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Class: CMSC203 CRN 46667

Program: Assignment # 3

Instructor: Dr.Grinberg

Description: A program that contains the methods to encrypt/decrypt a plain text

string using a Caesar Cipher and Bellaso approaches.

Due: 07/12/2020

I pledge that I have completed the programming assignment independently.

I have not copied the code from a student or any source.

Anthony Liu

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Pseudocode:

**stringInBounds –**

LOOP through each character of the String

IF current character in the String is greater than UPPER\_BOUND or less than LOWER\_BOUND

Return false

ELSE

Return true

**encryptCaesar-**

DECLARE empty String called caesarEncrypt

LOOP through each character of input String

DECLARE and SET charEncrypt to current char + key

WHILE charEncrypt is greater than int UPPER\_BOUND

SUBTRACT RANGE from charEncrypt

CONVERT charEncrypt back to char

ADD charEncrypt to caesarEncrypt

RETURN caesarEncrypt

**encryptBellaso-**

DECLARE empty String called bellasoEncrypt

LOOP through each character of String input

CALCULATE current key character index by using modulo and key length (i % length)

DECLARE and SET charEncrypt to current character + current key character

WHILE charEncrypt is greater than int UPPER\_BOUND

SUBTRACT RANGE from charEncrypt

CONVERT charEncrypt to char

ADD charEncrypt to bellasoEncrypt

RETURN bellasoEncrypt

**decryptCaesar-**

DECLARE empty String called decryptedCaesar

LOOP through each character of input String

DECLARE and SET charDecrypt to current char - key

WHILE charDecrypt is less than int LOWER\_BOUND

ADD RANGE to charEncrypt

CONVERT charDecrypt to char

ADD charDecrypt to decryptedCaesar

RETURN decryptedCaesar

**decryptBellaso-**

DECLARE empty String called decryptedBellaso

LOOP through each character of String input

CALCULATE current key character index by using modulo and key length (i % length)

DECLARE and SET charDecrypt to current character - current key character

WHILE charDecrypt is less than int LOWER\_BOUND

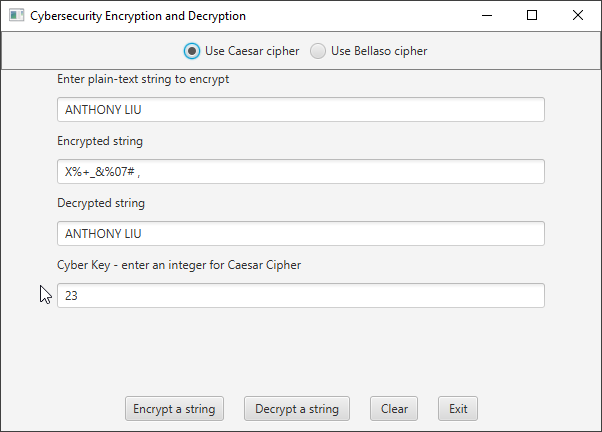
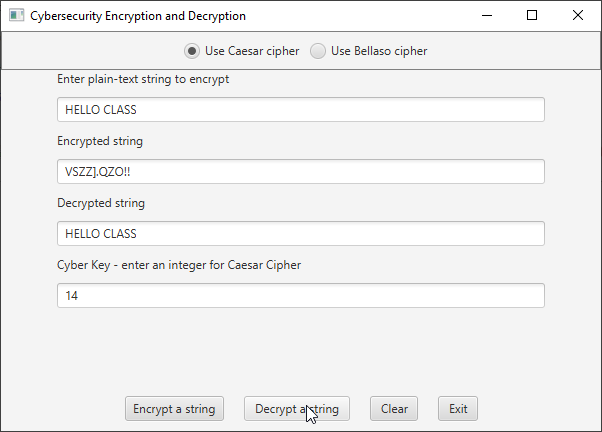
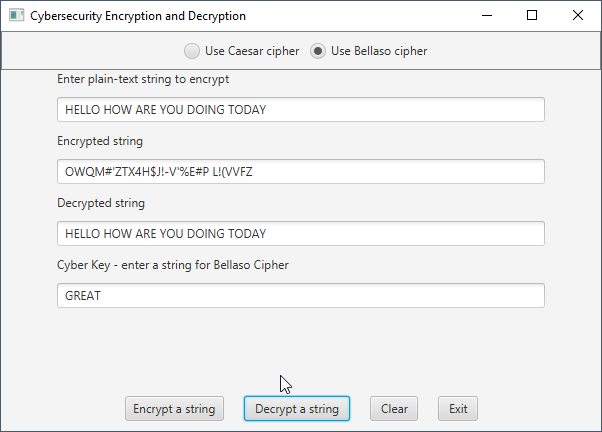
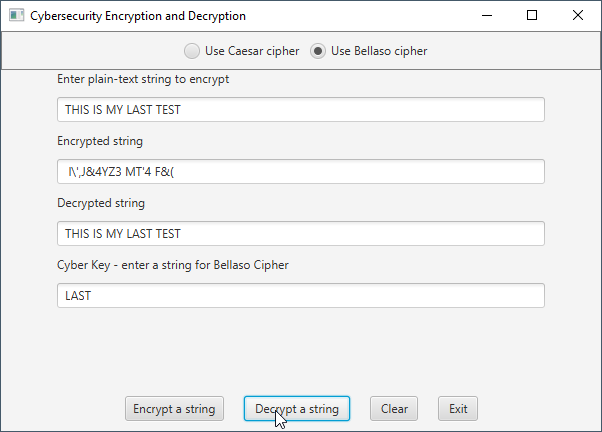
ADD RANGE to charDecrypt

CONVERT charDecrypt to char

ADD charDecrypt to decryptedBellaso

RETURN decryptedBellaso

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input text | Input Key | Encrypted (method1) | Encrypted (method2) | Decrypt (method1) | Decrypt (method2) |
| ANTHONY LIU | 23 | X%+\_&%07# , |  | ANTHONY LIU |  |
| HELLO CLASS | 14 | VSZZ].QZO!! |  | HELLO CLASS |  |
| HELLO HOW ARE YOU DOING TODAY | GREAT |  | OWQM#'ZTX4H$J!-V'%E#P L!(VVFZ |  | HELLO HOW ARE YOU DOING TODAY |
| THIS IS MY LAST TEST | LAST |  | I\',J&4YZ3 MT'4 F&( |  | THIS IS MY LAST TEST |

TEST CASES

