Ques1 Write a C# Sharp program that takes three letters as input and display

them in reverse order

using System;

namespace reverseLogic

{

class reverseOrder

{

static void Main(string[] args)

{

char word\_1, word\_2, word\_3;

Console.Write("Enter letter: ");

word\_1 = Convert.ToChar(Console.ReadLine());

Console.Write("Enter letter: ");

word\_2 = Convert.ToChar(Console.ReadLine());

Console.Write("Enter letter: ");

word\_3 = Convert.ToChar(Console.ReadLine());

Console.WriteLine("\nExpected Output\n");

Console.WriteLine("{0} {1} {2}", word\_3, word\_2, word\_1);

Console.ReadKey();

}

}

}

Ques2 Write a C# Sharp program that takes a number and a width also a number, as input and then displays a triangle of that width, using that number

using System;

namespace Pattern

{

class trianglePattern

{

static void Main(string[] args)

{

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

int number = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter the desired width: ");

int width = Convert.ToInt32(Console.ReadLine());

int row = number, col = width;

Console.WriteLine("\n=====Expected Output=====\n");

for (int i = 1; i <= row; i++)

{

for (int k = col; k >= i; k--)

{

Console.Write(col);

}

Console.Write("\n");

}

Console.ReadKey();

}

}

}

Ques3 Write a C# Sharp program that takes userid and password as input (type string). After 3 wrong attempts, user will be rejected.(Store user data in hashtable/Dictionary)

using System;

using System.Collections;

namespace HashtableOperation

{

class Program

{

static void Main(string[] args)

{

int counter = 3;

Hashtable ht = new Hashtable(){

{"Username", "Sahil"},

{"Password", "Sahil@145"}

};

do

{

Console.Write("Enter Username : ");

string username = Console.ReadLine();

Console.Write("Enter Password : ");

string password = Console.ReadLine();

if (username != (string)ht["Username"] || password != (string)ht["Password"])

{

Console.WriteLine("wrong credentials");

counter--;

Console.WriteLine($"You have only {counter} attempts available..");

Console.WriteLine("\n==================================\n");

}

else

{

Console.WriteLine("Login Successfully");

break;

}

} while (counter > 0);

if (counter == 0)

{

Console.WriteLine("Your account has been locked contact admin");

}

Console.ReadKey();

}

}

}

Ques4 Write a C# Sharp program that takes two numbers as input and perform an operation (+,-,\*,x,/) on them and displays the result of that operation

using System;

namespace Calculator

{

class Program

{

static void Main(string[] args)

{

string value;

do

{

int res;

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

int num1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter Operation (+,-,\*,x,/): ");

string symbol = Console.ReadLine();

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

int num2 = Convert.ToInt32(Console.ReadLine());

switch (symbol)

{

case "+":

res = num1 + num2;

Console.WriteLine("\n{0} + {1} = {2}", num1, num2, res);

break;

case "-":

res = num1 - num2;

Console.WriteLine("\n{0} - {1} = {2}", num1, num2, res);

break;

case "\*":

res = num1 \* num2;

Console.WriteLine("\n{0} \* {1} = {2}", num1, num2, res);

break;

case "x":

res = num1 \* num2;

Console.WriteLine("\n{0} x {1} = {2}", num1, num2, res);

break;

case "/":

res = num1 / num2;

Console.WriteLine("\n{0} / {1} = {2}", num1, num2, res);

break;

default:

Console.WriteLine("\nWrong Input");

break;

}

Console.ReadLine();

Console.Write("Do You Want To Continue(Press y For Yes and Press n for No)");

value = Console.ReadLine();

}

while (value == "y" || value == "Y");

}

}

}

Ques5 Write a C# Sharp program that takes the radius of a circle as input and calculate the perimeter and area of the circle

using System;

namespace perimeterArea

{

class circlePA

{

static void Main(string[] args)

{

double radius;

double PI = 3.14;

Console.WriteLine("Input the radius of the circle : ");

radius = Convert.ToDouble(Console.ReadLine());

Console.WriteLine("\nPerimeter of Circle : " + ((radius \* 2) \* PI));

Console.WriteLine("\nArea of Circle : " + ((radius \* radius) \* PI));

Console.ReadKey();

}

}

}

Ques 6 Write a C# Sharp program that takes distance and time as input and displays the speed in kilometres per hour and miles per hour

using System;

namespace Conversion

{

class Program

{

static void Main(string[] args)

{

float distance, timesec, kph, mps, mph, hour, sec, min;

Console.Write("Input distance(metres): ");

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

Console.Write("Input timeSec(hour): ");

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

Console.Write("Input timeSec(minutes): ");

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

Console.Write("Input timeSec(seconds): ");

