*Final Project: Candy Crush*

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*Code=*

#include<iostream>

#include<string>

#include<ctime>

#include<windows.h>

using namespace std;

int a, b;

void board(int aray1[8][8])

{

int a;

int x;

int y;

srand(time(0));

for (int i = 1; i < 6; i++)

{

char c = 'H';

x = (rand() % 7 + 1);

y = (rand() % 7 + 1);

aray1[x][y] = c;

}

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

{

srand(time(0));

for (int j = 0; j <= 7; )

{

a = (rand() % 31 + 35);

if (aray1[i][j] == 'H')

{

j++;

}

else if (a == '@' || a == '#' || a == '$' || a == '&')

{

int d = i \* 8 + j;

if ((aray1[i][j - 1] != a || aray1[i][j - 2] != a ) && (aray1[0][d-16]!=a || aray1[0][d-8]!=a))

{

aray1[i][j] = char(a);

j++;

}

}

}

}

}

void display(int aray1[8][8])

{

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

{

for (int j = 0; j <= 7; j++)

{

cout << "|" << char(aray1[i][j]) << "|" << " ";

}

cout << endl;

cout << endl;

cout << endl;

}

}

void move(int a, int b, int aray1[8][8])

{

if (aray1[0][b] == 'H')

{}

else

{

swap(aray1[0][a], aray1[0][b]);

}

}

void input(int aray1[8][8])

{

int row = 0, col = 0, row1 = 0, col1 = 0, c = 0, d = 0, e = 0, f = 0;

cout << "Input the row you want to swap = ";

cin >> row;

cout << "Input the column you want to swap = ";

cin >> col;

cout << "Input the row you want to swap with = ";

cin >> row1;

cout << "Input the column you want to swap with = ";

cin >> col1;

c = (row) \* 8 + col;//Want to swap

d = (row1) \* 8 + col1;//Want to swap with desired index

while (d != c + 1 && d != c - 1 && d != c - 8 && d != c + 8)

{

cout << "Invalid Move!" << endl;

cout << "Input the row you want to swap with = ";

cin >> row1;

cout << "Input the column you want to swap with = ";

cin >> col1;

d = (row1) \* 8 + col1;

}

a = c;

b = d;

if ((aray1[0][c] == aray1[0][d + 1] && aray1[0][c] == aray1[0][d + 2]) || (aray1[0][c] == aray1[0][d - 1] &&

aray1[0][c] == aray1[0][d - 2]) || (aray1[0][c] == aray1[0][d + 1] && aray1[0][c] == aray1[0][d - 1]) &&

(aray1[0][c] == aray1[0][d + 8] && aray1[0][c] == aray1[0][d + 16]) || (aray1[0][c] == aray1[0][d - 8] &&

aray1[0][c] == aray1[0][d - 16]) || (aray1[0][c] == aray1[0][d + 8] && aray1[0][c] == aray1[0][d - 8])

|| (aray1[0][c + 1] == aray1[0][d] && aray1[0][c + 2] == aray1[0][d]) || (aray1[0][c - 1] == aray1[0][d] &&

aray1[0][c - 2] == aray1[0][d]) || (aray1[0][c + 1] == aray1[0][d] && aray1[0][c - 1] == aray1[0][d]) &&

(aray1[0][c + 8] == aray1[0][d] && aray1[0][c + 16] == aray1[0][d]) || (aray1[0][c - 8] == aray1[0][d] &&

aray1[0][c - 16] == aray1[0][d]) || (aray1[0][c + 8] == aray1[0][d] && aray1[0][c - 8] == aray1[0][d]))

{

move(c, d, aray1);

}

}

void num\_match\_4hori(int aray1[8][8])

{

int temp = 0, a = 'B';

bool b = false;

//4 horizontal check

while (b == false)

{

for (int i = 0; i < 8; i++)

{

if (b == true)

{

b = false;

break;

}

for (int j = 0; j < 7; j++)

{

if (aray1[i][j] == aray1[i][j + 1]&& aray1[i][j] == aray1[i][j + 2])

{

temp++;

