920,810);

glVertex2i(915,795);

glVertex2i(1110,840);

glVertex2i(1120,840);

glVertex2i(1115,855);

glVertex2i(1110,850);

glVertex2i(1120,850);

glVertex2i(1115,835);

glVertex2i(1310,800);

glVertex2i(1320,800);

glVertex2i(1315,815);

glVertex2i(1310,810);

glVertex2i(1320,810);

glVertex2i(1315,795);

glEnd();

glEnd();

}

void boat()

{

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(179, 89, 0);

x=530;y=210;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(179, 89, 0);

glVertex2i(470,200);

glVertex2i(530,200);

glVertex2i(530,230);

glVertex2i(470,230);

glEnd();

glColor3ub(255,140,26);

glBegin(GL\_TRIANGLE\_FAN);

x=465;y=210;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(400, 200);

glVertex2i(600, 200);

glVertex2i(540, 170);

glVertex2i(460, 170);

glEnd();

glBegin(GL\_LINES);

glColor3ub(0,0,0);

glVertex2i(410, 180);

glVertex2i(400, 230);

glVertex2i(400, 180);

glVertex2i(410, 230);

glEnd();

///////////////// start boat 2

glPushMatrix();

glTranslated(position\_boat\_2,0,0);

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(153, 76, 0);

x=530;y=105;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(153, 76, 0);

glVertex2i(470,100);

glVertex2i(530,100);

glVertex2i(530,125);

glVertex2i(470,125);

glEnd();

glColor3ub(255,178,102);

glBegin(GL\_TRIANGLE\_FAN);

x=465;y=105;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(400, 100);

glVertex2i(600, 100);

glVertex2i(540, 70);

glVertex2i(460, 70);

glEnd();

glPopMatrix();

///////////////// start boat 3

glPushMatrix();

glTranslated(position\_boat\_3,0,0);

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255, 153, 51);

x=1330;y=45;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(255, 153, 51);

glVertex2i(1270,40);

glVertex2i(1330,40);

glVertex2i(1330,65);

glVertex2i(1270,65);

glEnd();

glColor3ub(255,204,153);

glBegin(GL\_TRIANGLE\_FAN);

x=1265;y=45;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(1200, 40);

glVertex2i(1400, 40);

glVertex2i(1340, 10);

glVertex2i(1260, 10);

glEnd();

glPopMatrix();

glEnd();

///////////////////////// boat 4

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(179, 89, 0);

x=930;y=605;r=15;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(179, 89, 0);

glVertex2i(870,600);

glVertex2i(930,600);

glVertex2i(930,620);

glVertex2i(870,620);

glEnd();

glColor3ub(255,140,26);

glBegin(GL\_TRIANGLE\_FAN);

x=865;y=605;r=15;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(830, 600);

glVertex2i(970, 600);

glVertex2i(930, 580);

glVertex2i(880, 580);

glEnd();

glBegin(GL\_LINES);

glColor3ub(0,0,0);

glVertex2i(980, 600);

glVertex2i(990, 650);

glVertex2i(990, 600);

glVertex2i(980, 650);

glEnd();

glEnd();

}

void boat\_night()

{

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(179, 89, 0);

x=530;y=210;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(179, 89, 0);

glVertex2i(470,200);

glVertex2i(530,200);

glVertex2i(530,230);

glVertex2i(470,230);

glEnd();

glColor3ub(255,255, 0);

glBegin(GL\_TRIANGLE\_FAN);

x=465;y=210;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(400, 200);

glVertex2i(600, 200);

glVertex2i(540, 170);

glVertex2i(460, 170);

glEnd();

glBegin(GL\_LINES);

glColor3ub(0,0,0);

glVertex2i(410, 180);

glVertex2i(400, 230);

glVertex2i(400, 180);

glVertex2i(410, 230);

glEnd();

///////////////// start boat 2

glPushMatrix();

glTranslated(position\_boat\_2,0,0);

