**1- Write a program that allows the user to enter a number then print it.**

**Example**

Input: 5

Output: 5

**2- Write a program that takes a number from the user then print yes if that number can be divided by 3 and 4 otherwise print no.**

**Example (1)**

Input: 12

Output: Yes

**Example (2)**

Input: 9

Output: No

**3- Write a program that allows the user to insert 2 integers then print the max.**

**Example (1)**

Input: 3 5

Output: 5

**Example (2)**

Input: 10 7

Output: 10

**4- Write a program that allows the user to insert an integer then print negative if it is negative number otherwise print positive.**

**Example (1)**

Input: -5

Output: negative

**Example (2)**

Input: 10

Output: positive

**5- Write a program that takes 3 integers from the user then prints the max element and the min element.**

**Example (1)**

Input:7,8,5

Output:

max element = 8

min element = 5

**Example (2)**

Input: 3 6 9

Outputs:

Max element = 9

Min element = 3

**6- Write a program that allows the user to insert an integer number then check If a number is even or odd.**

**7- Write a program that takes character from the user then if it is a vowel chars (a,e,I,o,u) then print (vowel) otherwise print (consonant).**

**Example (1)**

Input: O

Output: vowel

**Example (2)**

Input: b

Output: Consonant

**8- Write a program that allows the user to insert an integer then print all numbers between 1 to that number.**

**Example**

Input: 5

Output: 1, 2, 3, 4, 5

**9- Write a program that allows the user to insert an integer then print a multiplication table up to 12.**

**Example**

Input: 5

Outputs: 5 10 15 20 25 30 35 40 45 50 55 60

**10- Write a program that allows to user to insert number then print all even numbers between 1 to this number**

**Example:**

Input: 15

Output: 2 4 6 8 10 12 14

**11- Write a program that takes two integers then prints the power.**

**Example:**

Input: 4 3

Output: 64

**Hint:** how to calculate 4^3 = 4 \* 4 \* 4 =64

**12- Write a program to enter marks of five subjects and calculate total, average and percentage.**

**Example**

Input: - Enter Marks of five subjects: 95 76 58 90 89

Output: Total marks = 408

Average Marks = 81

Percentage = 81

**13- Write a program to input the month number and print the number of days in that month.**

**Example**

Input: Month Number: 1

Output: Days in Month: 31

**14- Write a program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer, And Calculate percentage and grade.**

**Hint:**

Percentage >= 90%: Grad A

Percentage >= 80%: Grad B

Percentage >= 70%: Grad C

Percentage >= 60%: Grad D

Percentage >= 40%: Grad E

Percentage < 40%: Grad F

**15 - Write a program to check whether a number is positive or negative or zero.**

**16- Write a program to create a Simple Calculator.**

**17- Write a program to allow the user to enter a string and print the REVERSE of it.**

**18- Write a program to allow the user to enter int and print the REVERSED of it.**

**19. Write a program in C# Sharp to find the sum of all elements of the array.**

**20. Write a program in C# Sharp to count a total number of duplicate elements in an array.**

**21. Write a program in C# Sharp to merge two arrays of the same size sorted in ascending order.**

**22. Write a program in C# Sharp to count the frequency of each element of an array.**

**23. Write a program in C# Sharp to find maximum and minimum element in an array**

**24. Write a program in C# Sharp to find the second largest element in an array.**

**25. Consider an Array of Integer values with size N, having values as**

**in this Example**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 0 0 | 0 | 0 | 5 | 6 | 7 | 5 | 0 | 7 | 5 | 3 |

write a program find the longest distance between Two equal cells. In this example. The distance is measured by the number Of cells- for example, the distance between the first and the fourth cell is 2 (cell 2 and cell 3).

In the example above, the longest distance is between the first 7 and the

10th 7, with a distance of 8 cells, i.e. the number of cells between the 1st

And the 10th 7s.

**Note:**

- Array values will be taken from the user

- If you have input like 1111111 then the distance is the number of

Cells between the first and the last cell.

**26. Given a list of space separated words, reverse the order of the words.**

Input: this is a test Output: test a is this

Input: all your base Output: base your all

Input: Word Output: Word

**Note :**

Check the **Split Function** (Member in String Class) Output will be a Single Console.WriteLine Statement

