Practical :- 1

#include <iostream>

#include <string>

// Function to encrypt the text using Caesar Cipher

std::string encryptCaesarCipher(std::string text, int shift) {

std::string result = "";

// Traverse text

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

char ch = text[i];

// Encrypt uppercase letters

if (isupper(ch))

result += char(int(ch + shift - 65) % 26 + 65);

// Encrypt lowercase letters

else if (islower(ch))

result += char(int(ch + shift - 97) % 26 + 97);

// Encrypt digits

else if (isdigit(ch))

result += char(int(ch + shift - 48) % 10 + 48);

// Leave other characters unchanged

else

result += ch;

}

return result;

}

// Function to decrypt the text using Caesar Cipher

std::string decryptCaesarCipher(std::string text, int shift) {

std::string result = "";

// Traverse text

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

char ch = text[i];

// Decrypt uppercase letters

if (isupper(ch))

result += char(int(ch - shift - 65 + 26) % 26 + 65);

// Decrypt lowercase letters

else if (islower(ch))

result += char(int(ch - shift - 97 + 26) % 26 + 97);

// Decrypt digits

else if (isdigit(ch))

result += char(int(ch - shift - 48 + 10) % 10 + 48);

// Leave other characters unchanged

else

result += ch;

}

return result;

}

int main() {

std::string text;

int shift;

char choice;

std::cout << "Enter the text: ";

std::getline(std::cin, text);

std::cout << "Enter the shift value: ";

std::cin >> shift;

std::cout << "Do you want to (e)ncrypt or (d)ecrypt? ";

std::cin >> choice;

if (choice == 'e' || choice == 'E') {

std::cout << "Encrypted text: " << encryptCaesarCipher(text, shift) << std::endl;

} else if (choice == 'd' || choice == 'D') {

std::cout << "Decrypted text: " << decryptCaesarCipher(text, shift) << std::endl;

} else {

std::cout << "Invalid choice" << std::endl;

}

return 0;

}

**Output :-**

/tmp/A4FMJ5XOT6.o

Enter the text: patil rocks

Enter the shift value: 20

Do you want to (e)ncrypt or (d)ecrypt? e

Encrypted text: juncf liwem

=== Code Execution Successful ===

