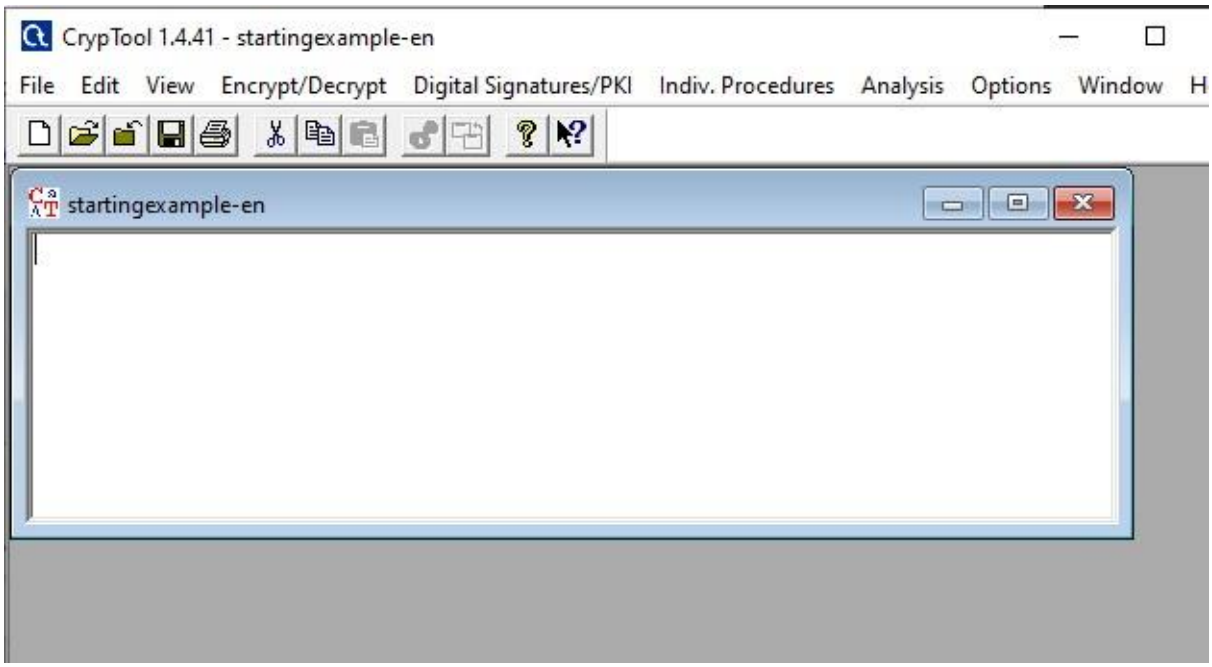
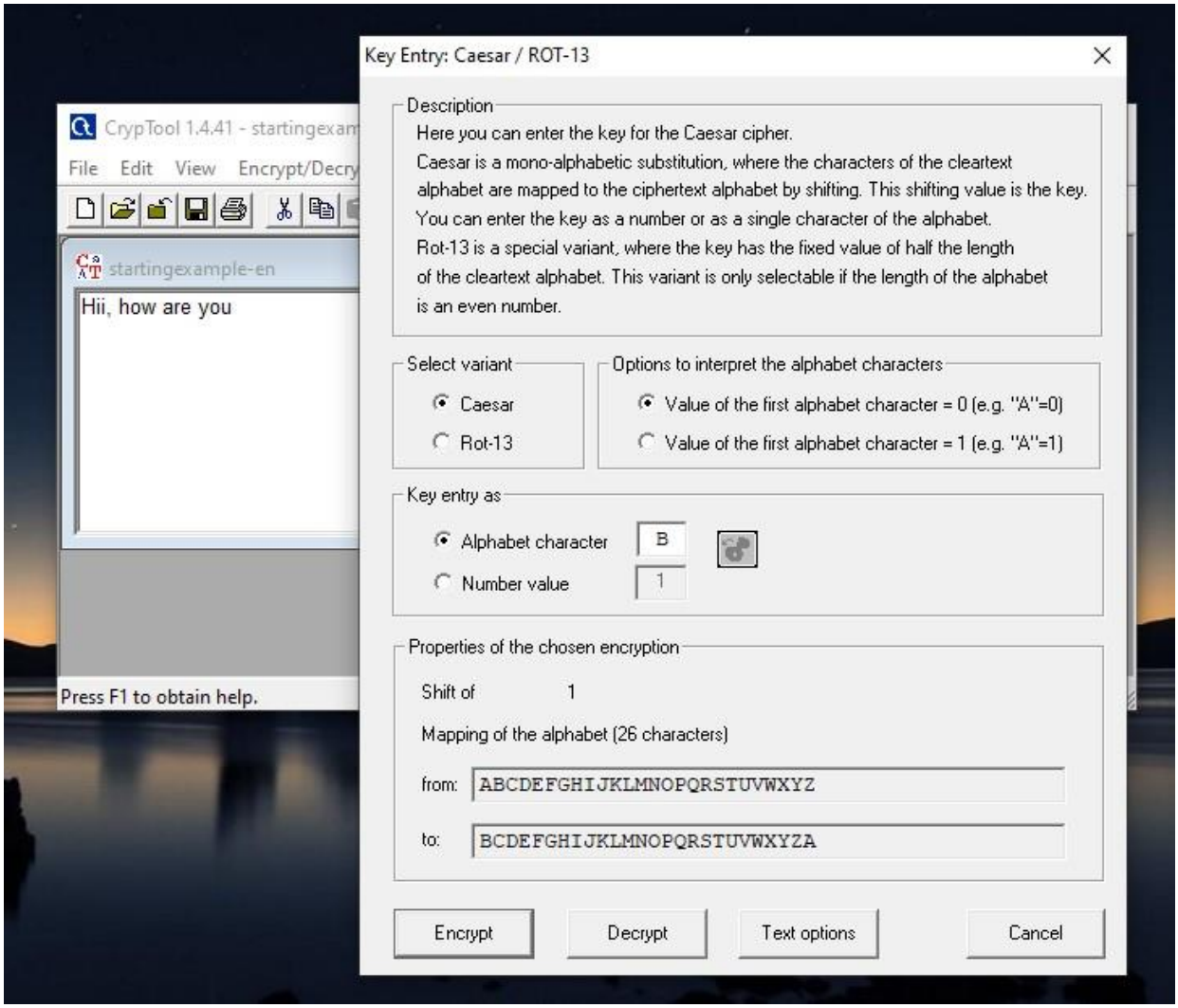
VII Module: Wireless Network Hacking, Cloud Computing Security and Cryptography:

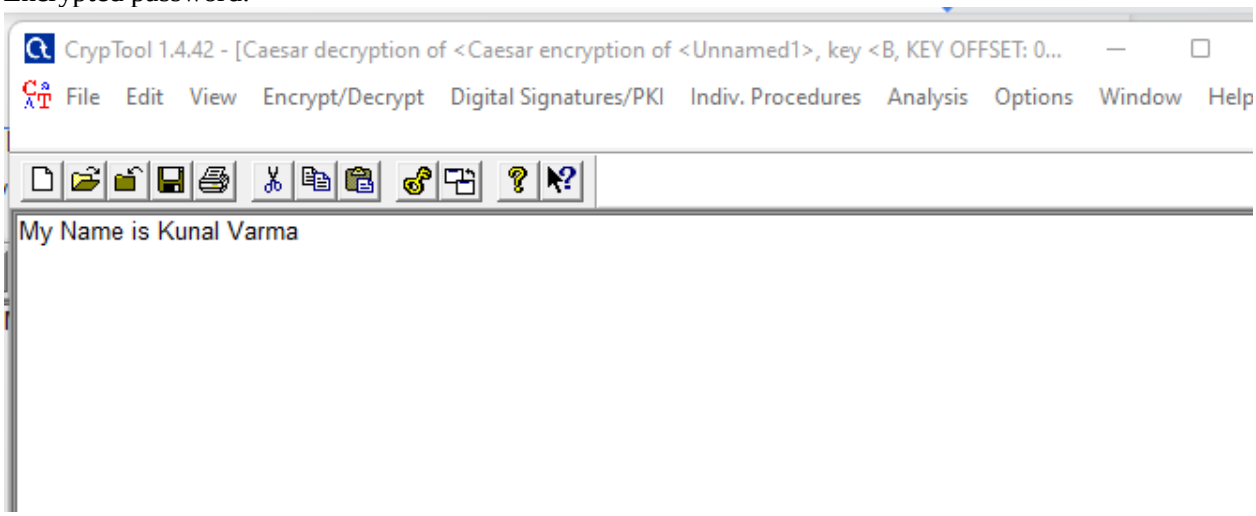
A. Using Cryptool to encrypt and decrypt password.



