1. **Why do we use Async and Await in C#?**
2. **Using LINQ, reverse a string**

Ans:-

private static string ReverseStringUsingLinq(string message)

{

return new string(message.Reverse().ToArray());

}

1. **Given a date string ("dd-mm-yyyy") add 20 days to it and print it in** **yyyy-mm-dd format along with its day (Monday, Tuesday, ...)**

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Enter year in the format dd-mm-yyyy");

try

{

var dateString = Console.ReadLine()?.Split('-');

//By default it is trying to read the string in mm-dd-yyyy format

var convertedCorrectDateString = $"{dateString[1]}-{dateString[0]}-{dateString[2]}";

var date = Convert.ToDateTime(convertedCorrectDateString);

PrintTheDateInPredefinedFormat(date);

Console.ReadKey();

}

catch

{

Console.WriteLine("Invalid date format");

Console.ReadKey();

}

}

/// <summary>

/// Adds the specified number of days into date and print along with day

/// </summary>

/// <param name="date"></param>

/// <param name="days">no. of days to be added</param>

private static void PrintTheDateInPredefinedFormat(

DateTime date, int days=20)

{

var newDate = date.AddDays(days);

Console.WriteLine();

Console.WriteLine("Date after adding {0} days", days);

Console.WriteLine(newDate.ToString("yyyy-mm-dd") + " " + newDate.DayOfWeek);

}

}

1. **Write the necessary function here**

**void test() {**

**int a = 10;**

**int b = 20;**

**// call a function here**

**Console.Write($"a = {a} and b = {b} and c = {c}");**

**// which should print a = 20 and b = 10 and c = 200**

**// c is the product of a and b**

**}**

Ans:-

private static void Test()

{

int a = 10;

int b = 20;

// call a function here

int c = SwapAndMultiply(ref a, ref b);

Console.Write($"a = {a} and b = {b} and c = {c}");

// which should print a = 20 and b = 10 and c = 200

// c is the product of a and b

}

private static int SwapAndMultiply(ref int a, ref int b)

{

var temp = a;

a = b;

b = temp;

return a \* b;

}

1. **What can you do to make the following work**

**void func() {**

**string s = "some string";**

**if (s.isPalindrome()) {**

**Console.Write($"{s} is a palindrome")**

**}**

**}**

Ans:-

1. Add semi-colon at the end of Console.Write() statement;
2. Add extension method for palindrome as shown below

public static class Palindrom

{

public static bool IsPalindrome(this string message)

{

var reversedString = new string(message.Reverse().ToArray());

return reversedString == message;

}

}

1. **Build a user profile management application in .Net and send us the entire project. Make sure to add comments and to-dos cross your application to identify assumptions and highlight future recommended changes. The requirements for this simple “commandline” application is to allos the customer to:**
   * **Register a new user given their username, password, and email address**
   * **Verify a login using username and password**

**Please use unit tests to verify your critical functions with well documented test vectors. Send us the steps to compile and build this application. The target environment is Linux.**