

## Coursework 4: String Encryption Exercise

The provided code performs the following:

- User inputs a string
- User inputs a number to instruct the program which encryption method to use

### Method 1: Caesar Cipher (Provided)

Given a string "ATTACK" and a number 7, the letters are transformed:

- A => H
- T => A (1 location beyond A)
- T => A
- A => H
- C => J
- K => R

The encrypted message will be "HAAHJR"

### Modification 1: Deciphering Caesar

Allow the user to choose to decipher a message (decrypt a message). Then the user can choose to decipher the message encrypted by Caesar cipher

**Example 1:** Decipher "HAAHJR" with number 7 => "ATTACK"

### Modification 2: Vigenere Cipher

Provide an encryption and decryption function for Vigenere Cipher described here:

[https://en.wikipedia.org/wiki/Vigen%C3%A8re\\_cipher](https://en.wikipedia.org/wiki/Vigen%C3%A8re_cipher)

### Modification 3: One-time Pad

Provide an encryption and decryption function for One-time Pad described here:

[https://en.wikipedia.org/wiki/One-time\\_pad](https://en.wikipedia.org/wiki/One-time_pad)

### Modification 4: Playfair Cipher

Provide an encryption and decryption function for Playfair Cipher described here:

[https://en.wikipedia.org/wiki/Playfair\\_cipher](https://en.wikipedia.org/wiki/Playfair_cipher)