

## COMP202

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### Caesar Cipher

It is said that Julius Caesar used the following cipher to communicate in code with his soldiers. The cipher is a very simple substitution encryption scheme in which every character gets shifted to the right by three positions. In other words, 'A' becomes 'D', 'B' becomes 'E', ..., 'Z' becomes 'C'.

Write a Java Program that receives an input string and using the Caesar cipher outputs the encrypted message. For instance, "RETURN TO ROME" should be outputted as "UHWXUA WR URPH".

## Replacement Method:

Complete the implementation of the following method:

```
/**
```

```
* The replace method receives an input string and replaces every occurrence of  
* a particular character (someChar) with another (newChar).
```

```
**/
```

```
Public static String replace (String input, char someChar, char newChar)
```

```
{
```

```
}
```

## String Manipulation Exercise:

Write a Java program that prompts the user with the following menu and displays the appropriate output based on user's input until the user quits.

Press *q* to quit the program  
Press *c* to capitalize your input  
Press *i* to invert your input  
Press *p* to check whether or not your input is a palindrome

While the user hasn't quit the program, for each option, your code should prompt the user to enter a string and then either convert the input to all uppercase characters, invert the input string or check whether or not the input string is a palindrome. To simplify this task, implement one for each functionality (i.e., have a method that capitalizes a string, another to invert a given string and a third one to output true if the input string is a palindrome and false otherwise)

## **Feedback:**

Please email me ([ladan.mahabadi@cs.mcgill.ca](mailto:ladan.mahabadi@cs.mcgill.ca)) with the following information:

- How do you find the material in the course so far?
- Are you able to solve the exercises?
- Do you find the exercises helpful in improving your understanding of the concepts discussed in class?
- What would you like to improve about the lectures? (What do you love/hate about the lectures? What would you like to change?)