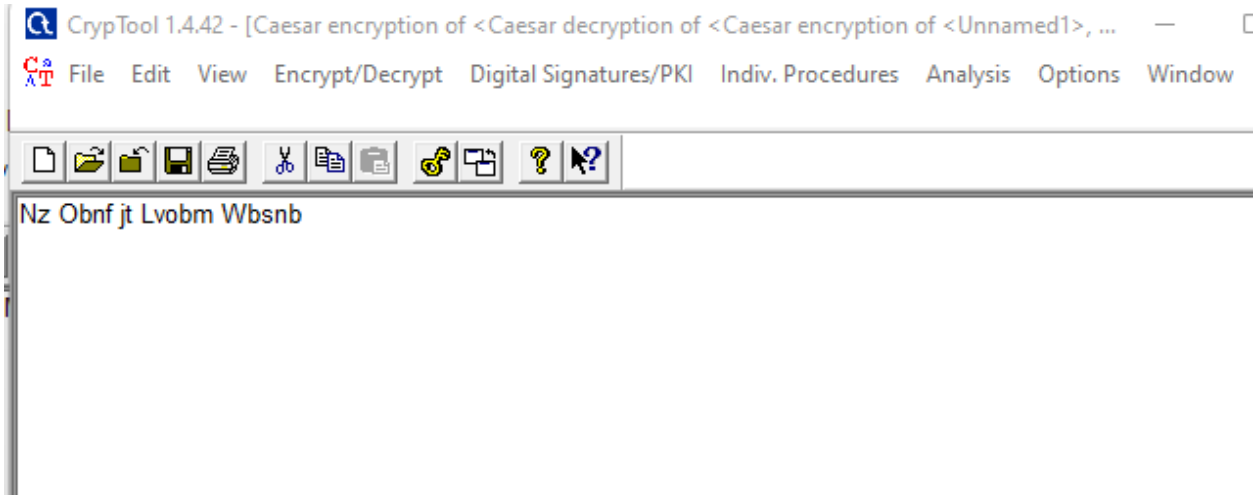
a) **Ceaser Cipher**



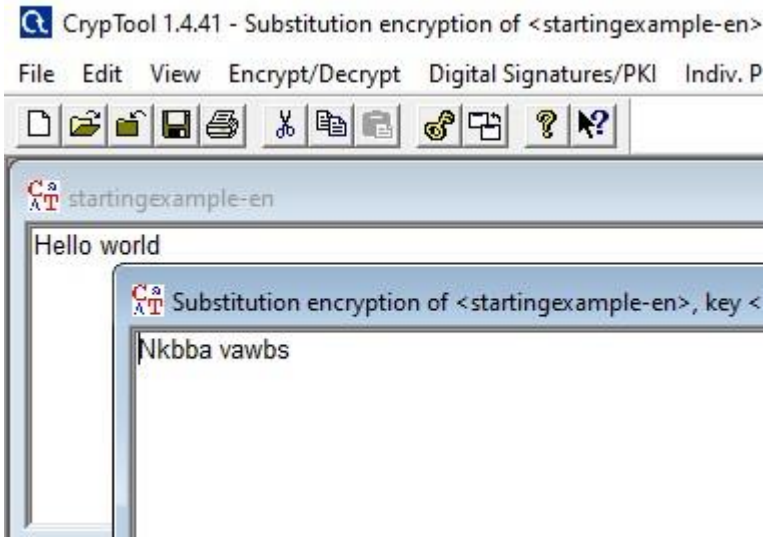
Encrypted password:



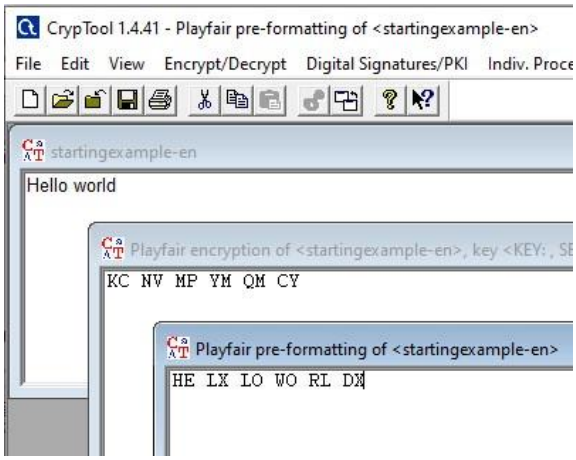
Decrypted password:



b) **Substitution Cipher**



c) **Playfair Cipher**



B. Implement Encryption and Decryption using Ceaser Cipher.

```
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import java.util.Scanner;
public class CeaserCipher {
static Scanner sc=new Scanner(System.in);
static BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
public static void main(String[] args) throws IOException {
// TODO code application logic here
System.out.print("Enter any String: ");
String str = br.readLine();
System.out.print("\nEnter the Key: ");
int key = sc.nextInt();
String encrypted = encrypt(str, key);
System.out.println("\nEncrypted String is: " +encrypted);
String decrypted = decrypt(encrypted, key);
System.out.println("\nDecrypted String is: "+decrypted);
System.out.println("\n");
}
static String encrypt(String str, int key) {
String encrypted = ""; for(int i = 0; i < str.length(); i++) {
int c = str.charAt(i); if(Character.isUpperCase(c)) {
c = c + (key % 26); if (c > 'Z') c = c - 26;
}
if(Character.isLowerCase(c)) {
c = c + (key % 26); if (c > 'z') c = c - 26;
}
encrypted += (char) c;
}
return encrypted;
}
static String decrypt(String str, int key)
{
String decrypted = "";
for(int i = 0; i < str.length(); i++)
{
int c = str.charAt(i);
if(Character.isUpperCase(c))
{ c = c - (key % 26); if (c < 'A') c = c + 26; }
if(Character.isLowerCase(c))
{
c = c - (key % 26); if (c < 'a') c = c + 26; } decrypted += (char) c; } return decrypted;
}
}
```

Output:

```
D:\>javac CeaserCipher.java

D:\>java CeaserCipher
Enter any String: Hello World

Enter the Key: 5

Encrypted String is: Mjqqt Btwqi

Decrypted String is: Hello World
```