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

timesec = (hour \* 3600) + (min \* 60) + sec;

mps = distance / timesec;

kph = (distance / 1000.0f) / (timesec / 3600.0f);

mph = kph / 1.60934f;

Console.WriteLine("\nYour speed in metres/sec is {0}", mps);

Console.WriteLine("\nYour speed in km/h is {0}", kph);

Console.WriteLine("\nYour speed in miles/h is {0}", mph);

Console.ReadKey();

}

}

}

Que 7 Write a C# Sharp program that takes a character as input and check the input (lowercase) is a vowel, a digit, or any other symbol

using System;

namespace characterLogic

{

class Program

{

static void Main(string[] args)

{

char character;

Console.Write("Input a symbol: ");

character = Convert.ToChar(Console.ReadLine());

if ((character == 'a') || (character == 'e') || (character == 'i') || (character == 'o') || (character == 'u'))

Console.WriteLine("\nIt's a lowercase vowel.");

else if ((character >= '0') && (character <= '9'))

Console.WriteLine("\nIt's a digit.");

else

Console.Write("\nIt's any other symbol.");

Console.ReadKey();

}

}

}

Ques 8 Write a C# Sharp program that takes two numbers as input and returns true or false when both numbers are even or odd.

using System;

namespace EvenOdd

{

class Program

{

static void Main(string[] args)

{

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

int a = Convert.ToInt32(Console.ReadLine());

Console.Write("\nEnter Second number: ");

int b = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("\n====Result=====\n");

Console.WriteLine(a % 2 == 0 && b % 2 == 0 || a % 2 != 0 && b % 2 != 0);

Console.ReadKey();

}

}

}

Ques 9 Write a C# Sharp program that takes a decimal number as input and displays its equivalent in binary form.

using System;

namespace Conversion

{

class Program

{

static void Main(string[] args)

{

int n, i;

int[] a = new int[10];

Console.Write("Enter the decimal number to convert: ");

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

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

{

a[i] = n % 2;

n = n / 2;

}

Console.Write("\nBinary of the given number = ");

for (i = i - 1; i >= 0; i--)

{

Console.Write(a[i]);

}

Console.ReadKey();

}

}

}

Ques 10 Write a C# Sharp program to get the absolute difference between n and 51. If n is greater than 51 return triple the absolute difference

using System;

namespace AbsoluteDiff

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter a number: \n");

int n1 = int.Parse(Console.ReadLine());

int n2 = int.Parse(Console.ReadLine());

int n3 = int.Parse(Console.ReadLine());

Console.WriteLine("\nExpected Result\n");

Console.WriteLine(AbsDif(n1));

Console.WriteLine(AbsDif(n2));

Console.WriteLine(AbsDif(n3));

Console.ReadKey();

}

public static int AbsDif(int n)

{

if (n > 51)

{

return (Math.Abs((n - 51) \* 3));

}

return (Math.Abs(n - 51));

}

}

}

Que 11 Write a C# Sharp program to remove the character in a given position of a given string. The given position will be in the range 0.. string length -1 inclusive.

using System;

namespace removePosition

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter your string: \n");

string str = Console.ReadLine();

Console.WriteLine("\nEnter the position which you want to remove: \n");

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

Console.WriteLine(str.Remove(pos, 1));

Console.WriteLine("\n");

Console.ReadKey();

}

}

}

Ques 12 Write a C# Sharp program to exchange the first and last characters in a given string and return the new string.

using System;

namespace ExchangeCharacters

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter a string:- \n");

string letter1 = Console.ReadLine();

string letter2 = Console.ReadLine();

string letter3 = Console.ReadLine();

Console.WriteLine("\n======New String Result======\n");

Console.WriteLine(ExcChar(letter1));

Console.WriteLine(ExcChar(letter2));

Console.WriteLine(ExcChar(letter3));

Console.ReadLine();

}

public static string ExcChar(string str)

{

return str.Length > 1

? str.Substring(str.Length - 1) + str.Substring(1, str.Length - 2) + str.Substring(0, 1) : str;

}

}

}

Ques 13 Write a C# Sharp program to create a new array from two give array of integers, each length 3

using System;

using System.Collections.Generic;

class arraymerge

{

static void Main()

{

int[] arr1 = { 10, 20, 30 };

int[] arr2 = { 40, 50, 60 };

Console.WriteLine("Array 1");

foreach (int ele in arr1)

{

Console.WriteLine(ele);

}

Console.WriteLine("Array 2");

foreach (int ele in arr2)

{

Console.WriteLine(ele);

}

var myList = new List<int>();

myList.AddRange(arr1);

myList.AddRange(arr2);

int[] arr3 = myList.ToArray();

Console.WriteLine("Combined array elements..");

foreach (int res in arr3)

