***c arrays second assignment***

**Student Name : محمد ابراهيم محمد السعيد ابراهيم**

**Id : 18011342**

**Section or lab : 8**

**Electrical communication engineering.**

**Code :**

#include <stdio.h>

#include <stdlib.h>

//check\_and\_put(checked array , new array)

void fill\_array(int \*arr);

void check\_and\_put(int \*arr1 , int \*arr2);

void fill\_p\_with\_arr(int \*arr3 , int\*p);

void print\_array(int \*arr6);

int main()

{

int grid0 [8][8]={0,0};

int grid1 [8][8]={0,0};

int grid2 [8][8]={0,0};

int grid3 [8][8]={0,0};

fill\_array(grid0);

check\_and\_put(grid0,grid1);

check\_and\_put(grid1,grid2);

check\_and\_put(grid2,grid3);

printf(" grid0 :\n");

print\_array(grid0);

printf("\n grid1 :\n");

print\_array(grid1);

printf("\n grid2 :\n");

print\_array(grid2);

printf("\n grid3 :\n");

print\_array(grid3);

return 0;

}

void fill\_array(int \*arr)

{

int help\_arr[8][8]={0,0};

int i=0;int j=0;int k=0;int h=0;

printf("please enter the array elements value as 1 or 0\n");

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

{

for (j=1;j<=6;j++)

{

printf("now you should enter the value of element [%d][%d]=",i,j);

scanf("%d",&help\_arr[i][j]);

if(help\_arr[i][j]!=0 && help\_arr[i][j]!=1)

{

while(i){

printf("please enter the element [%d][%d] again as a number of 1 or 0 =",i,j);

scanf("%d",&help\_arr[i][j]);

if(help\_arr[i][j]==0 || help\_arr[i][j]==1) break;

}

}

}

}

fill\_p\_with\_arr(&help\_arr[0][0],arr);

}

void fill\_p\_with\_arr(int \*arr3, int \*p)

{

int i=0;int j=0;int k=0;int h=0;

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

k=8\*i+1;

for (j=k;j<=(k+5);j++)

{

h=j-k+1;

arr3+=j;

p+=j;

\*p=\*arr3;

arr3-=j;

p-=j;

}

}

}

void check\_and\_put(int \*arr1 , int \*arr2)

{

int help\_arr1[8][8]={0,0};

int help\_arr2[8][8]={0,0};

int i=0;int j=0;int k=0;int h=0;int counter=0;

fill\_p\_with\_arr(arr1,&help\_arr1[0][0]);

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

for (j=1;j<=6;j++)

{

counter=0;

if(help\_arr1[i][j]==1){

if(help\_arr1[i][j+1]==1)counter+=1;

if(help\_arr1[i][j-1]==1)counter+=1;

if(help\_arr1[i+1][j]==1)counter+=1;

if(help\_arr1[i+1][j+1]==1)counter+=1;

if(help\_arr1[i+1][j-1]==1)counter+=1;

if(help\_arr1[i-1][j]==1)counter+=1;

if(help\_arr1[i-1][j+1]==1)counter+=1;

if(help\_arr1[i-1][j-1]==1)counter+=1;

if (counter==3 || counter ==2){help\_arr2[i][j]=1;}

}

else if(help\_arr1[i][j]==0){

if(help\_arr1[i][j+1]==1)counter+=1;

if(help\_arr1[i][j-1]==1)counter+=1;

if(help\_arr1[i+1][j]==1)counter+=1;

if(help\_arr1[i+1][j+1]==1)counter+=1;

if(help\_arr1[i+1][j-1]==1)counter+=1;

if(help\_arr1[i-1][j]==1)counter+=1;

if(help\_arr1[i-1][j+1]==1)counter+=1;

if(help\_arr1[i-1][j-1]==1)counter+=1;

if (counter==3)help\_arr2[i][j]=1;

}

counter=0;

}

}

fill\_p\_with\_arr(&help\_arr2[0][0],arr2);

}

void print\_array(int \*arr6)

{

int i=0;int j=0;

int help\_arr6 [8][8]={0,0};

fill\_p\_with\_arr(arr6,&help\_arr6[0][0]);

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

{

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

{

printf("[%d] ",help\_arr6[i][j]);

}

printf("\n");

}

}







