

***Project Submission***

**Course Code :**

CSE-422

**Course Title :**

Computer Graphics Lab

**Project Topic :**

Lake Scenario of a Village

**Submitted To:**

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Section : RE-A Section : RE-A

Department of CSE Department of CSE

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**Graphics Design**

Screenshot of output:

Graphical user interface

Description automatically generated with medium confidence

**Code :**

#include <GL/gl.h>

#include <GL/glut.h>

int x,y,xc,yc,r,p;

float u=0 ;

float u1=0 ;

float u2 = 0 ;

int x1,y1,xc1,yc1,r1,p1 ;

int x2,y2,xc2,yc2,r2,p2 ;

int x3,y3,xc3,yc3,r3,p3 ;

int x4,y4,xc4,yc4,r4,p4 ;

int x5,y5,xc5,yc5,r5,p5 ;

int x6,y6,xc6,yc6,r6,p6 ;

int x7,y7,xc7,yc7,r7,p7 ;

int x8,y8,xc8,yc8,r8,p8 ;

int x9,y9,xc9,yc9,r9,p9 ;

int x10,y10,xc10,yc10,r10,p10 ;

int x11,y11,xc11,yc11,r11,p11 ;

int x12,y12,xc12,yc12,r12,p12 ;

int x13,y13,xc13,yc13,r13,p13 ;

int x14,y14,xc14,yc14,r14,p14 ;

int x15,y15,xc15,yc15,r15,p15 ;

int x16,y16,xc16,yc16,r16,p16 ;

int ax1,ay1,axc1,ayc1,ar1,ap1 ;

int ax2,ay2,axc2,ayc2,ar2,ap2 ;

int ax3,ay3,axc3,ayc3,ar3,ap3 ;

int ax4,ay4,axc4,ayc4,ar4,ap4 ;

int ax5,ay5,axc5,ayc5,ar5,ap5 ;

int ax6,ay6,axc6,ayc6,ar6,ap6 ;

int ax7,ay7,axc7,ayc7,ar7,ap7 ;

int ax8,ay8,axc8,ayc8,ar8,ap8 ;

int ax9,ay9,axc9,ayc9,ar9,ap9 ;

int ax10,ay10,axc10,ayc10,ar10,ap10 ;

int ax11,ay11,axc11,ayc11,ar11,ap11 ;

int ax12,ay12,axc12,ayc12,ar12,ap12 ;

int ax13,ay13,axc13,ayc13,ar13,ap13 ;

int ax14,ay14,axc14,ayc14,ar14,ap14 ;

int ax15,ay15,axc15,ayc15,ar15,ap15 ;

int ax16,ay16,axc16,ayc16,ar16,ap16 ;

void display(void)

{

/\* clear all pixels \*/

glClear (GL\_COLOR\_BUFFER\_BIT);

//draw white polygon (rectangle) with corners at

// (0.25, 0.25, 0.0) and (0.75, 0.75, 0.0)

//roof

//r1

//sky

glColor3f ( .60 , .85 , .95 );

glBegin(GL\_POLYGON);

glVertex2i ( 0,400);

glVertex2i ( 1200 , 400 );

glVertex2i ( 1200, 800 );

glVertex2i ( 0 , 800 );

glEnd();

//sun

xc = 580 ;

yc = 430 ;

r = 48 ;

p=1-r;

x=0;

y=r;

while(x<=y)

{

if(p<0)

{

x=x+1;

p=p+2\*x+1;

}

else

{

x=x+1;

y=y-1;

p=p+2\*(x+1)-2\*(y+1);

}

glColor3f(.95, 0.45, 0.0);

glBegin(GL\_POLYGON);

glVertex2i(x+xc,y+yc);

glVertex2i(x+xc,-y+yc);

glVertex2i(-x+xc,-y+yc);

glVertex2i(-x+xc,y+yc);

glVertex2i(y+xc,x+yc);

glVertex2i(y+xc,-x+yc);

glVertex2i(-y+xc,-x+yc);

glVertex2i(-y+xc,x+yc);

glEnd();

}

//right side1

glColor3f ( .96 , .90 , .65 ) ;

glBegin(GL\_POLYGON);

glVertex2i ( 750,380);

glVertex2i ( 1200 , 300 );

glVertex2i ( 1200 , 400 );

glVertex2i ( 740 , 400 );

glEnd();

//river

glColor3f ( 0.25, .78 , .98 ) ;

glBegin(GL\_POLYGON);

glVertex2i ( 420,400);

glVertex2i ( 175 , 0 );

glVertex2i ( 943, 0 );

glVertex2i ( 750 , 400 );

glEnd();

//left cloud

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( 180, 440);

glVertex2d ( 200, 440);

glVertex2d ( 190, 450);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( 200, 440);

glVertex2d ( 210, 440);

glVertex2d ( 205, 445);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( 210, 470);

glVertex2d ( 230, 470);

glVertex2d ( 220, 480);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( 230, 470);

glVertex2d ( 240, 470);

glVertex2d ( 235, 475);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( 190, 455);

glVertex2d ( 210, 455);

glVertex2d ( 200, 465);

glEnd();

// .....left cloud End .....

//cloud middel

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u2 + 600, 440);

glVertex2d ( u2 + 620, 440);

glVertex2d ( u2 +610, 450);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u2 +620, 440);

glVertex2d ( u2 + 630, 440);

glVertex2d ( u2 + 625, 445);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u2 + 630, 470);

glVertex2d ( u2 + 650, 470);

glVertex2d ( u2 + 640, 480);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u2 + 650, 470);

glVertex2d ( u2 + 660, 470);

glVertex2d ( u2 + 655, 475);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u2 + 610, 455);

glVertex2d ( u2 + 630, 455);

glVertex2d ( u2 + 620, 465);

glEnd();

if(u2<=500){

u2=u2+0.01;

}

else{

u2=0;

