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# Experiment 1: Write a C/C++/Java program to implement Ceaser and mono alphabetic cipher.

# Ceaser cipher

# 1. Code

# #include <stdio.h>

# #include <string.h>

# void encrypt(int key, char\* encryption, char\* message) {

# int len = strlen(message);

# char tmp, i;

# for (i = 0; i < len; i++) {

# if (message[i] >= 'A' && message[i] <= 'Z') {

# tmp = message[i] + key;

# if (tmp > 'Z')

# encryption[i] = tmp - 26;

# else

# encryption[i] = tmp;

# }

# else

# encryption[i] = message[i];

# }

# encryption[i] = 0;

# }

# void decrypt(int key, char\* decryption, char\* message) {

# int len = strlen(message);

# char tmp, i;

# for (i = 0; i < len; i++) {

# if (message[i] >= 'A' && message[i] <= 'Z') {

# tmp = message[i] - key;

# if (tmp < 'A')

# decryption[i] = tmp + 26;

# else

# decryption[i] = tmp;

# }

# else

# decryption[i] = message[i];

# }

# decryption[i] = 0;

# }

# int main() {

# int key, choice;

# char message[256], encryption[256], decryption[256], ch;

# printf("Enter key for Ceaser Cipher (1-25): ");

# scanf("%d", &key);

# if (key < 1 || key > 25) {

# printf("Enter key between 1 to 25.\n");

# return 1;

# }

# while (1) {

# printf("\n1) Encryption\n2) Decryption\n3) Exit\nEnter Following Choice: ");

# scanf("%d", &choice);

# getchar();

# if (choice == 3)

# break;

# else if (choice == 1) {

# printf("Enter message for encryption: ");

# scanf("%[^\n]s", message);

# encrypt(key, encryption, message);

# printf("Plain Text: %s\nCipher Text: %s\n", message, encryption);

# }

# else if (choice == 2) {

# printf("Enter message for deryption: ");

# scanf("%[^\n]s", message);

# decrypt(key, decryption, message);

# printf("Cipher Text: %s\nPlain Text: %s\n", message, decryption);

# }

# else

# printf("Enter valid choice.\n");

# }

# return 0;

# }

# **2. Output**

# 

# mono alphabetic cipher.

# Code

#include<iostream>

#include<string.h>

#include<stdlib.h>

using namespace std;

string encryptionMessage(string Msg)

{

string CTxt = "";

int a = 3;

int b = 6;

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

{

CTxt = CTxt + (char) ((((a \* Msg[i]) + b) % 26) + 65);

}

return CTxt;

}

string decryptionMessage(string CTxt)

{

string Msg = "";

int a = 3;

int b = 6;

int a\_inv = 0;

int flag = 0;

for (int i = 0; i < 26; i++)

{

flag = (a \* i) % 26;

if (flag == 1)

{

a\_inv = i;

}

}

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

{

Msg = Msg + (char) (((a\_inv \* ((CTxt[i] - b)) % 26)) + 65);

}

return Msg;

}

int main(int argc, char \*\*argv)

{

cout << "Enter the message: ";

string message;

cin >> message;

cout << "Message is :" << message;

cout << "\nEncrypted Message is : " << encryptionMessage(message);

cout << "\nDecrypted Message is: " << decryptionMessage(encryptionMessage(message));

}

# Output

# 