**//Write a program that allows the user to enter a number then print it.**

**#region Q1**

**Console.Write("Enter the number you want to print: ");**

**string print = Console.ReadLine();**

**Console.WriteLine(print);**

**#endregion**

**//Write a program that takes a number from the user then print yes**

**//if that number can be divided by 3 and 4 otherwise print no.**

**#region Q2**

**Console.Write("Enter a number to check if the number divisible by 3 and 4: ");**

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

**Console.WriteLine((num % 3 == 0 && num % 4 == 0) ? "Yes" : "No");**

**#endregion**

**/\***

**\* Write a program that allows the user to insert 2 integers then print the max.**

**\*/**

**#region Q3**

**Console.Write("Write two number to check the bigger space between them: ");**

**List<int> nums = new List<int>();**

**nums = Console.ReadLine().Split().Select(s => int.Parse(s)).ToList();**

**if (nums[0] > nums[1])**

**{**

**Console.WriteLine($"{nums[0]} is bigger");**

**}**

**else if (nums[0] < nums[1])**

**{**

**Console.WriteLine($"{nums[1]} is bigger");**

**}**

**else**

**{**

**Console.WriteLine($"The Two numbers are equal");**

**}**

**#endregion**

**/\***

**\* Write a program that allows the user to insert an integer then print negative if it**

**\* is negative number otherwise print positive.**

**\*/**

**#region Q4**

**Console.Write("Enter a number to Know if its a negative or positive: ");**

**int x = int.Parse(Console.ReadLine());**

**if (x == 0)**

**{**

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

**}**

**else**

**{**

**Console.WriteLine((x < 0) ? "Negative" : "Positive");**

**}**

**#endregion**

**/\* Write a program that takes 3 integers from the user then prints**

**\* the max element and the min element.**

**\*/**

**#region Q5**

**Console.Write("Enter a list of 3 Numbers seperated by space: ");**

**List<int> numpers = new List<int>();**

**numpers = Console.ReadLine().Split().Select(s => int.Parse(s)).ToList();**

**Console.WriteLine($"The max: {numpers.Max()}");**

**Console.WriteLine($"The min: {numpers.Min()}");**

**#endregion**

**/\***

**\* Write a program that allows the user**

**\* to insert an integer number then check If a number is even or odd.**

**\*/**

**#region Q6**

**Console.Write("Enter an integer number: ");**

**int y = int.Parse(Console.ReadLine());**

**Console.WriteLine((y % 2 == 0) ? "Even" : "Odd");**

**#endregion**

**/\***

**\* Write a program that takes character from the user then if it**

**\* is a vowel chars (a,e,i,o,u) then print (vowel) otherwise print (consonant).**

**\*/**

**#region Q7**

**List<char> chars = new List<char> { 'a', 'o', 'i', 'y', 'u' };**

**Console.WriteLine("Enter a character to check if its vowel or consonent: ");**

**Console.WriteLine((chars.Contains(char.Parse(Console.ReadLine()))) ? "vowel" : "Consonent");**

**#endregion**

**/\***

**\* Write a program that allows the user to insert an integer then**

**\* print all numbers between 1 to that number.**

**\*/**

**#region Q8**

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

**int flag = int.Parse(Console.ReadLine());**

**for (int i = 0; i < flag + 1; i++)**

**{**

**Console.Write(i);**

**Console.Write(',');**

**}**

**#endregion**

**/\***

**\* Write a program that allows the user to insert an integer then print**

**\* a multiplication table up to 12.**

**\*/**

**#region Q9**

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

**int numberQ9 = int.Parse(Console.ReadLine());**

**for (int i = 0; i < 13; i++)**

**{**

**Console.Write(numberQ9 \* i);**

**Console.Write(' ');**

**}**

**#endregion**

**/\***

**\* Write a program that allows to user to insert number then print all even**

**\* numbers between 1 to this number**

**\*/**

**#region Q10**

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

**int numberQ10 = int.Parse(Console.ReadLine());**

**for (int i = 1; i < numberQ10; i++)**

**{**

**if (i % 2 == 0)**

**{**

**Console.WriteLine(i);**

**}**

**}**

**#endregion**

**/\***

**\* Write a program that takes two integers then prints the power.**

**\*/**

**#region Q11**

**Console.Write("Enter Two numbers The Second One is the power: ");**

**char[] numbers = Console.ReadLine().ToArray();**

**int numberQ11a = Convert.ToInt32(numbers[0]), numberQ11b = Convert.ToInt32(numbers[1]);**

**Console.WriteLine($"The result of {numberQ11a} Power {numberQ11b} = {numberQ11a ^ numberQ11b}");**

**#endregion**

**/\***

**\* Write a program to enter marks of five subjects and calculate total, average and percentage.**

**\*/**

**#region Q12**

**Console.Write("Enter Marks of five subjects (Space between them): ");**

**List<int> marks = Console.ReadLine().Split().Select(s => int.Parse(s)).ToList();**

**Console.WriteLine($"Total marks: {marks.Sum()}");**

**Console.WriteLine($"Average Marks: {marks.Average()}");**

**Console.WriteLine($"Percentage: {marks.Sum()}%");**

**#endregion**

**/\***

**\* Write a program to input the month number and print the number of days in that month.**

**\*/**

**#region Q13**

**Console.Write("Month Number: ");**

**int MonthNumber = Convert.ToInt32(Console.ReadLine());**

**switch (MonthNumber)**

**{**

**case 1:**

**Console.WriteLine(31);**

**break;**

**case 2:**

**Console.WriteLine(28);**

**break;**

**case 3:**

**Console.WriteLine(30);**

**break;**

**case 4:**

**Console.WriteLine(31);**

**break;**

**case 5:**

**Console.WriteLine(30);**

**break;**

**case 6:**

**Console.WriteLine(31);**

**break;**

**case 7:**

**Console.WriteLine(30);**

**break;**

**case 8:**

**Console.WriteLine(31);**

**break;**

**case 9:**

**Console.WriteLine(30);**

**break;**

**case 10:**

**Console.WriteLine(31);**

**break;**

**case 11:**

**Console.WriteLine(30);**

**break;**

**case 12:**

**Console.WriteLine(31);**

**break;**

**default:**

**Console.WriteLine("Invalid Input");**

**break;**

**}**

**#endregion**

**/\***

**\* Write a program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer, And Calculate percentage and grade.**

**\* Solution:**

**\* first we need 5 list, for each subject list and then we list user to enter 5 marks for everySubject and then show the marks and grade for each subject**