}

//cloud left move

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u + 180, 440);

glVertex2d ( u + 200, 440);

glVertex2d ( u + 190, 450);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u + 200, 440);

glVertex2d ( u + 210, 440);

glVertex2d ( u + 205, 445);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u + 210, 470);

glVertex2d ( u + 230, 470);

glVertex2d ( u + 220, 480);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u + 230, 470);

glVertex2d ( u + 240, 470);

glVertex2d ( u + 235, 475);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u + 190, 455);

glVertex2d ( u + 210, 455);

glVertex2d ( u + 200, 465);

glEnd();

glColor3d( 1, 1, 1);

glBegin(GL\_TRIANGLES);

glVertex2d ( u + 210, 455);

glVertex2d ( u + 220, 455);

glVertex2d ( u + 215, 460);

glEnd();

if(u<=1200){

u=u+0.05;

}

else{

u=0;

}

//....boat.....

glColor3f(.55, 0.3, 0.1 );

glBegin(GL\_POLYGON);

glVertex2i ( u1 + 260, 120 );

glVertex2i ( u1 + 280 , 100 );

glVertex2i ( u1 + 380, 100 );

glVertex2i ( u1 + 400 , 120 );

glEnd();

glColor3f(.75, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( u1 + 280, 140 );

glVertex2i ( u1 + 280 , 120 );

glVertex2i ( u1 + 380, 120 );

glVertex2i ( u1 + 380 , 140 );

glEnd();

glColor3f( 0 , 0, 0 );

glBegin(GL\_POLYGON);

glVertex2i ( u1 + 278, 120 );

glVertex2i ( u1 + 250 , 98 );

glVertex2i ( u1 + 258, 98 );

glVertex2i ( u1 + 280 , 120 );

glEnd();

if(u1<=500){

u1=u1+0.02;

}

else{

u1=0;

}

//....boat End......

//l1

glColor3f ( .96 , .90 , .65 );

glBegin(GL\_POLYGON);

glVertex2i ( 0,300);

glVertex2i ( 410 , 380 );

glVertex2i ( 420, 400 );

glVertex2i ( 0 , 400 );

glEnd();

//l2

glColor3f ( .30 , .95 , .58 ) ;

glBegin(GL\_POLYGON);

glVertex2i ( 0,180);

glVertex2i ( 330 , 250 );

glVertex2i ( 410, 380 );

glVertex2i ( 0 , 320 );

glEnd();

//l3

glColor3f ( .55 , .90 , .10 ) ;

glBegin(GL\_POLYGON);

glVertex2i ( 0, 0 );

glVertex2i ( 175 , 0 );

glVertex2i ( 330, 250 );

glVertex2i ( 0 , 180 );

glEnd();

//r2

glColor3f ( 1 , 1 , 1 ) ;

glBegin(GL\_POLYGON);

glVertex2i ( 822, 250 );

glVertex2i ( 1200 , 180 );

glVertex2i ( 1200 , 330 );

glVertex2i ( 760 , 380 );

glEnd();

//r3

glColor3f ( .55 , .90 , .10 ) ;

glBegin(GL\_POLYGON);

glVertex2i ( 943, 0 );

glVertex2i ( 1200 , 0 );

glVertex2i ( 1200, 210 );

glVertex2i ( 822 , 250 );

glEnd();

//line

glColor3f ( 0 , 0 , 1 ) ;

glBegin(GL\_LINES);

glVertex2f( 822, 250 );

glVertex2f( 1200, 210);

glEnd();

glColor3f ( 0 , 0 , 1 ) ;

glBegin(GL\_LINES);

glVertex2f( 0 , 400);

glVertex2f( 1200, 400);

glEnd();

glColor3f ( 0 , 0 , 1 ) ;

glBegin(GL\_LINES);

glVertex2f( 175 , 0);

glVertex2f( 420, 400);

glEnd();

glColor3f ( 0 , 0 , 1 ) ;

glBegin(GL\_LINES);

glVertex2f( 943 , 0);

glVertex2f( 750, 400);

glEnd();

glColor3f ( 0 , 0 , .5 ) ;

glBegin(GL\_LINES);

glVertex2f( 0 , 180);

glVertex2f( 330, 250);

glEnd();

//// sun line

glColor3f(.95, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( 500, 390 );

glVertex2i ( 500 , 388 );

glVertex2i ( 660, 388 );

glVertex2i ( 660 , 390 );

glEnd();

glColor3f(.95, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( 510, 380 );

glVertex2i ( 510 , 378 );

glVertex2i ( 650, 378 );

glVertex2i ( 650 , 380 );

glEnd();

glColor3f(.95, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( 520, 370 );

glVertex2i ( 520 , 368 );

glVertex2i ( 640, 368 );

glVertex2i ( 640 , 370 );

glEnd();

glColor3f(.95, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( 530, 360 );

glVertex2i ( 530 , 358 );

glVertex2i ( 630, 358 );

glVertex2i ( 630 , 360 );

glEnd();

glColor3f(.95, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( 540, 350 );

glVertex2i ( 540 , 348 );

glVertex2i ( 620, 348 );

glVertex2i ( 620 , 350 );

glEnd();

glColor3f(.95, 0.5, 0.2 );

glBegin(GL\_POLYGON);

glVertex2i ( 550, 340 );

glVertex2i ( 550 , 338 );

glVertex2i ( 610, 338 );

glVertex2i ( 610 , 340 );

glEnd();

//........Sun line End ..........

// right side tree Start

//c1

xc1 = 15 ;

yc1 = 415 ;

r1 = 15 ;

p1 =1-r1;

x1=0;

y1=r1;

while(x1<=y1)

{

if(p1<0)

{

x1=x1+1;

p1=p1+2\*x1+1;

}

else

{

x1=x1+1;

y1=y1-1;

p1=p1+2\*(x1+1)-2\*(y1+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x1+xc1,y1+yc1);

glVertex2i(x1+xc1,-y1+yc1);

glVertex2i(-x1+xc1,-y1+yc1);

glVertex2i(-x1+xc1,y1+yc1);

glVertex2i(y1+xc1,x1+yc1);

glVertex2i(y1+xc1,-x1+yc1);

glVertex2i(-y1+xc1,-x1+yc1);

glVertex2i(-y1+xc1,x1+yc1);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 13, 375 );

glVertex2i ( 17 , 375 );

glVertex2i ( 17 , 403 );

glVertex2i ( 13 , 403 );

glEnd();

