**1050 Programming Logic**

Lab 09 – Collections and LINQ

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***Instructions:*** *Complete the following exercises. Push your code to github and share the URL to your repository by submitting it to Blackboard.*

* Given the following code, output all the elements using a foreach loop. (2 points)

var fruits = new[] { "apple", "mango", "orange", "apricot", "cherry", ”grape”,” blueberry” };

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace ConsoleApp3

{

class Program

{

static void Main(string[] args)

{

var fruits = new[] { "apple", "mango", "orange", "apricot", "cherry", "grape", "blueberry" };

foreach(var item in fruits)

{

Console.WriteLine("\n {0}", item);

}

}

}

}

**My Output**



* Write a LINQ query to convert all fruit names in the above array to uppercase select fruit names that start with an “A”. Use a foreach loop to display the query results.(5 points)

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace ConsoleApp3

{

class Program

{

static void Main(string[] args)

{

var fruits = new[] { "apple", "mango", "orange", "apricot", "cherry", "grape", "blueberry" };

var startsWithA =

from item in fruits

let uppercaseString = item.ToUpper()

where uppercaseString.StartsWith("A")

orderby uppercaseString

select uppercaseString;

foreach (var item in startsWithA)

{

Console.WriteLine("{0}", item);

}

}

}

}

**My Output**



* Create a 6-element List<T> collection to store the names of last six months of the year. Display the Count and Capacity of the creation. Use a for loop to display the last six months of the year. Insert the first six months of the year into this List in the right sequence. Use a for loop to display the twelve months of the year in the right sequence from the List. (4 points)

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace ConsoleApp3

{

class Program

{

static void Main(string[] args)

{

List<string> months = new List<string> { "July", "August", "September", "October", "November", "December" };

foreach (string item in months)

{

Console.WriteLine(item);

}

Console.WriteLine("\n");

months.Insert(0, "January");

months.Insert(1, "February");

months.Insert(2, "March");

months.Insert(3, "April");

months.Insert(4, "May");

months.Insert(5, "June");

foreach (string item in months)

{

Console.WriteLine(item);

}

}

}

}

**My Output**



* Remove the last six months from the above List. Display the Count and Capacity of the List. Write a LINQ query to select all the months that end with the letters “ber”. Display the query results with a foreach loop.(4 points)

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace ConsoleApp4

{

class Program

{

static void Main(string[] args)

{

List<string> months = new List<string> { "July", "August", "September", "October", "November", "December" };

foreach (string item in months)

{

Console.WriteLine(item);

}

Console.WriteLine("\n");

months.Insert(0, "January");

months.Insert(1, "February");

months.Insert(2, "March");

months.Insert(3, "April");

months.Insert(4, "May");

months.Insert(5, "June");

foreach (string item in months)

{

Console.WriteLine(item);

}

Console.WriteLine("\n");

months.RemoveAt(6);

months.RemoveAt(7);

months.RemoveAt(8);

months.RemoveAt(6);

months.RemoveAt(6);

months.RemoveAt(6);

Console.WriteLine("Count of Months: " + months.Count);

Console.WriteLine("Capacity of Months: " + months.Capacity);

var endsWithBer=

from item in months

where item.EndsWith("ber")

select item;

foreach (var item in endsWithBer)

{

Console.WriteLine(item);

//No Items end with "ber" because they were removed.

}

}

}

}

**My Output**



//No Items end with "ber" because they were removed.