{

Console.WriteLine(res);

}

}

}

Ques 14 Write a C# Sharp program to count the number of strings with given length in given array of strings

using System;

namespace stringsArray

{

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter size 0f strings");

int s = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("\n Enter the number 0f strings\n");

string[] answer = new string[s];

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

{

answer[i] = Console.ReadLine();

}

Console.WriteLine("\nenter length: \n");

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

Console.WriteLine("\n===Number of Strings====\n");

Console.WriteLine(countStr(answer, length));

}

static int countStr(string[] arr\_str, int len)

{

int ctr = 0;

for (int i = 0; i < arr\_str.Length; i++)

{

if (arr\_str[i].Length == len)

{

ctr++;

}

}

return ctr;

}

}

}

Ques 15 Write a C# Sharp program to calculate the value that results from raising 3 to a power ranging from 0 to 32

using System;

namespace PowerRanging

{

class PowerOperation

{

static void Main(string[] args)

{

int digit = 3;

for (int power = 0; power <= 32; power++)

{

Console.WriteLine($"{digit}^{power} = {(long)Math.Pow(digit, power):N0} (0x{(long)Math.Pow(digit, power):X})");

}

Console.ReadKey();

}

}

}

Ques 16 Write a C# Sharp program to convert a given integer value to Roman numerals

using System;

using System.Text;

namespace RomanNumerals

{

class RomanInt

{

static void Main(string[] args)

{

int n;

Console.WriteLine("Enter Integer Value 1:- \n");

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

Console.WriteLine("Original integer value: " + n);

Console.WriteLine("Roman numerals of the said integer value:");

Console.WriteLine(int\_to\_Roman(n));

Console.WriteLine("\nEnter Integer Value 2:- ");

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

Console.WriteLine("Original integer value: " + n);

Console.WriteLine("Roman numerals of the said integer value:");

Console.WriteLine(int\_to\_Roman(n));

Console.WriteLine("\nEnter Integer Value 3:- ");

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

Console.WriteLine("Original integer value: " + n);

Console.WriteLine("Roman numerals of the said integer value:");

Console.WriteLine(int\_to\_Roman(n));

Console.WriteLine("\nEnter Integer Value 4:- ");

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

Console.WriteLine("Original integer value: " + n);

Console.WriteLine("Roman numerals of the said integer value:");

Console.WriteLine(int\_to\_Roman(n));

Console.ReadKey();

}

public static string int\_to\_Roman(int n)

{

string[] roman\_symbol = { "MMM", "MM", "M", "CM", "DCCC", "DCC", "DC", "D", "CD", "CCC", "CC", "C", "XC", "LXXX", "LXX", "LX", "L", "XL", "XXX", "XX", "X", "IX", "VIII", "VII", "VI", "V", "IV", "III", "II", "I" };

int[] int\_value = { 3000, 2000, 1000, 900, 800, 700, 600, 500, 400, 300, 200, 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1 };

var roman\_numerals = new StringBuilder();

var index\_num = 0;

while (n != 0)

{

if (n >= int\_value[index\_num])

{

n -= int\_value[index\_num];

roman\_numerals.Append(roman\_symbol[index\_num]);

}

else

{

index\_num++;

}

}

return roman\_numerals.ToString();

}

}

}

Ques 17 Write a program in C# Sharp to find the sum of first n natural numbers using recursion.

using System;

namespace RecursionSum

{

class naturalNumbers

{

static void Main(string[] args)

{

Console.Write(" How many numbers to sum : ");

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

Console.Write("\n The sum of first {0} natural numbers is : {1}\n\n", n, recurSum(n));

Console.ReadKey();

}

public static int recurSum(int n)

{

if (n <= 1)

{

return n;

}

return n + recurSum(n - 1);

}

}

}

Ques 18 Write a program in C# Sharp to display the individual digits of a given number using recursion

using System;

class RecursionDigits

{

static void Main()

{

Console.Write("\n\n Display the individual digits of a given number :\n");

Console.Write(" Input any number : ");

int num = Convert.ToInt32(Console.ReadLine());

Console.Write(" The digits in the number {0} are : ", num);

digiRecursion(num);

Console.Write("\n\n");

Console.ReadKey();

}

static void digiRecursion(int number)

{

if (number == 0)

{

return;

}

else

{

digiRecursion(number / 10);

Console.Write(" {0} ", number % 10);

}

}

}

Ques 19 Write a program in C# Sharp to find the number of an array and the square of each number using LINQ

using System;

using System.Linq;

using System.Collections.Generic;

namespace SquareClass

{

class findSquare

{

static void Main(string[] args)

{

Console.WriteLine("enter numbers \n");

int[] array1 = new int[4];