//c2

xc2 = 60 ;

yc2 = 415 ;

r2 = 15 ;

p2 =1-r2;

x2=0;

y2=r2;

while(x2<=y2)

{

if(p2<0)

{

x2=x2+1;

p2=p2+2\*x2+1;

}

else

{

x2=x2+1;

y2=y2-1;

p2=p2+2\*(x2+1)-2\*(y2+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x2+xc2,y2+yc2);

glVertex2i(x2+xc2,-y2+yc2);

glVertex2i(-x2+xc2,-y2+yc2);

glVertex2i(-x2+xc2,y2+yc2);

glVertex2i(y2+xc2,x2+yc2);

glVertex2i(y2+xc2,-x2+yc2);

glVertex2i(-y2+xc2,-x2+yc2);

glVertex2i(-y2+xc2,x2+yc2);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 58, 375 );

glVertex2i ( 62 , 375 );

glVertex2i ( 62 , 403 );

glVertex2i ( 58 , 403 );

glEnd();

//c3

xc3 = 35 ;

yc3 = 415 ;

r3 = 15 ;

p3 =1-r3;

x3=0;

y3=r3;

while(x3<=y3)

{

if(p3<0)

{

x3=x3+1;

p3=p3+2\*x3+1;

}

else

{

x3=x3+1;

y3=y3-1;

p3=p3+2\*(x3+1)-2\*(y3+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x3+xc3,y3+yc3);

glVertex2i(x3+xc3,-y3+yc3);

glVertex2i(-x3+xc3,-y3+yc3);

glVertex2i(-x3+xc3,y3+yc3);

glVertex2i(y3+xc3,x3+yc3);

glVertex2i(y3+xc3,-x3+yc3);

glVertex2i(-y3+xc3,-x3+yc3);

glVertex2i(-y3+xc3,x3+yc3);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 33, 375 );

glVertex2i ( 37 , 375 );

glVertex2i ( 37 , 403 );

glVertex2i ( 33 , 403 );

glEnd();

//c4

xc4 = 85 ;

yc4 = 420 ;

r4 = 20 ;

p4 =1-r4;

x4=0;

y4=r4;

while(x4<=y4)

{

if(p4<0)

{

x4=x4+1;

p4=p4+2\*x4+1;

}

else

{

x4=x4+1;

y4=y4-1;

p4=p4+2\*(x4+1)-2\*(y4+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x4+xc4,y4+yc4 );

glVertex2i(x4+xc4,-y4+yc4 );

glVertex2i(-x4+xc4,-y4+yc4);

glVertex2i(-x4+xc4,y4+yc4);

glVertex2i(y4+xc4,x4+yc4);

glVertex2i(y4+xc4,-x4+yc4);

glVertex2i(-y4+xc4,-x4+yc4);

glVertex2i(-y4+xc4,x4+yc4);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 83, 375 );

glVertex2i ( 87 , 375 );

glVertex2i ( 87 , 403 );

glVertex2i ( 83 , 403 );

glEnd();

//c5

xc5 = 110 ;

yc5 = 420 ;

r5 = 20 ;

p5 =1-r5;

x5=0;

y5=r5;

while(x5<=y5)

{

if(p5<0)

{

x5=x5+1;

p5=p5+2\*x5+1;

}

else

{

x5=x5+1;

y5=y5-1;

p5=p5+2\*(x5+1)-2\*(y5+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x5+xc5,y5+yc5);

glVertex2i(x5+xc5,-y5+yc5);

glVertex2i(-x5+xc5,-y5+yc5);

glVertex2i(-x5+xc5,y5+yc5);

glVertex2i(y5+xc5,x5+yc5);

glVertex2i(y5+xc5,-x5+yc5);

glVertex2i(-y5+xc5,-x5+yc5);

glVertex2i(-y5+xc5,x5+yc5);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 108, 375 );

glVertex2i ( 112 , 375 );

glVertex2i ( 112 , 403 );

glVertex2i ( 108 , 403 );

glEnd();

//c6

xc6 = 140 ;

yc6 = 415 ;

r6 = 15 ;

p6 =1-r6;

x6=0;

y6=r6;

while(x6<=y6)

{

if(p6<0)

{

x6=x6+1;

p6=p6+2\*x6+1;

}

else

{

x6=x6+1;

y6=y6-1;

p6=p6+2\*(x6+1)-2\*(y6+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x6+xc6,y6+yc6);

glVertex2i(x6+xc6,-y6+yc6);

glVertex2i(-x6+xc6,-y6+yc6);

glVertex2i(-x6+xc6,y6+yc6);

glVertex2i(y6+xc6,x6+yc6);

glVertex2i(y6+xc6,-x6+yc6);

glVertex2i(-y6+xc6,-x6+yc6);

glVertex2i(-y6+xc6,x6+yc6);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 138, 375 );

glVertex2i ( 142 , 375 );

glVertex2i ( 142 , 403 );

glVertex2i ( 138 , 403 );

glEnd();

//c7

xc7 = 160 ;

yc7 = 415 ;

r7 = 15 ;

p7 =1-r7;

x7=0;

y7=r7;

while(x7<=y7)

{

if(p7<0)

{

x7=x7+1;

p7=p7+2\*x7+1;

}

else

{

x7=x7+1;

y7=y7-1;

p7=p7+2\*(x7+1)-2\*(y7+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x7+xc7,y7+yc7);

glVertex2i(x7+xc7,-y7+yc7);

glVertex2i(-x7+xc7,-y7+yc7);

glVertex2i(-x7+xc7,y7+yc7);

glVertex2i(y7+xc7,x7+yc7);

glVertex2i(y7+xc7,-x7+yc7);

glVertex2i(-y7+xc7,-x7+yc7);

glVertex2i(-y7+xc7,x7+yc7);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 158, 375 );

glVertex2i ( 162 , 375 );

glVertex2i ( 162 , 403 );

glVertex2i ( 158 , 403 );

glEnd();

//c8

xc8 = 180 ;

yc8 = 415 ;

r8 = 15 ;

p8 =1-r8;

x8=0;

y8=r8;

while(x8<=y8)

{

if(p8<0)

{

x8=x8+1;

p8=p8+2\*x8+1;

