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Batch: B2
Subject: CNS Lab
PRN: 2019BTECS00034

Assignment 1

Aim: To encrypt the plain text using caesar cipher and decrypt to get plain text from encrypted text.

Theory:

The Caesar Cipher technique is one of the earliest and simplest encryption technique. It's a substitution cipher. Substitution cipher is nothing but a technique in which a letter is replaced by any other letter. The method is named after Julius Caesar, who used it in his private correspondence.

Code:

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

string encrypt(string plain, int k) {
    stringstream cipher;
    for (int i = 0; i < plain.length(); i++) {
        if (plain[i] != ' ') {
            cipher << char((plain[i] - 'a' + k) % 26 +
'a');
        }
    }
    return cipher.str();
}
```

```

string decrypt(string cipher, int k) {
    stringstream plain;
    for (int i = 0; i < cipher.length(); i++) {
        if (cipher[i] != ' ') {
            plain << char((cipher[i] - 'a' - k + 26) % 26
+ 'a');
        }
    }
    return plain.str();
}

int main() {

    int choice;

    cout << "Enter choice: \n1. Decrypt \n2. Encrypt\n";

    cin >> choice;
    cin.get();
    string plain, cipher;
    int k;
    if (choice == 1) {
        cout << "Enter Encrypted text: ";
        getline(cin, cipher);
        cout << "Enter K: ";
        cin >> k;
        string plain = decrypt(cipher, k);
        cout << "Decrypted text is: " << plain << endl;
    } else if (choice == 2) {
        cout << "Enter Plain text: ";
        getline(cin, plain);
    }
}

```

```

        cout << "Enter K: ";
        cin >> k;
        string cipher = encrypt(plain, k);
        cout << "\nEncrypted text is: " << cipher <<
endl;
    }

    return 0;
}

```

Output:

```

Rutikesh@Rutikesh MINGW64 ~/Desktop/FY I/C&NS Lab/Assignment 1
$ g++ caeserCipher.cpp

Rutikesh@Rutikesh MINGW64 ~/Desktop/FY I/C&NS Lab/Assignment 1
$ ./a.exe
Enter choice:
1. Decrypt
2. Encrypt
2
Enter Plain text: rutikesh sawant
Enter K: 3

Encrypted text is: uxwlnhvkvdzdw

Rutikesh@Rutikesh MINGW64 ~/Desktop/FY I/C&NS Lab/Assignment 1
$ ./a.exe
Enter choice:
1. Decrypt
2. Encrypt
1
Enter Encrypted text: uxwlnhvkvdzdw
Enter K: 3
Decrypted text is: rutikeshsawant

```