**Aim:**

To perform various operation on a 2 D array according to user choice.

**Source Code:**

#include<iostream.h>

#include<conio.h>

#include<process.h>

void main()

{

clrscr();

int A[3][2],B[3][2],C[3][2],ans,ma[10][10],mb[10][10],mc[10][10],m,n,p,q,j,k;

cout<<"ENTER ELEMENT OF MATRIX-1\n";

for(int i=0;i<3;i++)

{

for(int j=0;j<2;j++)

{

cin>>A[i][j];

}

}

cout<<"ENTER ELEMENT OF MATRIX-2 \n";

for(i=0;i<3;i++)

{

for(int j=0;j<2;j++)

{

cin>>B[i][j];

}

}

cout<<"1. For Addition of Matrices \n";

cout<<"2. For Subtraction of Matrices \n";

cout<<"3. For Multiplication of Matrices \n";

cout<<"Enter Your Choice :";

cin>>ans;

if(ans==1||ans==2)

{

for(i=0;i<3;i++)

{

for(int j=0;j<2;j++)

{

if(ans==1)

{

C[i][j]=A[i][j]+B[i][j];

}

if(ans==2)

{

C[i][j]=A[i][j]-B[i][j];

}

}

for(i=0;i<3;i++)

{

cout<<endl;

for(int j=0;j<2;j++)

{

cout<<C[i][j]<<" ";

}

}

}

}

if(ans==3)

{

cout<<"Warning: Not Possible\n";

cout<<"Enter rows & columns of Matrix-1";

cin>>m>>n;

cout<<"Enter rows & columns of Matrix-2";

cin>>p>>q;

if (n!=p)

{

cout<<"ERROR:Matirices Multiplication Not possible";

exit(0);

}

else

{

cout<<"ENTER ELEMENT OF MATRIX-1 ";

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

{

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

{

cin>>ma[i][j];

}

}

cout<<"ENTER ELEMENT OF MATRIX-2";

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

{

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

{

cin>>mb[i][j];

}

}

cout<<"Product of Matrices";

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

{

cout<<"\n";

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

{

mc[i][j]=0;

for(k=0;k<n;k++)

{

mc[i][j]+=ma[i][k]\*mb[k][j];

cout<<mc[i][j]<<" ";

}

}

}

}

}

getch();

}

**Output :**



