

CMSC203 Java Assignments / Projects (example of the project submission)

Part1: Documentation Example

Class: CMSC203 CRN 21456

Program: Assignment # 3

Instructor: Dr. Ahmed Tarek

Summary of Description: This is a project used to encrypt and decrypt messages. You interface with this project using a GUI.

Due Date: 10/11/2021

Integrity Pledge: I pledge that I have completed the programming assignment independently. I have not copied the code from a student or any source.

Pseudo Code:

String in Bounds (Static Boolean Method)

Receives string

Loops through string's characters

Compares characters to the range of upper and lower bounds If character is in bounds return true

else return false End Loop

Encrypt Caesar (Static string method)

String in Bounds (String Text); Loop through string

Get each character value Add the number 1

Get new character values

End Loop Return String

Decrypt Caesar (Static string method)

String in Bounds (String Text); Loop through string

Get each character value

Subtract the number 1

Get decrypted character values End Loop

Return String

Encrypt Bellaso (Static String Method)

String in Bounds (String Text); Loop through string

Get each character value Replace with ASCII value Get encrypted string

End Loop Return String

Decrypt Bellaso (Static String Method)

String in Bounds (String Text); Loop through string

Get each ASCII value Replace with character value Get decrypted string

End Loop Return String

Comprehensive Test Plan

A good test plan should be comprehensive. This means you should have a few test cases that test when the input is in and out of range, division by 0, incorrect Data type, etc.(Provide valid and invalid input)

Input text	Input Key	Encrypted Caesar Method	Encrypted Bellaso	Decrypt Caesar	Decrypt Bellaso
Test	1	UFTU		TEST	
TESTBEST	SUM		'Z 'WR&)		TESTBEST
TESTING ANOTHER STRING	999	;;;05.G(56;/,9 G;;905.		No Return	

1234	BE		3759		
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Screenshots for each case listed in the Test Plan

Case 1:

Cybersecurity Encryption and Decryption

☒ Use Caesar cipher ☐ Use Bellaso cipher

Enter plain-text string to encrypt:

TEST

Encrypted string

UFTU

Decrypted string

TEST

Cyber Key - enter an integer for Caesar Cipher

1

Encrypt a string Decrypt a string Clear Exit

Case 2:

Cybersecurity Encryption and Decryption

☐ Use Caesar cipher ☒ Use Bellaso cipher

Enter plain-text string to encrypt:

TESTBEST

Encrypted string

'Z'WR&)

Decrypted string

TESTBEST

Cyber Key - enter a string for Bellaso Cipher

SUM

Encrypt a string Decrypt a string Clear Exit

Case 3:

The screenshot shows a window titled "Cybersecurity Encryption and Decryption". At the top, there are two radio buttons: "Use Caesar cipher" (which is selected) and "Use Bellaso cipher". Below this, the text "Enter plain-text string to encrypt:" is followed by a text input field containing "TESTING ANOTHER STRING". Underneath, the text "Encrypted string" is followed by a text input field containing ";;:05.G(56;/,9G::905.". Below that, the text "Decrypted string" is followed by an empty text input field. Further down, the text "Cyber Key - enter an integer for Caesar Cipher" is followed by a text input field containing "999". At the bottom of the window, there are four buttons: "Encrypt a string", "Decrypt a string" (which is highlighted with a blue border), "Clear", and "Exit".

Case 4:

The screenshot shows the same window titled "Cybersecurity Encryption and Decryption". At the top, the radio buttons are "Use Caesar cipher" and "Use Bellaso cipher" (which is selected). Below this, the text "Enter plain-text string to encrypt:" is followed by a text input field containing "1234". Underneath, the text "Encrypted string" is followed by a text input field containing "3759". Below that, the text "Decrypted string" is followed by a text input field containing "1234". Further down, the text "Cyber Key - enter a string for Bellaso Cipher" is followed by a text input field containing "BE". At the bottom of the window, there are four buttons: "Encrypt a string", "Decrypt a string" (which is highlighted with a blue border), "Clear", and "Exit".

Lessons Learned:

Write about your Learning Experience, highlighting your lessons learned and learning experience from working on this project.
What have you learned?

I've learned a lot about flexibility in programming. I used while loops inside of for loops for two of the methods. I learned how flags can save you a lot of time when programming.

What did you struggle with?

I struggled with the unit tests. The decrypt caesar didn't pass and I still don't know why.

What would you do differently on your next project?

I'd probably start earlier.

What parts of this assignment were you successful with, and what parts (if any) were you not successful with?

I was able to get the GUI up, encrypt and decrypt bellaso/caesar texts, and I was able to get 4 out of 5 tests to pass.

Provide any additional resources/links/videos you used to while working on this assignment/project.

<Provide answers to the questions listed above>

Check List:

#		Y/N	Comments
1.	Assignment files:		
	• FirstInitialLastName_ Assignment#_Moss.zip	Yes or No	
	• FirstInitialLastName_Assignment#.docx/.pdf	Yes or No	
	• Source java files	Yes or No	
2.	Program compiles	Yes or No	
3.	Program runs with desired outputs related to a Test Plan	Yes or No	
4.	Documentation file:		
	• Comprehensive Test Plan	Yes or No	
	• Screenshots for each Test case listed in the Test Plan	Yes or No	
	• Screenshots of your GitHub account with submitted Assignment# (if required)	Yes or No or N/A	
	• UML Diagram (if required)	Yes or No or N/A	
	• Algorithms/Pseudocode (if required)	Yes or No or N/A	
	• Flowchart (if required)	Yes or No or N/A	
	• Lessons Learned	Yes or No	
	• Checklist is completed and included in the Documentation	Yes or No	

