#include<graphics.h>

#include<iostream>

using namespace std;

int findlocation(int x, int y){

int k;

if(x>85 && x<285 && y>60 && y<242)

k=1;

else if(x>285 && x<495 && y>60 && y<242)

k=2;

else if(x>495 && x<685 && y>60 && y<242)

k=3;

else if(x>85 && x<285 && y>242 && y<425)

k=4;

else if(x>285 && x<495 && y>242 && y<425)

k=5;

else if(x>495 && x<685 && y>242 && y<425)

k=6;

else if(x>85 && x<285 && y>425 && y<600)

k=7;

else if(x>285 && x<495 && y>425 && y<600)

k=8;

else if(x>495 && x<685 && y>425 && y<600)

k=9;

return k;

}

int found(int arr[], int n, int a, int b, int c){

int count1=0,count2=0,count3=0;

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

if(arr[i]==a)

count1++;

else if(arr[i]==b)

count2++;

else if(arr[i]==c)

count3++;

}

if(count1==1 && count2==1 && count3==1){

return 1;

}

return 0;

}

int win(int p[], int n){

if(found(p,n,1,2,3)==1 || found(p,n,4,5,6)==1 || found(p,n,7,8,9)==1 || found(p,n,1,4,7)==1 || found(p,n,2,5,8)==1 || found(p,n,3,6,9)==1 || found(p,n,1,5,9)==1 || found(p,n,3,5,7)==1){

return 1;

}

return 0;

}

void drawcircle(int k, int count){

int x,y;

if(k==1){

x=(85+285)/2;

y=(60+242)/2;

}

if(k==2){

x=(285+495)/2;

y=(60+242)/2;

}

if(k==3){

x=(495+685)/2;

y=(60+242)/2;

}

if(k==4){

x=(85+285)/2;

y=(242+425)/2;

}

if(k==5){

x=(285+495)/2;

y=(242+425)/2;

}

if(k==6){

x=(495+685)/2;

y=(242+425)/2;

}

if(k==7){

x=(85+285)/2;

y=(425+600)/2;

}

if(k==8){

x=(285+495)/2;

y=(425+600)/2;

}

if(k==9){

x=(495+685)/2;

y=(425+600)/2;

}

circle(x,y,60);

if(count%2==1){

setfillstyle(SOLID\_FILL,YELLOW);

floodfill(x,y,WHITE);

}

else{

setfillstyle(SOLID\_FILL,BLUE);

floodfill(x,y,WHITE);

}

}

void drawcross(int k){

int x1,y1,x2,y2,a1,b1,a2,b2;

if(k==1){

x1=85+15;

y1=60+15;

x2=285-15;

y2=242-15;

a1=85+15;

b1=242-15;

a2=285-15;

b2=60+15;

}

if(k==2){

//x=(285+495)/2;

//y=(60+242)/2;

x1=285+15;

y1=60+15;

x2=495-15;

y2=242-15;

a1=285+15;

b1=242-15;

a2=495-15;

b2=60+15;

}

if(k==3){

//x=(495+685)/2;

//y=(60+242)/2;

x1=495+15;

y1=60+15;

x2=685-15;

y2=242-15;

a1=495+15;

b1=242-15;

a2=685-15;

b2=60+15;

}

if(k==4){

//x=(85+285)/2;

//y=(242+425)/2;

x1=85+15;

y1=242+15;

x2=285-15;

y2=425-15;

a1=85+15;

b1=425-15;

a2=285-15;

b2=242+15;

}

if(k==5){

//x=(285+495)/2;

//y=(242+425)/2;

x1=285+15;

y1=242+15;

x2=495-15;

y2=425-15;

a1=285+15;

b1=425-15;

a2=495-15;

b2=242+15;

}

if(k==6){

//x=(495+685)/2;

//y=(242+425)/2;

x1=495+15;

y1=242+15;

x2=685-15;

y2=425-15;

a1=495+15;

b1=425-15;

a2=685-15;

b2=242+15;

}

if(k==7){

//x=(85+285)/2;

//y=(425+600)/2;

x1=85+15;

y1=425+15;

x2=285-15;

y2=600-15;

a1=85+15;

b1=600-15;

a2=285-15;

b2=425+15;

}

if(k==8){

//x=(285+495)/2;

//y=(425+600)/2;

x1=285+15;

y1=425+15;

x2=495-15;

y2=600-15;

a1=285+15;

b1=600-15;

a2=495-15;

b2=425+15;

}

if(k==9){

//x=(495+685)/2;

//y=(425+600)/2;

x1=495+15;

y1=425+15;

x2=685-15;

y2=600-15;

a1=495+15;

b1=600-15;

a2=685-15;

b2=425+15;

}

setcolor(BLUE);

rectangle(x1,y1,x2,y2);

setfillstyle(SOLID\_FILL,BLUE);

floodfill((x1+x2)/2,(y1+y2)/2,BLUE);

rectangle(a1,b1,a2,b2);

floodfill((a1+a2)/2,(b1+b2)/2,BLUE);

}

int found(int clicked[],int count,int k){

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

if(clicked[i]==k)

return 1;

}

return 0;

}

int main()

{

initwindow(800,800,"SANDESH DHUNGANA");

line(285,60,285,600);

line(495,60,495,600);

line(85,242,685,242);

line(85,425,685,425);

rectangle(85,60,685,600);

rectangle(9,9,50,50);

POINT c;

int x,y,k;

int count=0;

int player1[5],player2[5];

int p1=0,p2=0;

int clicked[9];

while(TRUE){

abcde:

settextstyle(EUROPEAN\_FONT,HORIZ\_DIR, 1);

outtextxy(125,0,"TIC-TAC-TOE BY SANDESH DHUNGANA");

GetCursorPos(&c);

x=c.x;

y=c.y;

if(GetAsyncKeyState(VK\_LBUTTON)){

int k=findlocation(x,y);

if(found(clicked,count,k)==0){

if(count%2==0){

//setfillstyle(SOLID\_FILL,YELLOW);

//floodfill(x,y,WHITE);

clicked[count++]=k;

player1[p1++]=k;

drawcircle(k,count);

}

else{

//setfillstyle(SOLID\_FILL,BLUE);

//floodfill(x,y,WHITE);

clicked[count++]=k;

player2[p2++]=k;

drawcircle(k,count);

//drawcross(k);

}

}

else

goto abcde;

}

if(p1>=3){

int w = win(player1,p1);

if(w==1){

setfillstyle(SOLID\_FILL,YELLOW);

floodfill(10,10,WHITE);

setcolor(YELLOW);

settextstyle(EUROPEAN\_FONT,HORIZ\_DIR, 5);

outtextxy(130,300,"PLAYER - 1 WINS!");

break;

}

}

if(p2>=3){

int w = win(player2,p2);

if(w==1){

setfillstyle(SOLID\_FILL,BLUE);

floodfill(10,10,WHITE);

setcolor(BLUE);

settextstyle(EUROPEAN\_FONT,HORIZ\_DIR, 5);

outtextxy(130,300,"PLAYER - 2 WINS!");

break;

}

}

if(p1+p2>=9){

if(win(player2,p2)==0 && win(player1,p1)==0){

setfillstyle(SOLID\_FILL,RED);

floodfill(10,10,WHITE);

setcolor(RED);

settextstyle(EUROPEAN\_FONT,HORIZ\_DIR, 5);

outtextxy(200,300,"IT'S A DRAW");

break;

}

}

delay(500);

}

getch();

closegraph();

}