**Practical-1A: Plain text to Cipher text**

**code:**

package com.mycompany.practical\_1;

import java.util.Scanner;

public class Practical\_1 {

public static void main(String[] args) {

String message, encryptMessage = "";

int key;

char ch;

Scanner sc = new Scanner(System.in);

System.out.println("Enter a plain text message: ");

message = sc.nextLine();

System.out.println("Enter Key: ");

key = sc.nextInt();

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

ch = message.charAt(i);

if(Character.isLowerCase(ch)){

ch = (char) (ch + key);

if(ch>'z'){

ch = (char) (ch - 'z' + 'a' - 1);

}

encryptMessage = encryptMessage + ch;

}

else if(Character.isUpperCase(ch)){

ch = (char)(ch+key);

if(ch > 'Z'){

ch = (char)(ch - 'Z' + 'A' -1);

}

encryptMessage = encryptMessage + ch;

}

else{

encryptMessage = encryptMessage + ch;

}

}

System.out.println("Encrypted Message: " + encryptMessage);

}

}

**Output:**

Enter a plain text message:

rehmah

Enter Key:

2

Encrypted Message: tgjocj

**Practical-1A2: Cipher text to Plain text**

**Code:**

package com.mycompany.practical\_1;

import java.util.Scanner;

public class Practical\_1B {

public static void main(String[] args) {

String message, encryptMessage = "";

int key;

char ch;

Scanner sc = new Scanner(System.in);

System.out.println("Enter an cipher text message: ");

message = sc.nextLine();

System.out.println("Enter decryption Key: ");

key = sc.nextInt();

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

ch = message.charAt(i);

if(Character.isLowerCase(ch)){

ch = (char) (ch - key);

if(ch < 'a'){

ch = (char) (ch - 'a' + 'z' + 1);

}

encryptMessage = encryptMessage + ch;

}

else if(Character.isUpperCase(ch)){

ch = (char)(ch - key);

if(ch < 'A'){

ch = (char)(ch - 'A' + 'Z' + 1);

}

encryptMessage = encryptMessage + ch;

}

else{

encryptMessage = encryptMessage + ch;

}

}

System.out.println("Decrypted Message: " + encryptMessage);

}

}

**Output:**

Enter an cipher text message:

tgjocj

Enter decryption Key:

2

Decrypted Message: rehmah