1.

#include<stdlib.h>

void main()

{

сhar str[]="Hello World";

char str1[11];

int i,len; len=strlen(str);

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

{

str1[i]=str[i]^0;

printf("%c",str1[i]);

}

printf("\n");

}

2.

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

#include<stdio.h>

void main(){

char str[]="Hello World";

int i,len;

len = strlen(str);

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

printf("%c",str[i]&127);

}

printf("\n");

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

printf("%c",str[i]^127);

}

printf("\n");

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

str2[i] = str[i]^!127;

printf("%c",str[i]|127);

}

printf("\n");

}

3.

a) package com.company;  
  
import java.io.BufferedReader;  
import java.io.IOException;  
import java.io.InputStreamReader;  
import java.util.Scanner;  
  
public class Main {  
 static Scanner *sc*=new Scanner(System.*in*);  
 static BufferedReader *br* = new BufferedReader(new InputStreamReader(System.*in*)); public static  
 void main(String[] args) throws IOException {  
// *TODO code application logic here* System.*out*.print("Enter any String: "); String  
 str = *br*.readLine();  
 System.*out*.print("\nEnter the Key: "); int key =  
 *sc*.nextInt();  
 String encrypted = *encrypt*(str, key);  
 System.*out*.println("\nEncrypted String is: " +encrypted);  
 String decrypted = *decrypt*(encrypted, key);  
 System.*out*.println("\nDecrypted String is: "  
 +decrypted);System.*out*.println("\n");  
 }  
 public static String encrypt(String str, int key) {  
 String encrypted = "";  
 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;  
 }  
 encrypted +=(char) c;  
 }  
 return encrypted;  
 }  
 public static String decrypt(String str, int key) {  
 String decrypted = "";  
 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;  
  
 }  
 decrypted += (char) c;  
 }  
 return decrypted;  
 }  
}

b.

package com.company;  
  
import java.io.\*;  
import java.util.\*;  
public class Main {  
 static Scanner *sc* = new Scanner(System.*in*);  
 static BufferedReader *br* = new BufferedReader(new InputStreamReader(System.*in*));  
 public static void main(String[] args) throws IOException {  
// *TODO code application logic here* String a ="abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ";  
 String b = "zyxwvutsrqponmlkjihgfedcbaZYXWVUTSRQPONMLKJIHGFEDCBA";  
 System.*out*.print("Enter any string: ");  
 String str = *br*.readLine();  
 String decrypt = "";  
 char c;  
 for(int i=0;i<str.length();i++) {  
 c = str.charAt(i);  
 int j = a.indexOf(c);  
 decrypt = decrypt+b.charAt(j);  
 }  
 System.*out*.println("The encrypted data is: " +decrypt);  
 }  
}

c.

package com.company;  
  
import java.io.\*;  
import java.util.\*;  
public class Main {  
 static float[][] *decrypt* = new float[3][1]; static  
 float[][] *a* = new float[3][3]; static float[][] *b* =  
 new float[3][3]; static float[][] *mes* = new  
 float[3][1]; static float[][] *res* = new  
 float[3][1];  
 static BufferedReader *br* = new BufferedReader(new InputStreamReader(System.*in*));  
 static Scanner *sc* = new Scanner(System.*in*);  
 public static void main(String[] args) throws IOException {  
// *TODO code application logic here  
 getkeymes*();  
 for(int i=0;i<3;i++) for(int j=0;j<1;j++)  
 for(int k=0;k<3;k++) {  
 *res*[i][j]=*res*[i][j]+*a*[i][k]\**mes*[k][j];}  
 System.*out*.print("\nEncrypted string is: ");  
 for(int i=0;i<3;i++) {  
 System.*out*.print((char)(*res*[i][0]%26+97));  
 *res*[i][0]=*res*[i][0];  
 }  
 *inverse*();  
 for(int i=0;i<3;i++) for(int j=0;j<1;j++) for(int k=0;k<3;k++) {  
 *decrypt*[i][j] = *decrypt*[i][j]+*b*[i][k]\**res*[k][j]; }  
 System.*out*.print("\nDecrypted string is : ");  
 for(int i=0;i<3;i++){ System.*out*.print((char)(*decrypt*[i][0]%26+97));  
 }  
 System.*out*.print("\n");  
 }  
 public static void getkeymes() throws IOException {  
 System.*out*.println("Enter 3x3 matrix for key (It should be inversible): ");  
 for(int i=0;i<3;i++)  
 for(int j=0;j<3;j++) *a*[i][j] = *sc*.nextFloat();  
 System.*out*.print("\nEnter a 3 letter string: ");  
 String msg = *br*.readLine();  
 for(int i=0;i<3;i++)  
 *mes*[i][0] = msg.charAt(i)-97;  
 }  
 public static void inverse() {  
 float p,q;  
 float[][] c = *a*;  
 for(int i=0;i<3;i++)  
 for(int j=0;j<3;j++) {  
 //a[i][j]=sc.nextFloat();  
 if(i==j)  
 *b*[i][j]=1;  
 else *b*[i][j]=0;  
 }  
 for(int k=0;k<3;k++) {  
 for(int i=0;i<3;i++) {  
 p = c[i][k];  
 q = c[k][k];  
 for(int j=0;j<3;j++) { if(i!=k)  
 {  
 c[i][j] = c[i][j]\*q-p\*c[k][j];  
 *b*[i][j] = *b*[i][j]\*q-p\**b*[k][j];  
 } } } }  
 for(int i=0;i<3;i++)  
 for(int j=0;j<3;j++) {  
 *b*[i][j] = *b*[i][j]/c[i][i]; }  
 System.*out*.println("");  
 System.*out*.println("\nInverse Matrix is: ");  
 for(int i=0;i<3;i++) {  
 for(int j=0;j<3;j++)  
 System.*out*.print(*b*[i][j] + " ");  
 System.*out*.print("\n"); }  
} }