

**SEM - VII - 2022-23**

**CNS Lab**

**B3 - 2019BTECS00094 - Sweety Shrawan Gupta**

**Assignment 2**

**Cryptanalysis**

**Cryptanalysis** is the study of ciphertext, ciphers and cryptosystems with the aim of understanding how they work and finding and improving techniques for defeating or weakening them.

Code:

```
#include <bits/stdc++.h>
using namespace std;

int main()
{
    string s, org;
    cout << "Enter Cipher text" << endl;
    getline(cin, s);

    string x;
    for (int i = 0; i < s.length(); i++)
        if (s[i] != ' ')
            x += s[i];
    s = x;

    int k = 0;

    cout << "\nCipher text is: " << s << endl << endl;

    org = s;
    for (int k = 0; k < 26; k++)
    {
        cout << "Keep Key as: " << k << endl;
        s = org;
```

```
    for (int i = 0; i < s.length(); i++)
    {

        int val = s[i] - 'a';
        val = (val - k + 26) % 26;
        char ch = 'a' + val;
        s[i] = ch;
    }
    cout << s << endl << endl;
}

return 0;
}
```

Output:

```
inputf.in x
1 vzhwbvkudzdqjxswd

outputf.in x
1 Enter Cipher text
2
3 Cipher text is: vzhwbvkudzdqjxswd
4
5 Keep Key as: 0
6 vzhwbvkudzdqjxswd
7
8 Keep Key as: 1
9 uyggvaujtcycpiwrv
10
11 Keep Key as: 2
12 txffuztisbxbohqvub
13
14 Keep Key as: 3
15 sweetyshrawangupta
16
17 Keep Key as: 4
18 rvddsxrgqzvzmftosz
19
20 Keep Key as: 5
21 quccrwqfpyuylesnry
22
23 Keep Key as: 6
24 ptbbqvpeotxkdrmqx
25
26 Keep Key as: 7
27 osaapuodnswjclpw
28
29 Keep Key as: 8
30 nrzzotncmrvibpkov
31
32 Keep Key as: 9
33 mqyynsmblyquhaojnu
34
35 Keep Key as: 10
36 lpxxmraktptgznimt
37
38 Keep Key as: 11
39 kowwlqkzjsosfymhls
40
41 Keep Key as: 12
42 jnvvpjyirnrlexlgr
43
44 Keep Key as: 13
45 imuujoiqhmqdwkfjq
46
```