Ceasar Chipher

1. Simple encryption technique: A very basic way to scramble messages.
2. Shifting letters: Each letter in the message is replaced with a letter a certain number of positions down the alphabet. This number is called the "shift" or "key".
3. Historical use: Developed by Julius Caesar for secure communication.
4. Substitution cipher: Falls under the category of substitution ciphers, where letters are swapped according to a rule.
5. Easy to break: Due to its simplicity, Caesar ciphers are very easy to crack, even without knowing the key.

Formula:

Encryption: "En(x) = (x + n) mod 26"
Decryption: "Dn(x) = (x - n) mod 26"

Here,
"x" represents the position of the letter in the alphabet (A=0, B=1, ..., Z=25)
"n" represents the shift value (key)
"mod 26" ensures the result stays within the alphabetical range (0-25)

- value of 3 → n = 3
  "A" would become "D"
- $E_N(0) = (0+3) \bmod 26 \rightarrow 3$

- value of 5 → n = 5
  "A" would become "F"
- $E_N(0) = (0+5) \bmod 26 \rightarrow 5$

A B C D E F .....
0 1 2 3 4 5

- Decrypt "D" to "A"

- A → 0
- D → 3

- n = 3
- x = 3

$D_N(3) = (3-3) \bmod 26$
$= D$