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

{

array1[i] = Convert.ToInt32(Console.ReadLine());

}

Console.WriteLine("\n");

Console.Write(" Number of an array and the square of each number using LINQ : ");

var sqNo = from int Number in array1

let SqrNo = Number \* Number

where SqrNo > 0

select new { Number, SqrNo };

foreach (var a in sqNo)

Console.WriteLine(a);

Console.ReadKey();

}

}

}

Ques 20 Write a program in C# Sharp to display the characters and frequency of character from giving string using LINQ

using System;

using System.Linq;

using System.Collections.Generic;

namespace StringLinq

{

class CountCharacter

{

static void Main(string[] args)

{

Console.Write("\nDisplay the characters and frequency of character from giving string : \n");

Console.Write("Enter the string : ");

string strChar = Console.ReadLine();

Console.Write("\n");

var freQuency = from x in strChar

group x by x into y

select y;

Console.Write("The frequency of the characters are :\n\n");

foreach (var TotChar in freQuency)

{

Console.WriteLine("Character " + TotChar.Key + ": " + TotChar.Count() + " times");

}

Console.ReadKey();

}

}

}

Ques 21 Write a program in C# Sharp to find the string which starts and ends with a specific character using LINQ

using System;

using System.Linq;

using System.Collections.Generic;

namespace CityLinq

{

class cityByChar

{

static void Main(string[] args)

{

string StartChar, EndChar;

char ch;

string[] cities =

{

"ROME","LONDON","NAIROBI","CALIFORNIA","ZURICH","NEW DELHI","AMSTERDAM","ABU DHABI", "PARIS"

};

Console.Write("\nFind the string which starts and ends with a specific character : \n");

Console.Write("\nThe cities are : 'ROME','LONDON','NAIROBI','CALIFORNIA','ZURICH','NEW DELHI','AMSTERDAM','ABU DHABI','PARIS' \n");

Console.Write("\nInput starting character for the string : ");

ch = Console.ReadLine()[0];

StartChar = ch.ToString();

Console.Write("\nInput ending character for the string : ");

ch = Console.ReadLine()[0];

EndChar = ch.ToString();

var result = from x in cities

where x.StartsWith(StartChar)

where x.EndsWith(EndChar)

select x;

Console.Write("\n\n");

foreach (var city in result)

{

Console.Write("The city starting with {0} and ending with {1} is : {2} \n", StartChar, EndChar, city);

}

Console.ReadKey();

}

}

}

Ques 22 Write a program in C# Sharp to display the top n-th records using LINQ

using System;

using System.Linq;

using System.Collections.Generic;

namespace RecordsLinq

{

class DisplayRecords

{

static void Main(string[] args)

{

List<int> members = new List<int>();

members.Add(5);

members.Add(7);

members.Add(13);

members.Add(24);

members.Add(6);

members.Add(9);

members.Add(8);

members.Add(7);

Console.Write("\nDisplay top nth records from the list : \n");

Console.WriteLine("\nThe members of the list are : ");

foreach (var numberlist in members)

{

Console.WriteLine(numberlist + " ");

}

Console.Write("\nHow many records you want to display ? : ");

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

var max = (from t in members orderby t descending select t).Take(n);

Console.Write("\nThe top {0} records from the list are : \n", n);

foreach (int nth\_top in max)

{

Console.WriteLine(nth\_top);

}

Console.ReadKey();

}

}

}

Ques 23 Write a program in C# Sharp to count file extensions and group it using LINQ

using System;

using System.Collections.Generic;

using System.Linq;

using System.IO;

namespace Extensions

{

class CountExt

{

static void Main(string[] args)

{

List<string> members = new List<string>();

members.Add("aaa.frx");

members.Add("bbb.TXT");

members.Add("xyz.dbf");

members.Add("abc.pdf");

members.Add("aaaa.PDF");

members.Add("xyz.frt");

members.Add("abc.xml");

members.Add("ccc.txt");

members.Add("zzz.txt");

Console.Write("\nCount file extensions and group it : ");

Console.Write("\n==========================================\n");

Console.Write("\nThe files are : aaa.frx, bbb.TXT, xyz.dbf,abc.pdf");

Console.Write("\n aaaa.PDF,xyz.frt, abc.xml, ccc.txt, zzz.txt\n");

Console.Write("\nHere is the group of extension of the files : \n\n");

var filExtGrp = members.Select(file => Path.GetExtension(file).TrimStart('.').ToLower())

.GroupBy(z => z, (fExt, extCtr) => new

{

Extension = fExt,

Count = extCtr.Count()

});

foreach (var m in filExtGrp)

Console.WriteLine("{0} File(s) with {1} Extension ", m.Count, m.Extension);

Console.ReadKey();

}

}

}