}

else

{

x8=x8+1;

y8=y8-1;

p8=p8+2\*(x8+1)-2\*(y8+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x8+xc8,y8+yc8);

glVertex2i(x8+xc8,-y8+yc8);

glVertex2i(-x8+xc8,-y8+yc8);

glVertex2i(-x8+xc8,y8+yc8);

glVertex2i(y8+xc8,x8+yc8);

glVertex2i(y8+xc8,-x8+yc8);

glVertex2i(-y8+xc8,-x8+yc8);

glVertex2i(-y8+xc8,x8+yc8);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 178, 375 );

glVertex2i ( 182 , 375 );

glVertex2i ( 182 , 403 );

glVertex2i ( 178 , 403 );

glEnd();

//c9

xc9 = 200 ;

yc9 = 415 ;

r9 = 15 ;

p9 =1-r9;

x9=0;

y9=r9;

while(x9<=y9)

{

if(p9<0)

{

x9=x9+1;

p9=p9+2\*x9+1;

}

else

{

x9=x9+1;

y9=y9-1;

p9=p9+2\*(x9+1)-2\*(y9+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x9+xc9,y9+yc9);

glVertex2i(x9+xc9,-y9+yc9);

glVertex2i(-x9+xc9,-y9+yc9);

glVertex2i(-x9+xc9,y9+yc9);

glVertex2i(y9+xc9,x9+yc9);

glVertex2i(y9+xc9,-x9+yc9);

glVertex2i(-y9+xc9,-x9+yc9);

glVertex2i(-y9+xc9,x9+yc9);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 198 , 375 );

glVertex2i ( 202 , 375 );

glVertex2i ( 202 , 403 );

glVertex2i ( 198 , 403 );

glEnd();

//c10

xc10 = 220 ;

yc10 = 415 ;

r10 = 15 ;

p10 =1-r10;

x10=0;

y10=r10;

while(x10<=y10)

{

if(p10<0)

{

x10=x10+1;

p10=p10+2\*x10+1;

}

else

{

x10=x10+1;

y10=y10-1;

p10=p10+2\*(x10+1)-2\*(y10+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x10+xc10,y10+yc10);

glVertex2i(x10+xc10,-y10+yc10);

glVertex2i(-x10+xc10,-y10+yc10);

glVertex2i(-x10+xc10,y10+yc10);

glVertex2i(y10+xc10,x10+yc10);

glVertex2i(y10+xc10,-x10+yc10);

glVertex2i(-y10+xc10,-x10+yc10);

glVertex2i(-y10+xc10,x10+yc10);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 218, 375 );

glVertex2i ( 222 , 375 );

glVertex2i ( 222 , 403 );

glVertex2i ( 218 , 403 );

glEnd();

//c11

xc11 = 240 ;

yc11 = 415 ;

r11 = 15 ;

p11 =1-r11;

x11=0;

y11=r11;

while(x11<=y11)

{

if(p11<0)

{

x11=x11+1;

p11=p11+2\*x11+1;

}

else

{

x11=x11+1;

y11=y11-1;

p11=p11+2\*(x11+1)-2\*(y11+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x11+xc11,y11+yc11);

glVertex2i(x11+xc11,-y11+yc11);

glVertex2i(-x11+xc11,-y11+yc11);

glVertex2i(-x11+xc11,y11+yc11);

glVertex2i(y11+xc11,x11+yc11);

glVertex2i(y11+xc11,-x11+yc11);

glVertex2i(-y11+xc11,-x11+yc11);

glVertex2i(-y11+xc11,x11+yc11);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 238, 375 );

glVertex2i ( 242 , 375 );

glVertex2i ( 242 , 403 );

glVertex2i ( 238 , 403 );

glEnd();

//c12

xc12 = 260 ;

yc12 = 415 ;

r12 = 15 ;

p12 =1-r12;

x12=0;

y12=r12;

while(x12<=y12)

{

if(p12<0)

{

x12=x12+1;

p12=p12+2\*x12+1;

}

else

{

x12=x12+1;

y12=y12-1;

p12=p12+2\*(x12+1)-2\*(y12+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x12+xc12,y12+yc12);

glVertex2i(x12+xc12,-y12+yc12);

glVertex2i(-x12+xc12,-y12+yc12);

glVertex2i(-x12+xc12,y12+yc12);

glVertex2i(y12+xc12,x12+yc12);

glVertex2i(y12+xc12,-x12+yc12);

glVertex2i(-y12+xc12,-x12+yc12);

glVertex2i(-y12+xc12,x12+yc12);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 258, 375 );

glVertex2i ( 262 , 375 );

glVertex2i ( 262 , 403 );

glVertex2i ( 258 , 403 );

glEnd();

//c13

xc13 = 280 ;

yc13 = 415 ;

r13 = 15 ;

p13=1-r13;

x13=0;

y13=r13;

while(x13<=y13)

{

if(p13<0)

{

x13=x13+1;

p13=p13+2\*x13+1;

}

else

{

x13=x13+1;

y13=y13-1;

p13=p13+2\*(x13+1)-2\*(y13+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x13+xc13,y13+yc13);

glVertex2i(x13+xc13,-y13+yc13);

glVertex2i(-x13+xc13,-y13+yc13);

glVertex2i(-x13+xc13,y13+yc13);

glVertex2i(y13+xc13,x13+yc13);

glVertex2i(y13+xc13,-x13+yc13);

glVertex2i(-y13+xc13,-x13+yc13);

glVertex2i(-y13+xc13,x13+yc13);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 278, 375 );

glVertex2i ( 282 , 375 );

glVertex2i ( 282 , 403 );

glVertex2i ( 278 , 403 );

glEnd();

//c14

xc14 = 300 ;

yc14 = 415 ;

r14 = 15 ;

p14 =1-r14;

x14=0;

y14=r14;

while(x14<=y14)

{

if(p14<0)

{

x14=x14+1;

p14=p14+2\*x14+1;