**\*/**

**#region Q14**

**string[] subject = { "Physics", "Chemistry", "Biology", "Mathematics", " Computer" };**

**double[] mark = new double[5];**

**for (int i = 0; i < 5; i++)**

**{**

**Console.WriteLine($"Enter Five marks of {subject[i]}");**

**switch (subject[i])**

**{**

**case "Physics":**

**mark[i] = Console.ReadLine().Split().Select(x => int.Parse(x)).ToList().Average();**

**break;**

**case "Chemistry":**

**mark[i] = Console.ReadLine().Split().Select(x => int.Parse(x)).ToList().Average();**

**break;**

**case "Biology":**

**mark[i] = Console.ReadLine().Split().Select(x => int.Parse(x)).ToList().Average();**

**break;**

**case "Mathematics":**

**mark[i] = Console.ReadLine().Split().Select(x => int.Parse(x)).ToList().Average();**

**break;**

**case "Computer":**

**mark[i] = Console.ReadLine().Split().Select(x => int.Parse(x)).ToList().Average();**

**break;**

**default:**

**Console.WriteLine("Inavalid Input");**

**break;**

**}**

**}**

**for (int i = 0; i < 5; i++)**

**{**

**if (mark[i] >= 90)**

**{**

**Console.WriteLine($"The Grade of {subject[i]} IS: A");**

**}**

**else if (mark[i] >= 80)**

**{**

**Console.WriteLine($"The Grade of {subject[i]} IS: B");**

**}**

**else if (mark[i] >= 70)**

**{**

**Console.WriteLine($"The Grade of {subject[i]} IS: C");**

**}**

**else if (mark[i] >= 60)**

**{**

**Console.WriteLine($"The Grade of {subject[i]} IS: D");**

**}**

**else if (mark[i] >= 40)**

**{**

**Console.WriteLine($"The Grade of {subject[i]} IS: E");**

**}**

**else**

**{**

**Console.WriteLine($"The Grade of {subject[i]} IS: F");**

**}**

**}**

**#endregion**

**/\***

**\* Write a program to check whether a number is positive or negative or zero.**

**\*/**

**#region Q15**

**Console.Write("Enter a Number: ");**

**int numberQ15 = Convert.ToInt32(Console.ReadLine());**

**if (numberQ15 < 0)**

**{**

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

**}**

**else if (numberQ15 > 0)**

**{**

**Console.WriteLine("the number is positive");**

**}**

**else**

**{**

**Console.WriteLine("The number is Zero");**

**}**

**#endregion**

**/\***

**\* Write a program to create a Simple Calculator.**

**\*/**

**#region Q16**

**string[] operation = { "Addition", "Subtraction", " Multiplication", " Division" };**

**Console.WriteLine("Enter the Nubmer of Operatoin you want to apply(1-4): ");**

**for (int i = 0; i < operation.Length; i++)**

**{**

**Console.WriteLine($"{i}. {operation[i]}");**

**}**

**Console.Write("Enter Number: ");**

**int choise = int.Parse(Console.ReadLine());**

**if (choise < 1 || choise > operation.Length)**

**{**

**Console.WriteLine("Invalid Input");**

**}**

**else**

**{**

**Console.Write("Enter First Operand: ");**

**double first\_operand = double.Parse(Console.ReadLine());**

**Console.Write("Enter Second Operand: ");**

**double Second\_operand = double.Parse(Console.ReadLine());**

**switch (choise)**

**{**

**case 1:**

**Console.WriteLine($"The result of {first\_operand} + {Second\_operand}={first\_operand + Second\_operand}");**

**break;**

**case 2:**

**Console.WriteLine($"The result of {first\_operand} - {Second\_operand}={first\_operand - Second\_operand}");**

**break;**

**case 3:**

**Console.WriteLine($"The result of {first\_operand} \* {Second\_operand}={first\_operand \* Second\_operand}");**

**break;**

**case 4:**

**Console.WriteLine($"The result of {first\_operand} / {Second\_operand}={first\_operand / Second\_operand}");**

**break;**

**}**

**}**

**#endregion**

**/\***

**\* Write a program to allow the user to enter a string and print the REVERSE of it.