**AIM: - WAP to implement cryptanalysis or decoding using vigenere cipher.**

**import java.util.Scanner;**

**public class VigenereCipherDecryption {**

**// Function to decrypt ciphertext using Vigenere Cipher**

**public static String decrypt(String ciphertext, String key) {**

**ciphertext = ciphertext.toUpperCase().replaceAll("[^A-Z]", "");**

**key = key.toUpperCase();**

**StringBuilder plaintext = new StringBuilder();**

**int keyIndex = 0;**

**for (int i = 0; i < ciphertext.length(); i++) {**

**char c = ciphertext.charAt(i);**

**// Shift value from key**

**int shift = key.charAt(keyIndex) - 'A';**

**// Decrypt: (cipher - shift + 26) mod 26**

**char decryptedChar = (char) (((c - 'A' - shift + 26) % 26) + 'A');**

**plaintext.append(decryptedChar);**

**// Move to next key character**

**keyIndex = (keyIndex + 1) % key.length();**

**}**

**return plaintext.toString();**

**}**

**// Main method with user input**

**public static void main(String[] args) {**

**Scanner sc = new Scanner(System.in);**

**System.out.print("Enter Ciphertext: ");**

**String ciphertext = sc.nextLine();**

**System.out.print("Enter Key: ");**

**String key = sc.nextLine();**

**String plaintext = decrypt(ciphertext, key);**

**System.out.println("Decrypted Plaintext: " + plaintext);**

**sc.close();**

**}**

**}**

**Ciphertext - lxfopvefrnhr**

**Key - lemon**

**Ciphertext - Vyc fnqkm spdpv nqo hjfxa qmcg mpm nrxn wwou**

**Key- cryptii**