

Aim: To write a program to perform certain action on an Matrice according to the given command

**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<<"=====\n";
    cout<<"                Harshit Program to ADD Matrices                \n";
    cout<<"=====\n";
    cout<<"ENTER ELEMENT OF MATRIX-1";
    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:Since for multiplication of two Matrices Column of
matrix-1 should be equal to rows of matrice-2 therefore redefine Matrice\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();

```

```

C:\aa\ADDMAT-1.EXE
=====
Harshit Program to ADD Matrices
=====
ENTER ELEMENT OF MATRIX-1
2
2
2
2
2
2
2
ENTER ELEMENT OF MATRIX-2
2
2
2
2
2
2
2
1. For Addition of Matrices
2. For Subtraction of Matrices
3. For Multiplication of Matrices
Enter Your Choice :1
4 4
4 4
4 4

```

```
C:\aa\ADDMAT~1.EXE

=====
Harshit Program to ADD Matrices
=====
ENTER ELEMENT OF MATRIX-1
2
2
2
2
2
2
2
ENTER ELEMENT OF MATRIX-2
2
2
2
2
2
2
2
1. For Addition of Matrices
2. For Subtraction of Matrices
3. For Multiplication of Matrices
Enter Your Choice :2
0 0
0 0
0 0
```

```
C:\aa\DUMMY.EXE

1. For Addition of Matrices
2. For Subtraction of Matrices
3. For Multiplication of Matrices
Enter Your Choice :3
Warning:Since for multiplication of two Matrices Column of matrix-1 should be equal to rows of matrix-2 therefore redefine Matrice
Enter rows & columns of Matrix-1
2
2
Enter rows & columns of Matrix-2
2
2
ENTER ELEMENT OF MATRIX-1
2
2
2
2
2
ENTER ELEMENT OF MATRIX-2
2
2
2
2
Product of Matrices
8 8
8 8
```