



Assignment 2: Caesar Cipher
Data Structures and Algorithms

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Instructions:



ASSIGNMENT 2:

Write a program that can perform the Caesar cipher for English messages that include both upper- and lowercase characters.

To know more about the Caesar cipher, view the video from the link below.

<https://youtu.be/sMOZf4GN3oc>

Work to be presented live. Schedule to be announced.
Code may also be possibly used for the M2 exam.

Code:

CaesarCipher.java

```
/* author: @dan-arnaiz
 *
 *
 */

public class CaesarCipher {
    public static String caesarCipher(String text, int shift) {
        StringBuilder result = new StringBuilder();
        char ch;
        for (int i = 0; i < text.length(); i++) {
            if (Character.isUpperCase(text.charAt(i))) {
                ch = (char)((((int)text.charAt(i) + shift - 65) % 26 + 65));
            } else {
                ch = (char)((((int)text.charAt(i) + shift - 97) % 26 + 97));
            }
            result.append(ch);
        }
        return result.toString();
    }

    public static void main(String[] args) {
        String text = "HelloWorld";
        int shift = 3;
        System.out.println("Text : " + text);
        System.out.println("Shift : " + shift);
        System.out.println("Cipher: " + caesarCipher(text, shift));
    }
}
```

Testing:

```
1  /*author: @dan-arnaiz
2   *
3   *
4   */
5
6
7  public class CaesarCipher {
8      public static String caesarCipher(String text, int shift) {
9          StringBuilder result = new StringBuilder();
10         char ch;
11         for (int i = 0; i < text.length(); i++) {
12             if (Character.isUpperCase(text.charAt(i))) {
13                 ch = (char)((((int)text.charAt(i) + shift - 65) % 26 + 65));
14             } else {
15                 ch = (char)((((int)text.charAt(i) + shift - 97) % 26 + 97));
16             }
17             result.append(ch);
18         }
19         return result.toString();
20     }
21
22     public static void main(String[] args) {
23         String text = "HelloWorld";
24         int shift = 3;
25         System.out.println("Text : " + text);
26         System.out.println("Shift : " + shift);
27         System.out.println("Cipher: " + caesarCipher(text, shift));
28     }
29 }
```

Result:

```
OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\MY PC\Desktop\Dan Code\computerscience\playground> java -cp .output CaesarCipher
Text : HelloWorld
Shift : 3
Cipher: KhoorZruog
PS C:\Users\MY PC\Desktop\Dan Code\computerscience\playground> █
```