.NET LINQ ASSIGNMENT

Q1. Write a method which will take string as input and return count of vowels in it using LINQ.

Sol:-

```
using System;
using System.IO;
using System.Linq;
using System.Collections.Generic;

namespace LinqDemo
{
        public class main
        {
                static void Main()
                {
                        Console.Write("Enter a String: ");
                        string str=Console.ReadLine();
                        Console.WriteLine(str);

                        var vowel=new HashSet<char>{'a','e','i','o','u','A','E','I','O','U'};
                        int result=str.Count(ch=>vowel.Contains(ch));
                        Console.WriteLine("'{0}' contains {1} vowels.", str,result);
                }
        }
}
```

Result

```
$mcs *.cs -out:main.exe

$mono main.exe

Enter a String: HELLO world
'HELLO world' contains 3 vowels.
```

Q2. Write a method which returns student's names having 'ee' in it from a list of students using LINQ.

Sol:-

```
using System;
using System.IO;
using System.Linq;
using System.Collections.Generic;

namespace LinqDemo
{
```

```
        public class main{
        static void Main()
        {
                string [] names={"Nishu","Kanak","Prateek","Sameeksha","Rahul", "Gaurav" };
                 Console.WriteLine("Following are the students in class: ");

                foreach(var i in names)
                        Console.WriteLine(i);

                 Console.WriteLine(" ");
                var result = from name in names
                                where name.Contains("ee")
                                select name;

                Console.WriteLine("Names containing 'ee' are as follows: ");
                foreach(var res in result)
                        Console.WriteLine(res);
                }
        }
}
```

Result

```
$mcs *.cs -out:main.exe

$mono main.exe

Following are the students in class:
Nishu
Kanak
Prateek
Sameeksha
Rahul
Gaurav

Names containing 'ee' are as follows:
Prateek
Sameeksha
```

Q3. Using LINQ, Join two lists and return the common values.

Sol:-

```
using System;
using System.IO;
using System.Collections.Generic;
using System.Linq;
```

```
namespace LinqDemo {
   class Students
   {
      public string Name { get; set; }
      public int ID { get; set; }
      public string lang {get; set; }
   }
   class Employees
   {
      public string Name { get; set; }
      public int ID { get; set; }
      public string lang { get; set; }
   }

   public class main{
      static void Main() {
         List<Students> st_list = new List<Students> {
            new Students { Name="Nishu", ID=208,lang="C++" },
             new Students { Name="Kanak", ID=552,lang="Python"},
             new Students { Name="Lalit", ID=517,lang="Java"}};

         List<Employees> emp_list = new List<Employees> {
            new Employees { Name="Kanak", ID=445,lang="C++"  },
            new Employees { Name="Kajal", ID=404,lang="JavaScript"  },
            new Employees { Name="Rahul", ID=459,lang="C++"  } };

         IEnumerable<string> joinquery = from Employees in emp_list
                                 join Students in st_list
                                 on new { Employees.Name}
                                 equals new { Students.Name}
                                 select Employees.Name;

         Console.WriteLine("The following employees are also a student:- ");
         foreach (string name in joinquery)
            Console.WriteLine(name); }
   ]}
}
```

Result

```
$mcs *.cs -out:main.exe

$mono main.exe

The following employees are also a student:-
Kanak
```