**PRACTICAL NO:1**

**Q1)Implementing Caesar Cipher Encryption/Decryption.**

CODE:

**import** java.util.Scanner;

**public** **class** sesor\_cipher {

**public** **static** **void** main(String[] args) {

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Input Data to encrypt");

String str=sc.nextLine();

System.***out***.println("Input the key length");

**int** key=sc.nextInt();

String encrypted=*encrypt*(str,key);

System.***out***.println("Encryped Test is :"+encrypted);

String decrypted=*decrypt*(encrypted,key);

System.***out***.println("Decrypted:"+ decrypted);

}

**public** **static** String encrypt(String str, **int** key)

{

String ct="";

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

{

**int** c=str.charAt(i);

**if**(Character.*isUpperCase*(c))

{

c=c+(key%26);

**if**(c>'Z')

c=c-26;

}

**else** **if**(Character.*isLowerCase*(c))

{

c=c+(key%26);

**if**(c>'z')

c=c-26;

}

ct+=(**char**)c;

}

**return** ct;

}

**public** **static** String decrypt(String str, **int** key)

{

String pt="";

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

{

**int** c=str.charAt(i);

**if**(Character.*isUpperCase*(c))

{

c=c-(key%26);

**if**(c<'A')

c=c+26;

}

**else** **if**(Character.*isLowerCase*(c))

{

c=c-(key%26);

**if**(c<'a')

c=c+26;

}

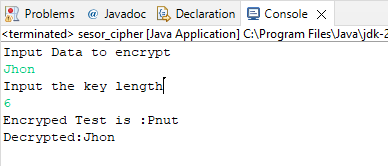
pt+=(**char**)c;

}

**return** pt;

}}

OUTPUT:



**Q2) Implementing Monoalphabetic Cipher Encryption/Decryption.**

CODE:

**import** java.util.\*;

**public** **class** MonoalphabeticCipherEncryption {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter plaintext:");

String plaintext=sc.nextLine();

String lower="abcdefghijklmnopqrstuvwxyz";

String upper="ABCDEFGHIJKLMNOPQRSTUVWXYZ";

ArrayList<Integer> p=**new** ArrayList();

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

p.add(i);

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

{

System.***out***.print(p.get(i)+"");

}

Collections.*shuffle*(p);

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

{

System.***out***.print(p.get(i)+"");

}

String key="",KEY="";

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

{

key+=lower.charAt(p.get(i));

key+=upper.charAt(p.get(i));

}

String ciphertext="";

**int** i,j;

**for**(i=0;i<plaintext.length();i++)

{

**for**(j=0;j<lower.length();j++)

{

**if**(plaintext.charAt(i)==lower.charAt(j))

{

ciphertext+=key.charAt(j);

**break**;

}

**if**(plaintext.charAt(i)==upper.charAt(j))

{

ciphertext+=KEY.charAt(j);

**break**;

}

}

**if**(j==upper.length())

ciphertext+=plaintext.charAt(i);

}

String decrtptedtext="";

i=0;j=0;

**for**(i=0;i<ciphertext.length();i++)

{

**for**(j=0;j<key.length();j++)

{

**if**(ciphertext.charAt(i)==key.charAt(j))

{

decrtptedtext+=lower.charAt(j);

**break**;

}

**if**(ciphertext.charAt(i)==key.charAt(j))

{

decrtptedtext+=upper.charAt(j);

**break**;

}

}

**if**(j==KEY.length())

decrtptedtext+=ciphertext.charAt(i);

}

System.***out***.println("nMonoalphabectic Cipher");

System.***out***.println("plain text:"+plaintext);

System.***out***.println("key :"+key);

System.***out***.println("KEY :"+KEY);

System.***out***.println("Cipher Text :"+ciphertext);

System.***out***.println("Decrypted text:"+decrtptedtext);

}

}

OUTPUT:

