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**LEVEL: HND1**

**Question 1:** Write a C# program that prompts the user to input three numbers and outputs them in ascending order

**Answer:**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication3

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Insert three nummbers");

Console.Write("Enter first number: ");

int numOne = int.Parse(Console.ReadLine());

Console.Write("Enter second number: ");

int numTwo = int.Parse(Console.ReadLine());

Console.Write("Enter third number: ");

int numThree = int.Parse(Console.ReadLine());

int[] numbers = { numOne, numTwo, numThree };

Array.Sort(numbers);

Console.WriteLine("Numbers in ascending order:");

foreach (int number in numbers)

{

Console.WriteLine(number);

}

Console.ReadLine();

}

}

}

**Question 2:** Write a PHP Function ,smallestindex ,that takes as parameters an int array and its size,and returns the index of the smallest element in the array .Also,write a program to test your function.

**Answer:**

```php

function smallestindex($arr, $size) {

$min = $arr[0];

$index = 0;

for ($i = 1; $i < $size; $i++) {

if ($arr[$i] < $min) {

$min = $arr[$i];

$index = $i;

}

}

return $index;

}

```

And here's a program to test the `smallestindex` function:

```php

$numbers = array(5, 2, 9, 1, 7);

$size = count($numbers);

$smallestIndex = smallestindex($numbers, $size);

echo "The smallest element is at index: " . $smallestIndex;

**Question 3:** Write a C# program that prompts the user to input a string and outputs the string in uppercase(Use a character array to store the string)

**Answer:**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication3

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Input your word in lowercase:");

string input = Console.ReadLine();

char[] charArray = input.ToCharArray();

for (int p = 0; p < charArray.Length; p++)

{

charArray[p] = char.ToUpper(charArray[p]);

}

string uppercaseString = new string(charArray);

Console.WriteLine("Result: " + uppercaseString);

Console.ReadLine();

}

}

}

**Question 4:** Write a C# program to compute the addition of of N by M matrices. Allow the user to determine the size of the row and column

**Answer:**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication3

{

class Program

{

static void Main(string[] args)

{

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

int pows = int.Parse(Console.ReadLine());

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

int polumns = int.Parse(Console.ReadLine());

int[,] matrixp = new int[pows, polumns];

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

for (int s = 0; s < pows; s++)

{

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

{

Console.Write("Enter element [{0},{1}]: ", s, j);

matrixp[s, j] = int.Parse(Console.ReadLine());

}

}

int[,] matrixe = new int[pows, polumns];

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

for (int s = 0; s < pows; s++)

{

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

{

Console.Write("Enter element [{0},{1}]: ", s, j);

matrixe[s, j] = int.Parse(Console.ReadLine());

}

}

int[,] sumMatrix = new int[pows, polumns];

for (int s = 0; s < pows; s++)

{

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

{

sumMatrix[s, j] = matrixp[s, j] + matrixe[s, j];

}

}

Console.WriteLine("Sum of the matrices:");

for (int s = 0; s < pows; s++)

{

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

{

Console.Write(sumMatrix[s, j] + " ");

}

Console.WriteLine();

Console.ReadLine();

}

}

}

}

**Question 5:** Write a C# program that declares an array `alpha` of 50 components of type `float`. It initializes the array so that the first 25 components are equal to the square of the index variable, and the last 25 components are equal to three times the index variable. It then outputs the array with 10 elements per line:

**Answer:**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication3

{

class Program

{

static void Main(string[] args)

{

float[] alpha = new float[50];

for (int p = 0; p < 25; p++)

{

alpha[p] = p \* p;

}

for (int p = 25; p < 50; p++)

{

alpha[p] = 3 \* p;

}

Console.WriteLine("Array alpha:");

for (int p = 0; p < 50; p++)

{

Console.Write(alpha[p] + " ");

if ((p + 1) % 10 == 0)

{

Console.WriteLine();

}

Console.ReadLine();

}

}

}

}

**Question 6:** Write a C# program that prompts the user to input a number. The program then outputs the number and a message saying whether the number is positive, negative, or zero:

**Answer:**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication3

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter your preferred number: ");

int num = int.Parse(Console.ReadLine());

if (num > 0)

{

Console.WriteLine("The number entered is positive.");

}

else if (num < 0)

{

Console.WriteLine("The number entered is negative.");

}

else

{

Console.WriteLine("The number entered is zero.");

}

Console.ReadLine();

}

}

}