**

**\*/**

**#region Q17**

**Console.Write("Enter a word: ");**

**string word = Console.ReadLine();**

**foreach (char item in word.Reverse())**

**{**

**Console.Write(item);**

**}**

**#endregion**

**/\***

**\* Write a program to allow the user to enter int and print the REVERSED of it.**

**\*/**

**#region Q18**

**Console.Write("Enter a a number: ");**

**int numberQ18 = int.Parse(Console.ReadLine());**

**#endregion**

**/\***

**\* Write a program in C# Sharp to find the sum of all elements of the array**

**\*/**

**#region Q19**

**int[] numbersQ19 = { 1, 2, 3, 4, 5, 6, 9, 8, 7 };**

**int sum = 0;**

**foreach (int j in numbersQ19)**

**{**

**sum += j;**

**}**

**Console.WriteLine($"The sume of the arrey = {sum}");**

**#endregion**

**/\***

**\* Write a program in C# Sharp to count a total number of duplicate elements in an array.**

**\*/**

**#region Q20**

**int[] numbersQ20 = { 1, 2, 5, 9, 8, 6, 5, 4, 3, 2, 7, 8 };**

**int dublicate = 0;**

**for (int j = 0; j < numbersQ20.Length; j++)**

**{**

**int d = 0;**

**foreach (int item in numbersQ20)**

**{**

**if (item == numbersQ20[j])**

**{**

**d++;**

**}**

**}**

**if (d > 1)**

**{**

**dublicate++;**

**}**

**}**

**#endregion**

**/\***

**\* Write a program in C# Sharp to merge two arrays of the same size sorted in ascending order.**

**\*/**

**#region Q21**

**int[] ls1 = { 1, 2, 3, 4, 5, 6 };**

**int[] ls2 = { 7, 8, 9, 10, 11, 12 };**

**ls1 = ls1.Concat(ls2).ToArray();**

**Array.Sort(ls1);**

**foreach (int j in ls1)**

**{**

**Console.Write(j + " ");**

**}**

**#endregion**

**/\***

**\* Write a program in C# Sharp to count the frequency of each element of an array.**

**\*/**

**#region Q22**

**int[] freq = { 1, 9, 5, 1, 2, 3, 6, 5, 4, 7, 8, 5, 6, 9, 8, 5, 56, 1, 8 };**

**int[] notFreq = new int[] { };**

**int[] NumOfFreq=new int[] { };**

**for (int i = 0; i < freq.Length; i++)**

**{**

**if (!notFreq.Contains(freq[i]))**

**{**

**Console.WriteLine(notFreq.Contains(freq[i]));**

**notFreq = notFreq.Append(freq[i]).ToArray();**

**NumOfFreq = NumOfFreq.Append(1).ToArray();**

**}**

**else**

**{**

**int index = Array.IndexOf(notFreq, freq[i]);**

**NumOfFreq[index]++;**

**}**

**}**

**for (int j = 0; j < notFreq.Length; j++)**

**{**

**Console.WriteLine($"Number {notFreq[j]} has frquant {NumOfFreq[j]} Times");**

**}**

**#endregion**

**/\***

**\* Write a program in C# Sharp to find maximum and minimum element in an array**

**\*/**

**#region Q23**

**int[] numbersQ23 = { 42, 17, 89, 33, 56, 22, 98, 11, 74, 5 };**

**int max = int.MinValue;**

**int min = int.MaxValue;**

**foreach (int item in numbersQ23)**

**{**

**if (item > max)**

**{**

**max = item;**

**}**

**if (item < min)**

**{**

**min = item;**

**}**

**}**

**#endregion**

**/\***

**\* Write a program in C# Sharp to find the second largest element in an array.**

**\*/**

**#region Q24**

**int[] numbersQ24 = { 42, 17, 89, 33, 56, 22, 98, 11, 74, 5 };**

**Array.Sort(numbersQ24);**

**Console.WriteLine($"The Second Largest element in the array is {numbersQ24[numbersQ24.Length-2]}");**

**#endregion**