SurajSG23 Create Vigenere Cipher fbc0423 · now

75 lines (63 loc) · 2.52 KB

Code Blame Raw

```java
import java.util.Scanner;

public class VigenereCipher {

    // Encrypt the plaintext using Vigenere Cipher
    public static String encrypt(String text, String key) {
        StringBuilder cipherText = new StringBuilder();
        text = text.toUpperCase();
        key = key.toUpperCase();

        int keyIndex = 0;
        for (int i = 0; i < text.length(); i++) {
            char c = text.charAt(i);
            if (c >= 'A' && c <= 'Z') {
                // Vigenère Cipher encryption formula
                char encryptedChar = (char) (((c - 'A' + (key.charAt(keyIndex) -
                cipherText.append(encryptedChar);
                keyIndex = (keyIndex + 1) % key.length();
            } else {
                cipherText.append(c); // Non-alphabetic characters remain unchan
            }
        }
        return cipherText.toString();
    }

    // Decrypt the ciphertext using Vigenere Cipher
    public static String decrypt(String text, String key) {
        StringBuilder plainText = new StringBuilder();
        text = text.toUpperCase();
        key = key.toUpperCase();

        int keyIndex = 0;
        for (int i = 0; i < text.length(); i++) {
            char c = text.charAt(i);
            if (c >= 'A' && c <= 'Z') {
                // Vigenère Cipher decryption formula
```

```
                    char decryptedChar = (char) (((c - 'A' - (key.charAt(keyIndex) -
                    plainText.append(decryptedChar);
                    keyIndex = (keyIndex + 1) % key.length();
                } else {
                    plainText.append(c); // Non-alphabetic characters remain unchange
                }
            }
            return plainText.toString();
        }

        public static void main(String[] args) {
            Scanner scanner = new Scanner(System.in);

            System.out.println("Vigenère Cipher");

            // Get the plaintext and the key
            System.out.print("Enter the plaintext: ");
            String plaintext = scanner.nextLine();
            System.out.print("Enter the key: ");
            String key = scanner.nextLine();

            // Encrypt the plaintext
            String encryptedText = encrypt(plaintext, key);
            System.out.println("Encrypted Text: " + encryptedText);

            // Decrypt the ciphertext
            String decryptedText = decrypt(encryptedText, key);
            System.out.println("Decrypted Text: " + decryptedText);

            scanner.close();
        }
    }

    //Output
    Vigenère Cipher
    Enter the plaintext: Hello i am Suraj
    Enter the key: crypto
    Encrypted Text: JVJAH W CD QJKOL
    Decrypted Text: HELLO I AM SURAJ
```