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**BATCH:** B2.

**ROLL NO.:** 54

**GR NO.:** 119C0046**.**

**SUBJECT:** Network and Information Security.

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**PROBLEM STATEMENT 1:** Write a C/JAVA program to perform encryption and decryption using the following algorithms Caesar cipher.

**SOLUTION:**

#include<iostream>

#include<string>

using namespace std;

string lowerCase = "abcdefghijklmnopqrstuvwxyz";

string upperCase = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";

string encrypt(string str,int shift){

string encrypted = "";

    for(int i=0;i<str.length();i++){

        int charAt =(int) str[i];

        if(charAt > 64 && charAt<91){

        int pos = (charAt - 65) + shift;

            while(pos > 25){

            pos -= 26;

            }

            encrypted.push\_back(upperCase[pos]);

            }

        else if(charAt > 96 && charAt<123){

        int pos = (charAt - 97) + shift;

        while(pos > 25){

            pos -= 26;

            }

            encrypted.push\_back(lowerCase[pos]);

        }

    }

    return encrypted;

}

string decrypt(string str,int shift){

    string decrypted = "";

    for(int i=0;i<str.length();i++){

        int charAt = (int) str[i];

        if(charAt > 64 && charAt<91){

        int pos = (charAt - 65) - shift;

            while(pos > 25){

            pos -= 26;

            }

            decrypted.push\_back(upperCase[pos]);

            }

        else if(charAt > 96 && charAt<123){

        int pos = (charAt - 97) - shift;

        while(pos > 25){

            pos -= 26;

            }

            decrypted.push\_back(lowerCase[pos]);

        }

    }

    return decrypted;

}

int main(){

    //shift by this no

    int shift = 0;

    //string to encrypt

    string name = "aaa";

    cout<<"Enter the value to encrypt:";

    cin>>name;

    cout<<"\nEnter by how much to shift:";

    cin>>shift;

    string encryptedName = encrypt(name,shift);

    cout<<"Encrypted Value Is:"<<encryptedName<<endl;

    string decryptedName = decrypt(encryptedName,shift);

    cout<<"Decrypted Value Is:"<<decryptedName<<endl;

    }

**OUTPUT:**

