OUT PARAMETERS:

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day20

{

class Program

{

static public bool Rectangle(int l,int b,out int area, out int peri)

{

area = l \* b;

peri = 2 \* (l + b);

return true;

}

static void Main(string[] args)

{

int len = 20, bred = 2, a, p;

bool res = Rectangle(len, bred, out a, out p);

Console.WriteLine("LENGTH = " +len);

Console.WriteLine("BREADTH = " +bred);

Console.WriteLine("AREA = " +a);

Console.WriteLine("PERIMETER =" +p);

Console.WriteLine("RES = " +res);

}

}

}

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

INSERTION SORT----------------------------------------------

namespace Day20

{

class InsertionSort

{

static void insertion(int[] a)

{

int i, j, key, n;

n = a.Length;

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

{

key = a[i];

j = i - 1;

while(j>=0 && a[j] >key)

{

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

j--;

}

a[j + 1] = key;

}

}

public static void Main(string[] args)

{

int n;

Console.WriteLine("Enter the n value");

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

int[] a = new int[n];

Console.WriteLine("enter the array elements");

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

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

insertion(a);

Console.WriteLine("The sorted array elements");

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

{

Console.WriteLine(a[i]);

}

}

}

}

------------------------selection sort----------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day20

{

class selectionSort

{

static void selection(int[] a)

{

int i, j, minind, n, temp;

n = a.Length;

for(i = 0; i<n-1; i++)

{

minind = i;

for(j=i+1;j<n;j++)

{

if (a[j] < a[minind])

minind = j;

}

temp = a[i];

a[i] = a[minind];

a[minind] = temp;

}

}

public static void Main(string[] args)

{

int n;

Console.WriteLine("Enter the n value");

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

int[] a = new int[n];

Console.WriteLine("enter the array elements");

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

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

selection(a);

Console.WriteLine("The sorted array elements");

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

{

Console.WriteLine(a[i]);

}

}

}

}

------------------------------Linear search--------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day20

{

class LinearSearch

{

static int linear(int[] a,int key)

{

int i = 0, n = a.Length;

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

{

if (key == a[i])

return i;

}

return -1;

}

public static void Main(string[] args)

{

int n, key;

Console.WriteLine("Enter the n values");

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

int[] a = new int[n];

Console.WriteLine("Enter the array elements");

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

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

Console.WriteLine("Enter the key value");

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

int res = linear(a, key);

if(res==-1)

Console.WriteLine("Did not find the key");

else

Console.WriteLine("found key ={0} at index ={1}",key,res);

}

}

}

-----------------------------Binary Search------------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day20

{

class BinarySearch

{

static int binary(int[] a,int key)

{

int low, high, mid, n;

n = a.Length;

low = 0;

high = n;

while(low<=high)

{

mid = (low + high) / 2;

if (a[mid] == key)

return mid;

else if (a[mid] < key)

low = mid + 1;

else

high = mid - 1;

}

return -1;

}

public static void Main(string[] args)

{

int n, key;

Console.WriteLine("Enter the n values");

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

int[] a = new int[n];

Console.WriteLine("Enter the array elements");

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

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

Console.WriteLine("Enter the key value");

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

int res = binary(a, key);

if(res==-1)

Console.WriteLine("Search key not found");

else

Console.WriteLine("Search found key ={0} at index ={1}",key,res);

}

}

}

----------------Double dimension---------------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day20

{

class DoubleDimension1

{

public static void Main(string[] args)

{

int[,] a = { { 22, 3, 4 },

{33, 4, 5 } };

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

{

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

{

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

}

Console.WriteLine();

}

}

}

}

-----------------------------------------------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day21

{

class Twodarray1

{

static void input(int[,] a)

{

int rows = a.GetLength(0);

int cols = a.GetLength(1);

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

{

Console.WriteLine("Enter the elements of {0}th row",i);

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

{

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

}

}

}

static void printArray(int[,] a)

{

Console.WriteLine("Total numof elements = " +a.Length);

int rows = a.GetLength(0);

int cols = a.GetLength(1);

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

{

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

{

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

}

Console.WriteLine();

}

}

static void rowsum(int[,] a)

{

int rows = a.GetLength(0);

int cols = a.GetLength(1);

int sum = 0;

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

{

sum = 0;

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

{

sum += a[i, j];

}

Console.WriteLine("sum of(0) row = {1}",i,sum);

}

}

static void Main(string[] args)

{

int rows, cols;

Console.Write("Enter no of rows =");

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

Console.WriteLine("Enter no of cols = ");

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

int[,] a = new int[rows, cols];

input(a);

printArray(a);

rowsum(a);

}

}

}

-------------------------------------------------sum of cols-----------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day21

{

class Twodarray1

{

static void input(int[,] a)

{

int rows = a.GetLength(0);

int cols = a.GetLength(1);

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

{

Console.WriteLine("Enter the elements of {0}th row",i);

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

{

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

}

}

}

static void printArray(int[,] a)

{

Console.WriteLine("Total numof elements = " +a.Length);

int rows = a.GetLength(0);

int cols = a.GetLength(1);

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

{

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

{

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

}

Console.WriteLine();

}

}

static void rowsum(int[,] a)

{

int rows = a.GetLength(0);

int cols = a.GetLength(1);

int sum = 0;

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

{

sum = 0;

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

{

sum += a[i, j];

}

Console.WriteLine("sum of(0) row = {1}",i,sum);

}

}

static void colsum(int[,] a)

{

int rows = a.GetLength(0);

int cols = a.GetLength(1);

int sum = 0;

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

{

sum = 0;

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

{

sum += a[i, j];

}

Console.WriteLine("sum of(0) col = {1}", j, sum);

}

}

static void Main(string[] args)

{

int rows, cols;

Console.Write("Enter no of rows =");

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

Console.WriteLine("Enter no of cols = ");

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

int[,] a = new int[rows, cols];

input(a);

printArray(a);

Console.WriteLine("SUM of ROWS");

rowsum(a);

Console.WriteLine("SUM OF COLS");

colsum(a);

}

}

}

-----------------------diagonal sum---------------------------------------

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Day21

{

class Twodarray1

{

static void input(int[,] a)

{

int rows = a.GetLength(0);

int cols = a.GetLength(1);

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

{

Console.WriteLine("Enter the elements of {0}th row",i);

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

{

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

}

}

}