}

else

{

temp = 0;

}

if (temp == 2)

{

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 2) + 35;

}

cout << a << ": hello world" << endl;

aray1[i][j] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 31) + 35;

}

aray1[i][j - 1] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 31) + 35;

}

aray1[i][j - 2] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 28) + 38;

}

aray1[i][j + 1] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 28) + 38;

}

aray1[i][j + 2] = a;

a = 'B';

b = true;

temp = 0;

break;

}

}

temp = 0;

}

b = true;

}

}

void num\_match\_4verti(int aray1[8][8])

{

int temp = 0, a = 'B';

bool b = false;

//4 vertical check

while (b == false)

{

for (int i = 0; i < 8; i++)

{

if (b == true)

{

b = false;

break;

}

for (int j = 0; j < 7; j++)

{

if (aray1[j][i] == aray1[j][i + 8] && aray1[j][i] == aray1[j][i + 16])

{

temp++;

}

else

{

temp = 0;

}

if (temp == 2)

{

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 2) + 35;

}

cout << a << ": hello world" << endl;

aray1[j][i] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 31) + 35;

}

aray1[j][i - 1] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 31) + 35;

}

aray1[j][i - 2] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 28) + 38;

}

aray1[j][i + 1] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 28) + 38;

}

aray1[j][i + 2] = a;

a = 'B';

b = true;

temp = 0;

break;

}

}

temp = 0;

}

b = true;

}

}

void num\_match\_3hori(int aray1[8][8])

{

int temp=0, a='B';

bool b = false;

//3 horizontal check

while (b==false)

{

for (int i = 0; i < 8; i++)

{

if (b == true)

{

b = false;

break;

}

for (int j = 0; j < 7; j++)

{

if (aray1[i][j] == aray1[i][j + 1])

{

temp++;

}

else

{

temp = 0;

}

if (temp == 2)

{

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 2) + 35;

}

cout << a << ": hello world" << endl;

aray1[i][j] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 31) + 35;

}

aray1[i][j - 1] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 28) + 38;

}

aray1[i][j + 1] = a;

a = 'B';

b = true;

temp = 0;

break;

}

}

temp = 0;

}

b = true;

}

}

void num\_match\_3verti(int aray1[8][8])

{

int temp = 0, a = 'B';

bool b = false;

//3 vertical check

while (b == false)

{

for (int i = 0; i < 8; i++)

{

if (b == true)

{

b = false;

break;

}

for (int j = 0; j < 7; j++)

{

if (aray1[j][i] == aray1[j][i + 8])

{

temp++;

}

else

{

temp = 0;

}

if (temp == 2)

{

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 2) + 35;

}

cout << a << ": hello world" << endl;

aray1[j][i] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 31) + 35;

}

aray1[j][i - 1] = a;

a = 'B';

while (a != '@' && a != '#' && a != '$' && a != '&')

{

srand(time(0));

a = (rand() % 28) + 38;

}

aray1[j][i + 1] = a;

a = 'B';

b = true;

temp = 0;

break;

}

}

temp = 0;

}

b = true;

}

}

string credits(string n1)

{

n1 = "Ali hassan (n) Sufyan Malik";

return n1;

}

string inst(string ins)

{

ins = " ";

return ins;

}

int main()

{

int a, q = 1;

cout << "1:Play game" << endl;

cout << "2:Credits" << endl;

cout << "3:Instructions and rules" << endl;

cout << "4:Exit";

while (q)

{

cout << endl;

cin >> a;

if (a == 1)

{

int z = 15;

int arra[8][8] = { 0 };

board(arra);

while (z > 0)

{

system("cls");

cout << "Moves = " << z << endl;

display(arra);

input(arra);

num\_match\_4hori(arra);

num\_match\_4verti(arra);

num\_match\_3hori(arra);

num\_match\_3verti(arra);

z--;

}

q = 0;

}

else if (a == 2)

{

string a1;

cout << credits(a1) << endl;

}

else if (a == 3)

{

}

else if(a==4)

{

break;

}

}

}

*A screenshot of a computer

Description automatically generated with medium confidence*