using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.IO;

namespace NotepadEncryption

{

class Program

{

static string Reader()

{

FileStream stream = new FileStream(Environment.CurrentDirectory + "\\text.txt", FileMode.Open);

StreamReader reader = new StreamReader(stream);

string str = reader.ReadToEnd();

stream.Close();

return str;

}

static int[] NotepadGeneration(string str)

{

int[] notepad = new int[str.Length];

Random rnd = new Random();

for (int i = 0; i < notepad.Length; i++)

{

notepad[i] = rnd.Next(33, 126);

}

return notepad;

}

static char [] ConvertToChar(int [] array)

{

char[] res = new char[array.Length];

for (int i = 0; i < array.Length; i++)

{

res[i] = (char)array[i];

}

return res;

}

static int [] ConvertToInt (string str)

{

int [] res = new int [str.Length];

for (int i = 0; i < res.Length; i++)

{

res[i] = Convert.ToInt32(str[i]);

}

return res;

}

static string Encryption(string str, int [] notepad)

{

char[] inputChar = str.ToCharArray();

int[] resInt = new int[inputChar.Length];

for (int i = 0; i < inputChar.Length; i++)

{

resInt[i] = inputChar[i] ^ notepad[i];

}

char[] buffer = ConvertToChar(resInt);

string res = new string(buffer);

//Console.Write("Encrypted in int: ");

//Print(resInt);

return res;

}

static string Decryption(string encrypted, int[] notepad)

{

int[] resInt = new int[encrypted.Length];

for (int i = 0; i < resInt.Length; i++)

{

resInt[i] = encrypted[i] ^ notepad[i];

}

char[] buffer = ConvertToChar(resInt);

string res = new string(buffer);

//Console.Write("Decrypted in int: ");

//Print(resInt);

return res;

}

static void Print (int [] array)

{

for (int i = 0; i < array.Length; i++)

{

Console.Write(array[i] + " ");

}

Console.WriteLine();

}

static void Main(string[] args)

{

string message = Reader();

Console.WriteLine(message);

Console.WriteLine();

int[] messageInInt = ConvertToInt(message);

//Console.Write("Input message: ");

//Print(messageInInt);

int[] notepad = NotepadGeneration(message);

//Console.Write("Notepad: ");

//Print(notepad);

string encrypted = Encryption(message, notepad);

Console.WriteLine("Enctrypted string:");

Console.WriteLine(encrypted);

Console.WriteLine();

string decrypted = Decryption(encrypted, notepad);

Console.WriteLine("Decrypted text:");

Console.WriteLine(decrypted);

}

}

}