PROGRAM - 1

Q1 Write a program to perform encryption and decryption using Caesar cipher (substitutional cipher).

Source Code -

```
#include <iostream>
#include <string>
using namespace std;

string caesarCipher(string text, int shift, bool encrypt) {
    string result = "";
    if (!encrypt) {
        shift = -shift;
    }
    for (int i = 0; i < text.length(); ++i) {
        char ch = text[i];
        if (isalpha(ch)) {
            char base = islower(ch) ? 'a' : 'A';
            ch = (ch - base + shift + 26) % 26 + base;
        }
        result += ch;
    }
    return result;
}

int main() {
    string text;
    int shift;
    char choice;
    cout << "Enter the text: ";
    getline(cin, text);
    cout << "Enter the shift value: ";
    cin >> shift;
```

```
    cout << "Encrypt or Decrypt? (E/D): ";
    cin >> choice;
    bool encrypt = (choice == 'E' || choice == 'e');
    string result = caesarCipher(text, shift, encrypt);
    cout << "Result: " << result << endl;
      return 0;
}
```

OUTPUT -