}

else

{

x14=x14+1;

y14=y14-1;

p14=p14+2\*(x14+1)-2\*(y14+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x14+xc14,y14+yc14);

glVertex2i(x14+xc14,-y14+yc14);

glVertex2i(-x14+xc14,-y14+yc14);

glVertex2i(-x14+xc14,y14+yc14);

glVertex2i(y14+xc14,x14+yc14);

glVertex2i(y14+xc14,-x14+yc14);

glVertex2i(-y14+xc14,-x14+yc14);

glVertex2i(-y14+xc14,x14+yc14);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 298 , 375 );

glVertex2i ( 302 , 375 );

glVertex2i ( 302 , 403 );

glVertex2i ( 298 , 403 );

glEnd();

//c15

xc15 = 320 ;

yc15 = 415 ;

r15 = 15 ;

p15 =1-r15;

x15=0;

y15=r15;

while(x15<=y15)

{

if(p15<0)

{

x15=x15+1;

p15=p15+2\*x15+1;

}

else

{

x15=x15+1;

y15=y15-1;

p15=p15+2\*(x15+1)-2\*(y15+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(x15+xc15,y15+yc15);

glVertex2i(x15+xc15,-y15+yc15);

glVertex2i(-x15+xc15,-y15+yc15);

glVertex2i(-x15+xc15,y15+yc15);

glVertex2i(y15+xc15,x15+yc15);

glVertex2i(y15+xc15,-x15+yc15);

glVertex2i(-y15+xc15,-x15+yc15);

glVertex2i(-y15+xc15,x15+yc15);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 318, 375 );

glVertex2i ( 322 , 375 );

glVertex2i ( 322 , 403 );

glVertex2i ( 318 , 403 );

glEnd();

//c16

xc16 = 340 ;

yc16 = 415 ;

r16 = 15 ;

p16 =1-r16;

x16=0;

y16=r16;

while(x16<=y16)

{

if(p16<0)

{

x16=x16+1;

p16=p16+2\*x16+1;

}

else

{

x16=x16+1;

y16=y16-1;

p16=p16+2\*(x16+1)-2\*(y16+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(x16+xc16,y16+yc16);

glVertex2i(x16+xc16,-y16+yc16);

glVertex2i(-x16+xc16,-y16+yc16);

glVertex2i(-x16+xc16,y16+yc16);

glVertex2i(y16+xc16,x16+yc16);

glVertex2i(y16+xc16,-x16+yc16);

glVertex2i(-y16+xc16,-x16+yc16);

glVertex2i(-y16+xc16,x16+yc16);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 338, 375 );

glVertex2i ( 342 , 375 );

glVertex2i ( 342 , 403 );

glVertex2i ( 338 , 403 );

glEnd();

//.........Right Side tree End...........!!

// left side tree start

//c1

axc1 = 800 ;

ayc1 = 415 ;

ar1 = 15 ;

ap1 =1-ar1;

ax1=0;

ay1=ar1;

while(ax1<=ay1)

{

if(ap1<0)

{

ax1=ax1+1;

ap1=ap1+2\*ax1+1;

}

else

{

ax1=ax1+1;

ay1=ay1-1;

ap1=ap1+2\*(ax1+1)-2\*(ay1+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax1+axc1,ay1+ayc1);

glVertex2i(ax1+axc1,-ay1+ayc1);

glVertex2i(-ax1+axc1,-ay1+ayc1);

glVertex2i(-ax1+axc1,ay1+ayc1);

glVertex2i(ay1+axc1,ax1+ayc1);

glVertex2i(ay1+axc1,-ax1+ayc1);

glVertex2i(-ay1+axc1,-ax1+ayc1);

glVertex2i(-ay1+axc1,ax1+ayc1);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 798, 375 );

glVertex2i ( 802 , 375 );

glVertex2i ( 802 , 403 );

glVertex2i ( 798 , 403 );

glEnd();

//c2

axc2 = 825 ;

ayc2 = 415 ;

ar2 = 15 ;

ap2 =1-ar2;

ax2=0;

ay2=ar2;

while(ax2<=ay2)

{

if(ap2<0)

{

ax2=ax2+1;

ap2=ap2+2\*ax2+1;

}

else

{

ax2=ax2+1;

ay2=ay2-1;

ap2=ap2+ax2\*(ax2+1)-2\*(ay2+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax2+axc2,ay2+ayc2);

glVertex2i(ax2+axc2,-ay2+ayc2);

glVertex2i(-ax2+axc2,-ay2+ayc2);

glVertex2i(-ax2+axc2,ay2+ayc2);

glVertex2i(ay2+axc2,ax2+ayc2);

glVertex2i(ay2+axc2,-ax2+ayc2);

glVertex2i(-ay2+axc2,-ax2+ayc2);

glVertex2i(-ay2+axc2,ax2+ayc2);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 823, 375 );

glVertex2i ( 827 , 375 );

glVertex2i ( 827 , 403 );

glVertex2i ( 823 , 403 );

glEnd();

//c3

axc3 = 850 ;

ayc3 = 415 ;

ar3 = 15 ;

ap3 =1-ar3;

ax3=0;

ay3=ar3;

while(ax3<=ay3)

{

if(ap3<0)

{

ax3=ax3+1;

ap3=ap3+2\*ax3+1;

}

else

{

ax3=ax3+1;

ay3=ay3-1;

ap3=ap3+2\*(ax3+1)-2\*(ay3+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax3+axc3,ay3+ayc3);

glVertex2i(ax3+axc3,-ay3+ayc3);

glVertex2i(-ax3+axc3,-ay3+ayc3);

glVertex2i(-ax3+axc3,ay3+ayc3);

glVertex2i(ay3+axc3,ax3+ayc3);

glVertex2i(ay3+axc3,-ax3+ayc3);

glVertex2i(-ay3+axc3,-ax3+ayc3);

glVertex2i(-ay3+axc3,ax3+ayc3);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 848 , 375 );

glVertex2i ( 852 , 375 );

glVertex2i ( 852 , 403 );

glVertex2i ( 848 , 403 );

glEnd();

//c4

axc4 = 875 ;

ayc4 = 420 ;

ar4 = 20 ;

ap4 =1-ar4;

ax4=0;

ay4=ar4;

while(ax4<=ay4)

{

if(ap4<0)

{

ax4=ax4+1;

ap4=ap4+2\*ax4+1;

