1)addition of 3 matrix

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j;

int [,]a=new int[m,n];

int [,]b=new int[m,n];

int [,]c=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of B:");

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

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

b[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of C:");

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

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

c[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Add matrix:");

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

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

Console.WriteLine((a[i,j]+b[i,j]+c[i,j])+" ");

}

}

Console.WriteLine();

}

}

2)addition 2 martix.

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j;

int [,]a=new int[m,n];

int [,]b=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of B:");

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

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

b[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Add matrix:");

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

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

Console.WriteLine((a[i,j]+b[i,j])+" ");

}

}

Console.WriteLine();

}

}

3)subtraction of 2 matrix.

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j;

int [,]a=new int[m,n];

int [,]b=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of B:");

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

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

b[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Add matrix:");

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

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

Console.WriteLine((a[i,j]-b[i,j])+" ");

}

}

Console.WriteLine();

}

}

4)sunstraction of 3 matrix.

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j;

int [,]a=new int[m,n];

int [,]b=new int[m,n];

int [,]c=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of B:");

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

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

b[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of C:");

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

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

c[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Add matrix:");

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

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

Console.WriteLine((a[i,j]-b[i,j]-c[i,j])+" ");

}

}

Console.WriteLine();

}

}

5)print matrix

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int [,]a={

{1,2,3},

{3,4,5},

{6,7,8},

{9,10,11},

};

Console.WriteLine("Enter matrix:");

for(int i=0;i<4;i++){

for(int j=0;j<3;j++){

Console.Write(a[i,j]+" ");

}

Console.WriteLine();

}

}

}

6)sum of matrix

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j;

int sum=0;

int [,]a=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Add matrix:");

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

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

sum=sum+a[i,j];

}

}

Console.WriteLine("sum="+sum);

}

}

7)subtraction of matrix

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j;

int sum=0;

int [,]a=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("sub matrix:");

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

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

sum=sum-a[i,j];

}

}

Console.WriteLine("sum="+sum);

}

}

8)Matrix are equal or not

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m=2,n=2,i,j,sum=0;

Console.WriteLine("Enter the number of rows (m):");

m = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter the number of columns (n):");

n = Convert.ToInt32(Console.ReadLine());

int [,]a=new int[m,n];

int [,]b=new int[m,n];

//int [,]c=new int[m,n];

Console.WriteLine("Enter element of A:");

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

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

a[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("Enter element of B:");

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

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

b[i,j]=Convert.ToInt32(Console.ReadLine());

}

}

Console.WriteLine("matrix is equal:");

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

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

if(a[i,j]==b[i,j])

{

Console.WriteLine("It is equal");

}

else{

Console.WriteLine("It is not equal");

}

}

}

}

}

9)Transpose of matrix

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m = 3, n = 3;

int[,] a = new int[m, n];

int[,] t = new int[m, n]; // Transposed matrix will have dimensions (n x m)

Console.WriteLine("Enter elements of matrix A:");

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

{

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

{

a[i, j] = Convert.ToInt32(Console.ReadLine());

}

}

// Transposing the matrix

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

{

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

{

t[i, j] = a[j, i];

}

}

Console.WriteLine("Transpose of A:");

for (int i = 0; i < m; i++) // Note: Rows and columns are swapped

{

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

{

Console.Write(t[i, j] + " ");

}

Console.WriteLine();

}

}

}

10)Addition of all matrix

using System;

public class HelloWorld

{

public static void Main(string[] args)

{

int m = 3, n = 3;

int sum=0;

int[,] a = new int[m, n];

Console.WriteLine("Enter elements of matrix A:");

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

{

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

{

a[i, j] = Convert.ToInt32(Console.ReadLine());

}

}

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

{

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

if(i == j)

{

sum = sum + a[i,j];

}

}

}

Console.WriteLine("Sum:"+sum);

}

}