**1050 Programming Logic**

Lab 10 – Collections and LINQ

Name: **Angela Dennis**

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

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

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

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

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

foreach (var element in fruits)

{

Console.WriteLine($" {element}");

}

1. 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)

var fruitBasket =

from fruit in fruits

let uppercaseString = fruit.ToUpper()

where uppercaseString.StartsWith("A")

orderby uppercaseString

select uppercaseString;

Console.Write("These fruits in the basket with A:");

foreach (var item in fruitBasket)

{

Console.Write($" {item}");

}

Console.WriteLine();

1. 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)

var months = new List<string>();

months.Add("July");

months.Add("August");

months.Add("September");

months.Add("October");

months.Add("November");

months.Add("December");

Console.WriteLine("Months:" + $"Count = {months.Count}; Capacity = {months.Capacity}");

foreach (var item in months)

{

Console.WriteLine($" {item}");

}

months.Insert(0, "January");

months.Insert(1, "February");

months.Insert(2, "March");

months.Insert(3, "April");

months.Insert(4, "May");

months.Insert(5, "June");

Console.Write("\n ");

Console.WriteLine("12 Months: ");

foreach (var item in months)

{

Console.WriteLine($" {item}");

}

1. Remove the first 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 “ary”. Display the query results with a foreach loop.(4 points)

//Will not display anything, because only the 1st 6 months have an 'ary' ending

months.Remove("January");

months.Remove("February");

months.Remove("March");

months.Remove("April");

months.Remove("May");

months.Remove("June");

Console.Write("\n ");

Console.WriteLine("If we remove 6 months: " + $"Count = {months.Count}; Capacity = {months.Capacity}");

var ending = months.Where(n => n.Contains("ary"));

foreach (var item in ending)

{

Console.WriteLine($" {item}");

}