}

else

{

ax4=ax4+1;

ay4=ay4-1;

ap4=ap4+2\*(ax4+1)-2\*(ay4+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax4+axc4,ay4+ayc4 );

glVertex2i(ax4+axc4,-ay4+ayc4 );

glVertex2i(-ax4+axc4,-ay4+ayc4);

glVertex2i(-ax4+axc4,ay4+ayc4);

glVertex2i(ay4+axc4,ax4+ayc4);

glVertex2i(ay4+axc4,-ax4+ayc4);

glVertex2i(-ay4+axc4,-ax4+ayc4);

glVertex2i(-ay4+axc4,ax4+ayc4);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 873, 375 );

glVertex2i ( 877 , 375 );

glVertex2i ( 877 , 403 );

glVertex2i ( 873 , 403 );

glEnd();

//c5

axc5 = 905 ;

ayc5 = 420 ;

ar5 = 20 ;

ap5 =1-ar5;

ax5=0;

ay5=ar5;

while(ax5<=ay5)

{

if(ap5<0)

{

ax5=ax5+1;

ap5=ap5+2\*ax5+1;

}

else

{

ax5=ax5+1;

ay5=ay5-1;

ap5=ap5+2\*(ax5+1)-2\*(ay5+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax5+axc5,ay5+ayc5);

glVertex2i(ax5+axc5,-ay5+ayc5);

glVertex2i(-ax5+axc5,-ay5+ayc5);

glVertex2i(-ax5+axc5,ay5+ayc5);

glVertex2i(ay5+axc5,ax5+ayc5);

glVertex2i(ay5+axc5,-ax5+ayc5);

glVertex2i(-ay5+axc5,-ax5+ayc5);

glVertex2i(-ay5+axc5,ax5+ayc5);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 903, 375 );

glVertex2i ( 907 , 375 );

glVertex2i ( 907 , 403 );

glVertex2i ( 903 , 403 );

glEnd();

//c6

axc6 = 935 ;

ayc6 = 415 ;

ar6 = 15 ;

ap6 =1-ar6;

ax6=0;

ay6=ar6;

while(ax6<=ay6)

{

if(ap6<0)

{

ax6=ax6+1;

ap6=ap6+2\*ax6+1;

}

else

{

ax6=ax6+1;

ay6=ay6-1;

ap6=ap6+2\*(ax6+1)-2\*(ay6+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax6+axc6,ay6+yc6);

glVertex2i(ax6+axc6,-ay6+ayc6);

glVertex2i(-ax6+axc6,-ay6+ayc6);

glVertex2i(-ax6+axc6,ay6+ayc6);

glVertex2i(ay6+axc6,ax6+ayc6);

glVertex2i(ay6+axc6,-ax6+ayc6);

glVertex2i(-ay6+axc6,-ax6+ayc6);

glVertex2i(-ay6+axc6,ax6+ayc6);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 933, 375 );

glVertex2i ( 937 , 375 );

glVertex2i ( 937 , 403 );

glVertex2i ( 933 , 403 );

glEnd();

//c7

axc7 = 960 ;

ayc7 = 415 ;

ar7 = 15 ;

ap7 =1-ar7;

ax7=0;

ay7=ar7;

while(ax7<=ay7)

{

if(ap7<0)

{

ax7=ax7+1;

ap7=ap7+2\*ax7+1;

}

else

{

ax7=ax7+1;

ay7=ay7-1;

ap7=ap7+2\*(ax7+1)-2\*(ay7+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax7+axc7,ay7+ayc7);

glVertex2i(ax7+axc7,-ay7+ayc7);

glVertex2i(-ax7+axc7,-ay7+ayc7);

glVertex2i(-ax7+axc7,ay7+yc7);

glVertex2i(ay7+axc7,ax7+yc7);

glVertex2i(ay7+axc7,-ax7+yc7);

glVertex2i(-ay7+axc7,-ax7+yc7);

glVertex2i(-ay7+axc7,ax7+ayc7);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 958, 375 );

glVertex2i ( 962 , 375 );

glVertex2i ( 962 , 403 );

glVertex2i ( 958 , 403 );

glEnd();

//c8

axc8 = 985 ;

ayc8 = 415 ;

ar8 = 15 ;

ap8 =1-ar8;

ax8=0;

ay8=ar8;

while(ax8<=ay8)

{

if(ap8<0)

{

ax8=ax8+1;

ap8=ap8+2\*ax8+1;

}

else

{

ax8=ax8+1;

ay8=ay8-1;

ap8=ap8+2\*(ax8+1)-2\*(ay8+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax8+axc8,ay8+ayc8);

glVertex2i(ax8+axc8,-ay8+ayc8);

glVertex2i(-ax8+axc8,-ay8+ayc8);

glVertex2i(-ax8+axc8,ay8+ayc8);

glVertex2i(ay8+axc8,ax8+ayc8);

glVertex2i(ay8+axc8,-ax8+ayc8);

glVertex2i(-ay8+axc8,-ax8+ayc8);

glVertex2i(-ay8+axc8,ax8+ayc8);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 983, 375 );

glVertex2i ( 987 , 375 );

glVertex2i ( 987 , 403 );

glVertex2i ( 983 , 403 );

glEnd();

//c9

axc9 = 1010 ;

ayc9 = 415 ;

ar9 = 15 ;

ap9 =1-ar9;

ax9=0;

ay9=r9;

while(ax9<=ay9)

{

if(ap9<0)

{

ax9=ax9+1;

ap9=ap9+2\*ax9+1;

}

else

{

ax9=ax9+1;

ay9=ay9-1;

ap9=ap9+2\*(ax9+1)-2\*(ay9+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax9+axc9,ay9+ayc9);

glVertex2i(ax9+axc9,-ay9+ayc9);

glVertex2i(-ax9+axc9,-ay9+ayc9);

glVertex2i(-ax9+axc9,ay9+ayc9);

glVertex2i(ay9+axc9,ax9+ayc9);

glVertex2i(ay9+axc9,-ax9+ayc9);

glVertex2i(-ay9+axc9,-ax9+ayc9);

glVertex2i(-ay9+axc9,ax9+ayc9);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1008, 375 );

glVertex2i ( 1012 , 375 );

glVertex2i ( 1012 , 403 );

glVertex2i ( 1008 , 403 );

glEnd();

