**Assignment 4**

**Objective:**

Write a program to generate the strings of a given length, defined of a given Alphabet(two Elements only)

**Code:**

using System;

usingSystem.Collections.Generic;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Threading.Tasks;

namespace ToCS\_Assignment\_4

{

/\*OBJECTIVE:

A program to generate the strings of a given length, defined of a given Alphabet(two Elements only)\*/

classProgram

{

publicstaticstring[] ElementsOfAlphabet(string str, string[] array)

{

array = str.Split(',');

return array;

}

publicstaticintNumberOfElementsIn(string str)

{

inti, count = 1;

for (i = 0; i<str.Length; i++)

if (str[i] == ',')

count++;

return count;

}

publicstaticintPower(intBase,int Exponent)

{

int result=1;

for(inti = 0; i< Exponent; i++)

{

result = result \* Base;

}

return result;

}

publicstaticvoidPrintString(string[] array, intLength,string str)

{

stringleter = " ";

if (Length == 0) { Console.Write("^"); }

for(int j = 0; j < Length; j++)

{

if (str[j] == '0')

leter =array[0];

else

leter = array[1];

Console.Write(leter);

}

Console.WriteLine();

}

publicstaticstringcompleteBinaryCount(int number, int Length)

{

stringBinaryCount = Convert.ToString(number, 2);

if (BinaryCount.Length< Length)

{

for (int j = BinaryCount.Length; j < Length; j++)

BinaryCount = "0" + BinaryCount;

}

returnBinaryCount;

}

publicstaticvoidprintAllString(intLength,string[]array)

{

for (inti = 0; i<Power(2, Length); i++)

{

PrintString(array, Length, completeBinaryCount(i, Length));

}

}

staticvoid Main(string[] args)

{

int Length=0;

Console.Write("Enter Valid Alphabet = { ");

string Alphabet = Console.ReadLine();

Console.Write("Enter Length of String = ");

string Len = Console.ReadLine();

int size = NumberOfElementsIn(Alphabet);

string[] array = newstring[size];

array = ElementsOfAlphabet(Alphabet, array);

intNumber\_Of\_Strings = Power(size, Length);

if (Len == "A")

{

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

printAllString(i, array);

for (inti = 0; i< 5; i++)

Console.WriteLine(" . ");

}

else

{

Length = int.Parse(Len); printAllString(Length, array);

}

Console.ReadKey();

}

}

}



