using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.IO;

namespace RLE

{

class Program

{

static void Main(string[] args)

{

RunLengthEncoding rle = new RunLengthEncoding();

Console.WriteLine(" \n\t\t'RUN LENGTH ENCODING' \n\n");

Console.WriteLine("Now according to the input from a file string to be encoded is:");

String readstring;

StreamReader read = new StreamReader("C:\\Users\\User\\Desktop\\input.txt");

readstring = read.ReadToEnd();

Console.WriteLine(readstring);

string S3 = rle.Encoder(readstring);

string s4 = S3 + "";

Console.WriteLine("\nEncoded data would be: \n {0}", S3);

string S = rle.Decoder(S3);

Console.WriteLine("\nNow decoded form of encoded data is: \n {0}", S);

Console.ReadLine();

}

public class RunLengthEncoding

{

public string Encoder(string input)

{

String string1 = input;

String Con\_string = "";

string1 = string1 + " ";

int i;

int counter = 1;

for (i = 0; i < string1.Length - 1; i++)

{

if (string1[i] == string1[i + 1])

{

counter = counter + 1;

}

else

{

Con\_string += counter;

Con\_string += string1[i];

counter = 1;

}

}

return Con\_string;

}

public string Decoder(string string2)

{

string string\_return = "";

int i;

for (i = 0; i < string2.Length; i++)

{

int s = i % 2;

if (s == 0)

{

{

int loopcount = string2[i] - '0';

while (loopcount != 0)

{

string\_return += string2[i + 1];

loopcount--;

}

}

}

}

return string\_return;

}

}

}

}