//c10

axc10 = 1035 ;

ayc10 = 415 ;

ar10 = 15 ;

ap10 =1-ar10;

ax10=0;

ay10=ar10;

while(ax10<=ay10)

{

if(ap10<0)

{

ax10=ax10+1;

ap10=ap10+2\*ax10+1;

}

else

{

ax10=ax10+1;

ay10=ay10-1;

ap10=ap10+2\*(ax10+1)-2\*(ay10+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax10+axc10,ay10+ayc10);

glVertex2i(ax10+axc10,-ay10+ayc10);

glVertex2i(-ax10+axc10,-ay10+ayc10);

glVertex2i(-ax10+axc10,ay10+ayc10);

glVertex2i(ay10+axc10,ax10+ayc10);

glVertex2i(ay10+axc10,-ax10+ayc10);

glVertex2i(-ay10+axc10,-ax10+ayc10);

glVertex2i(-ay10+axc10,ax10+ayc10);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1033, 375 );

glVertex2i ( 1037 , 375 );

glVertex2i ( 1037 , 403 );

glVertex2i ( 1033 , 403 );

glEnd();

//c11

axc11 = 1065 ;

ayc11 = 415 ;

ar11 = 15 ;

ap11 =1-ar11;

ax11=0;

ay11=ar11;

while(ax11<=ay11)

{

if(ap11<0)

{

ax11=ax11+1;

ap11=ap11+2\*ax11+1;

}

else

{

ax11=ax11+1;

ay11=ay11-1;

ap11=ap11+2\*(ax11+1)-2\*(ay11+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax11+axc11,ay11+ayc11);

glVertex2i(ax11+axc11,-ay11+ayc11);

glVertex2i(-ax11+axc11,ay11+ayc11);

glVertex2i(ay11+axc11,ax11+ayc11);

glVertex2i(ay11+axc11,-ax11+ayc11);

glVertex2i(-ay11+axc11,-ax11+ayc11);

glVertex2i(-ay11+axc11,ax11+ayc11);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1063, 375 );

glVertex2i ( 1067 , 375 );

glVertex2i ( 1067 , 403 );

glVertex2i ( 1063 , 403 );

glEnd();

//c12

axc12 = 1090 ;

ayc12 = 415 ;

ar12 = 15 ;

ap12 =1-ar12;

ax12=0;

ay12=ar12;

while(ax12<=ay12)

{

if(ap12<0)

{

ax12=ax12+1;

ap12=ap12+2\*ax12+1;

}

else

{

ax12=ax12+1;

ay12=ay12-1;

ap12=ap12+2\*(ax12+1)-2\*(ay12+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax12+axc12,ay12+ayc12);

glVertex2i(ax12+axc12,-ay12+ayc12);

glVertex2i(-ax12+axc12,-ay12+ayc12);

glVertex2i(-ax12+axc12,ay12+ayc12);

glVertex2i(ay12+axc12,ax12+ayc12);

glVertex2i(ay12+axc12,-ax12+ayc12);

glVertex2i(-ay12+axc12,-ax12+ayc12);

glVertex2i(-ay12+axc12,ax12+ayc12);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1088, 375 );

glVertex2i ( 1092 , 375 );

glVertex2i ( 1092 , 403 );

glVertex2i ( 1088 , 403 );

glEnd();

//c13

axc13 = 1120 ;

ayc13 = 415 ;

ar13 = 15 ;

ap13=1-ar13;

ax13=0;

ay13=ar13;

while(ax13<=ay13)

{

if(ap13<0)

{

ax13=ax13+1;

ap13=ap13+2\*ax13+1;

}

else

{

ax13=ax13+1;

ay13=ay13-1;

ap13=ap13+2\*(ax13+1)-2\*(ay13+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax13+axc13,ay13+ayc13);

glVertex2i(ax13+axc13,-ay13+ayc13);

glVertex2i(-ax13+axc13,-ay13+ayc13);

glVertex2i(-ax13+axc13,ay13+ayc13);

glVertex2i(ay13+axc13,ax13+ayc13);

glVertex2i(ay13+axc13,-ax13+ayc13);

glVertex2i(-ay13+axc13,-ax13+ayc13);

glVertex2i(-ay13+axc13,ax13+ayc13);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1118, 375 );

glVertex2i ( 1122 , 375 );

glVertex2i ( 1122 , 403 );

glVertex2i ( 1118 , 403 );

glEnd();

//c14

axc14 = 1140 ;

ayc14 = 415 ;

ar14 = 15 ;

ap14 =1-ar14;

ax14=0;

ay14=ar14;

while(ax14<=ay14)

{

if(ap14<0)

{

ax14=ax14+1;

ap14=ap14+2\*ax14+1;

}

else

{

ax14=ax14+1;

ay14=ay14-1;

ap14=ap14+2\*(ax14+1)-2\*(ay14+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax14+axc14,ay14+ayc14);

glVertex2i(ax14+axc14,-ay14+ayc14);

glVertex2i(-ax14+axc14,-ay14+ayc14);

glVertex2i(-ax14+axc14,ay14+ayc14);

glVertex2i(ay14+axc14,ax14+ayc14);

glVertex2i(ay14+axc14,-ax14+ayc14);

glVertex2i(-ay14+axc14,-ax14+ayc14);

glVertex2i(-ay14+axc14,ax14+ayc14);

glEnd();

}

glColor3f ( .75 , .55 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1138, 375 );

glVertex2i ( 1142 , 375 );

glVertex2i ( 1142 , 403 );

glVertex2i ( 1138 , 403 );

glEnd();

//c15

axc15 = 1160 ;

ayc15 = 415 ;

ar15 = 15 ;

ap15 =1-ar15;

ax15=0;

ay15=ar15;

while(ax15<=ay15)

{

if(ap15<0)

{

ax15=ax15+1;

ap15=ap15+2\*ax15+1;

}

else

{

ax15=ax15+1;

ay15=ay15-1;

ap15=ap15+2\*(ax15+1)-2\*(ay15+1);