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(153, 76, 0);

x=530;y=105;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(153, 76, 0);

glVertex2i(470,100);

glVertex2i(530,100);

glVertex2i(530,125);

glVertex2i(470,125);

glEnd();

glColor3ub(255,255, 0);

glBegin(GL\_TRIANGLE\_FAN);

x=465;y=105;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(400, 100);

glVertex2i(600, 100);

glVertex2i(540, 70);

glVertex2i(460, 70);

glEnd();

glPopMatrix();

///////////////// start boat 3

glPushMatrix();

glTranslated(position\_boat\_3,0,0);

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(179, 89, 0);

x=1330;y=45;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(179, 89, 0);

glVertex2i(1270,40);

glVertex2i(1330,40);

glVertex2i(1330,65);

glVertex2i(1270,65);

glEnd();

glColor3ub(255,255, 0);

glBegin(GL\_TRIANGLE\_FAN);

x=1265;y=45;r=20;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(1200, 40);

glVertex2i(1400, 40);

glVertex2i(1340, 10);

glVertex2i(1260, 10);

glEnd();

glPopMatrix();

glEnd();

///////////////////////// boat 4

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(179, 89, 0);

x=930;y=605;r=15;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(179, 89, 0);

glVertex2i(870,600);

glVertex2i(930,600);

glVertex2i(930,620);

glVertex2i(870,620);

glEnd();

glColor3ub(255,255, 0);

glBegin(GL\_TRIANGLE\_FAN);

x=865;y=605;r=15;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glBegin(GL\_QUADS);

glColor3ub(0,0,0);

glVertex2i(830, 600);

glVertex2i(970, 600);

glVertex2i(930, 580);

glVertex2i(880, 580);

glEnd();

glBegin(GL\_LINES);

glColor3ub(0,0,0);

glVertex2i(980, 600);

glVertex2i(990, 650);

glVertex2i(990, 600);

glVertex2i(980, 650);

glEnd();

glEnd();

}

void moon()

{

glPushMatrix();

glTranslatef(position\_sun,0.0, 0.0);

float pi=2\*3.1416l;

int tri=40;

glBegin(GL\_TRIANGLE\_FAN);

glColor3ub(255,255, 255);

x=400;y=850;r=40;

glVertex2f(x,y);

for (i=0;i<=tri;i++)

{

glVertex2f(

x+(r\*cos(i\*pi/tri)),

y+(r\*sin(i\*pi/tri))

);

}

glEnd();

glPopMatrix();

}

void update\_sun(int value) {

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

{

position\_sun += speed\_sun;

}

glutPostRedisplay();

glutTimerFunc(100, update\_sun, 0);

}

void update\_cloud\_1(int value)

{

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

{

position\_cloud\_1 += speed\_cloud\_1;

}

if(position\_cloud\_1>1450){

position\_cloud\_1 -=1800;

}

glutPostRedisplay();

glutTimerFunc(100, update\_cloud\_1, 0);

}

void update\_cloud\_2(int value)

{

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

{

position\_cloud\_2 -= speed\_cloud\_2;

}

if(position\_cloud\_2>1200){

position\_cloud\_2 +=1800;

}

glutPostRedisplay();

glutTimerFunc(100, update\_cloud\_2, 0);

}

void update\_cloud\_3(int value)

{

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

{

position\_cloud\_3 -= speed\_cloud\_3;

}

glutPostRedisplay();

glutTimerFunc(100, update\_cloud\_3, 0);

}

void update\_cloud\_4(int value)

{

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

{

position\_cloud\_4 += speed\_cloud\_4;

}

if(position\_cloud\_4>1200){

position\_cloud\_4 -=2000;

}

glutPostRedisplay();

glutTimerFunc(100, update\_cloud\_4, 0);

}

void update\_rail(int value)

{

if(run){

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

{

position\_rail += speed\_rail;

}

if(position\_rail>1500){

position\_rail -=2100;

}

}

glutPostRedisplay();

glutTimerFunc(100, update\_rail, 0);

}

void update\_boat\_2(int value)

{

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

{

position\_boat\_2 += speed\_boat\_2;

}

glutPostRedisplay();

glutTimerFunc(100, update\_boat\_2, 0);

}

void update\_boat\_3(int value)

{

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

{

position\_boat\_3 -= speed\_boat\_3;