}

glColor3f( 0.1 , 0.80 , 0.45);

glBegin(GL\_POLYGON);

glVertex2i(ax15+axc15,ay15+ayc15);

glVertex2i(ax15+axc15,-ay15+ayc15);

glVertex2i(-ax15+axc15,-ay15+ayc15);

glVertex2i(-ax15+axc15,ay15+ayc15);

glVertex2i(ay15+axc15,ax15+ayc15);

glVertex2i(ay15+axc15,-ax15+ayc15);

glVertex2i(-ay15+axc15,-ax15+ayc15);

glVertex2i(-ay15+axc15,ax15+ayc15);

glEnd();

}

glColor3f ( .55 , .0 , .15 );

glBegin(GL\_POLYGON);

glVertex2i ( 1158 , 375 );

glVertex2i ( 1162 , 375 );

glVertex2i ( 1162 , 403 );

glVertex2i ( 1158 , 403 );

glEnd();

//c16

axc16 = 1180 ;

ayc16 = 415 ;

ar16 = 15 ;

ap16 =1-ar16;

ax16=0;

ay16=ar16;

while(ax16<=ay16)

{

if(ap16<0)

{

ax16=ax16+1;

ap16=ap16+2\*ax16+1;

}

else

{

ax16=ax16+1;

ay16=ay16-1;

ap16=ap16+2\*(ax16+1)-2\*(ay16+1);

}

glColor3f( 0.1 , 0.60 , 0.35);

glBegin(GL\_POLYGON);

glVertex2i(ax16+axc16,ay16+ayc16);

glVertex2i(ax16+axc16,-ay16+ayc16);

glVertex2i(-ax16+axc16,-ay16+ayc16);

glVertex2i(-ax16+axc16,ay16+ayc16);

glVertex2i(ay16+axc16,ax16+ayc16);

glVertex2i(ay16+axc16,-ax16+ayc16);

glVertex2i(-ay16+axc16,-ax16+ayc16);

glVertex2i(-ay16+axc16,ax16+ayc16);

glEnd();

}

glColor3f ( .75 , .55 , .20 );

glBegin(GL\_POLYGON);

glVertex2i ( 1178 , 375 );

glVertex2i ( 1182 , 375 );

glVertex2i ( 1182 , 403 );

glVertex2i ( 1178 , 403 );

glEnd();

//.........Left side tree end......!!

//house1

glColor3d( .85, .3, .2);

glBegin(GL\_TRIANGLES);

glVertex2d ( 1120,380);

glVertex2d ( 1200,380 );

glVertex2d ( 1160,410);

glEnd();

glColor3f ( .95 , .85 , .0 );

glBegin(GL\_POLYGON);

glVertex2i ( 1125 , 380 );

glVertex2i ( 1125 , 350 );

glVertex2i ( 1195 , 350 );

glVertex2i ( 1195 , 380 );

glEnd();

glColor3f ( 0 , 0.5 , 1 );

glBegin(GL\_POLYGON);

glVertex2i ( 1120 , 350 );

glVertex2i ( 1120 , 355 );

glVertex2i ( 1200 , 355 );

glVertex2i ( 1200 , 350 );

glEnd();

glColor3f ( 1 , 1 , 1 );

glBegin(GL\_POLYGON);

glVertex2i ( 1155 , 375 );

glVertex2i ( 1155 , 355 );

glVertex2i ( 1165 , 355 );

glVertex2i ( 1165 , 375 );

glEnd();

// house 2

glColor3d( .85, .3, .80);

glBegin(GL\_TRIANGLES);

glVertex2d ( 1065,385 );

glVertex2d ( 1115,385 );

glVertex2d ( 1090,410);

glEnd();

glColor3f ( .85 , .75 , .95 );

glBegin(GL\_POLYGON);

glVertex2i ( 1070 , 385 );

glVertex2i ( 1070 , 355 );

glVertex2i ( 1110 , 355 );

glVertex2i ( 1110 , 385 );

glEnd();

glColor3f ( 0.2 , 0.5 , .3 );

glBegin(GL\_POLYGON);

glVertex2i ( 1063 , 355 );

glVertex2i ( 1063 , 350 );

glVertex2i ( 1117 , 350 );

glVertex2i ( 1117 , 355 );

glEnd();

glColor3f ( 0 , 0 , 0 );

glBegin(GL\_POLYGON);

glVertex2i ( 1084 , 375 );

glVertex2i ( 1084 , 355 );

glVertex2i ( 1094 , 355 );

glVertex2i ( 1094 , 375 );

glEnd();

//house3

glColor3d( .5, .3, 1 );

glBegin(GL\_TRIANGLES);

glVertex2d ( 975,380);

glVertex2d ( 1055 ,380 );

glVertex2d ( 1015,410);

glEnd();

glColor3f ( .6 , .7 , .9 );

glBegin(GL\_POLYGON);

glVertex2i ( 980 , 380 );

glVertex2i ( 980 , 350 );

glVertex2i ( 1050 , 350 );

glVertex2i ( 1050 , 380 );

glEnd();

glColor3f ( 0.5 , 0 , .5 );

glBegin(GL\_POLYGON);

glVertex2i ( 972 , 350 );

glVertex2i ( 972 , 355 );

glVertex2i ( 1057 , 355 );

glVertex2i ( 1057 , 350 );

glEnd();

glColor3f ( .85 , .85 , .85 );

glBegin(GL\_POLYGON);

glVertex2i ( 1010 , 375 );

glVertex2i ( 1010 , 355 );

glVertex2i ( 1020 , 355 );

glVertex2i ( 1020 , 375 );

glEnd();

//......house End....

glutPostRedisplay();

glFlush ();

}

void init (void)

{

/\* select clearing (background) color \*/

glClearColor (0.0, 0.0, 0.0, 0.0);

/\* initialize viewing values \*/

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(0, 1200,0, 500);

}

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

{

glutInit(&argc, argv);

glutInitDisplayMode (GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize (1200, 500);

glutInitWindowPosition (100, 100);

glutCreateWindow ("Village Lake Scenario");

init ();

glutDisplayFunc(display);

glutMainLoop();

return 0; /\* ISO C requires main to return int. \*/

}