}

glutPostRedisplay();

glutTimerFunc(100, update\_boat\_3, 0);

}

void update\_moon(int value) {

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

{

position\_moon += speed\_moon;

}

glutPostRedisplay();

glutTimerFunc(100, update\_moon, 0);

}

void Rain(int value){

if(rainday){

rain1 += 0.01;

glColor3ub(255,255,255);

glBegin(GL\_POINTS);

for(int i=1;i<=1000;i++)

{

int x=rand(),y=rand();

x%=1500; y%=900;

glBegin(GL\_LINES);

glVertex2i(x,y);

glVertex2i(x+5,y+5);

glEnd();

}

glutPostRedisplay();

glutTimerFunc(5, Rain, 0);

glFlush();

}

}

void myDisplay(void)

{

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

glColor3ub (128, 128, 128);

glPointSize(5.0);

sky();

back\_hill();//hill

river();//river

glPushMatrix();

cloud\_2(); //cloud 2

glPopMatrix();

glPushMatrix();

sun(); // sun

glPopMatrix();

glPushMatrix();

cloud\_1(); // cloud 1

glPopMatrix();

glPushMatrix();

cloud\_3(); // cloud 3

glPopMatrix();

glPushMatrix();

cloud\_4(); // cloud 4

glPopMatrix();

left\_land(); //left land

right\_land();//right land

tree();

rail\_line(); // rail line

left\_homes();

boat();

glFlush ();

}

void night()

{

sky\_night();

back\_hill\_night();//hill

river();//river

glPushMatrix();

cloud\_2(); //cloud 2

glPopMatrix();

glPushMatrix();

moon(); // moon

glPopMatrix();

glPushMatrix();

cloud\_1(); // cloud 1

glPopMatrix();

glPushMatrix();

cloud\_3(); // cloud 3

glPopMatrix();

glPushMatrix();

cloud\_4(); // cloud 4

glPopMatrix();

left\_land\_night(); //left land

right\_land\_night();//right land

tree();

rail\_line\_night(); // rail line

left\_homes\_night();

boat\_night();

star();

glFlush ();

}

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

switch(key)

{

case's':

run=false;

update\_rail;

glutPostRedisplay();

break;

case 'w':

run=true;

update\_rail;

glutPostRedisplay();

break;

case 'd':

run=true;

position\_rail += 10;

glutPostRedisplay();

break;

case 'a':

position\_rail -= 10;

glutPostRedisplay();

break;

case 'n':

glutDisplayFunc(night);

glutPostRedisplay();

break;

case 'm':

glutDisplayFunc(myDisplay);

glutPostRedisplay();

break;

case 'r':

rainday = true;

Rain(rain1);

break;

case 't':

rainday = false;

break;

case 'x':

exit(0);

break;

}

};

void myInit (void)

{

glClearColor(0.0, 0.0, 0.0, 0.0);

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(0.0, 1500, 0.0, 900.0);

}

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

{

cout << " press s for stop train "<<endl;

cout << " press w for start train "<<endl;

cout << " press d for speed up train "<<endl;

cout << " press a for backward train "<<endl;

cout << " press n for night mood "<<endl;

cout << " press b for day mood "<<endl;

cout << " press r for raining mood "<<endl;

cout << " press t for stop raining mood "<<endl;

cout << " press x for exit "<<endl;

glutInit(&argc, argv);

glutInitDisplayMode (GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize (1500, 900);

glutInitWindowPosition (100, 150);

glutCreateWindow ("Project x ");

glutDisplayFunc(myDisplay);

myInit ();

glutTimerFunc(100, update\_sun,0);

glutTimerFunc(100, update\_moon,0);

glutTimerFunc(100, update\_cloud\_1,0);

glutTimerFunc(100, update\_cloud\_2,0);

glutTimerFunc(100, update\_cloud\_3,0);

glutTimerFunc(100, update\_cloud\_4,0);

glutTimerFunc(100, update\_rail,0);

glutTimerFunc(100, update\_boat\_2,0);

glutTimerFunc(100, update\_boat\_3,0);

glutKeyboardFunc(key);

glutMainLoop();

return 0;

}