```
import java.util.Scanner;
class CheckPalindrome{
String reverse="";
int i;
void check(String str,int len)
{
      for (i=len-1;i>=0;i--)
{
       reverse=reverse+str.charAt(i);
}
if (str.equals(reverse))
{  System.out.println("String is a pallindrome");
}
else
{  System.out.println("String is not a pallindrome");
}
}
class Palindrome{
public static void main(String args[]){
    String str;
     int len;
CheckPalindrome obj=new CheckPalindrome();
Scanner sc= new Scanner(System.in);
System.out.println("Enter The String");
str=sc.nextLine();
len=str.length();
obj.check(str,len);}
}
```

```
PS C:\Users\sooraj\Desktop\java> javac Palindrome.java
PS C:\Users\sooraj\Desktop\java> java Palindrome
Enter The String
level
String is a pallindrome
PS C:\Users\sooraj\Desktop\java> javac Palindrome.java
PS C:\Users\sooraj\Desktop\java> java Palindrome
Enter The String
palindrome
String is not a pallindrome
PS C:\Users\sooraj\Desktop\java>
```

```
import java.util.Scanner;
class str1{
int count;
void freq(String name,char key)
{
for (int i=0;i<name.length();i++)
{
if (name.charAt(i)==key)
{
count++;
}
}
System.out.println("Frequency of " +key+ " in the given string is " +count);
}
}
class Frequency{
   public static void main(String args[]){
str1 obj=new str1();
String name;
char key;
Scanner sc=new Scanner(System.in);
System.out.println("Enter the String");
name=sc.nextLine();
System.out.println("Enter the character whose frequency count is to be found");
key=sc.next().charAt(0);
obj.freq(name,key);
}
}
```

```
PS C:\Users\sooraj\Desktop\java> javac  Frequency.java
PS C:\Users\sooraj\Desktop\java> java Frequency
Enter the String
Sooraj
Enter the character whose frequency count is to be found
o
Frequency of o in the given string is 2
PS C:\Users\sooraj\Desktop\java>
```

```
import java.util.*;
class Multiply{
public static void main(String args[]){
Scanner sc = new Scanner(System.in);
System.out.println("Enter number of rows and column for first matrix:");
int r1 = sc.nextInt();
int c1 = sc.nextInt();
System.out.println("Enter number of rows and column for second matrix:");
int r2 = sc.nextInt();
int c2 = sc.nextInt();
if(r2==c1){
int a[][] = new int [r1][c1];
int b[][] = new int [r2][c2];
int c[][] = new int [r1][c2];
System.out.println("Enter First Matrix");
for(int i=0;i<r1;i++){
for(int j=0;j<c1;j++){
System.out.println("Enter element "+i+""+j);
a[i][j]= sc.nextInt();
}
}
System.out.println("Enter Second Matrix");
for(int i=0;i<r2;i++){
for(int j=0;j<c2;j++){
System.out.println("Enter element "+i+""+j);
b[i][j]= sc.nextInt();
}
}
for(int i =0;i<r1;i++){
```

```
for(int j=0;j<c2;j++){
c[i][j]=0;
for(int k=0;k<r2;k++){
c[i][j]+= a[i][k]*b[k][j];
}
}
}
System.out.println("Product Matrix:");
for(int i =0;i<r1;i++){
for(int j=0;j<c2;j++){
System.out.print(" "+c[i][j]);
}
System.out.println();
}
}
else
System.out.println("Multiplication not possible");
}
}
```

```
PS C:\Users\sooraj\Desktop\java> javac  Multiply.java
PS C:\Users\sooraj\Desktop\java> java  Multiply
Enter number of rows and column for first matrix:
2 2
Enter number of rows and column for second matrix:
2 2
Enter First Matrix
Enter element 00
1
Enter element 01
2
Enter element 10
3
Enter element 11
1
Enter Second Matrix
Enter element 00
1
Enter element 01
2
Enter element 10
3
Enter element 11
1
Product Matrix:
 7 4
 6 7
PS C:\Users\sooraj\Desktop\java>
```

```
class Employee{
   String Name,Address;
   int Age;
   long Phoneno,Salary;
   void PrintSalary(long Salary)
   {
   this.Salary=Salary;
   System.out.println("SALARY:"+Salary);
   }}
   class Officer extends Employee{
   String Specialisation= "Robotics";
   Officer(String name,int age,String Address,long Phoneno)
   {
   this.Name=Name;
   this.Age=Age;
   this.Address=Address;
   this.Phoneno=Phoneno;
   System.out.println("NAME:"+Name+" AGE:"+Age+ " ADDRESS:"+Address+
   "PHONENO:"+Phoneno+" SPECIALISATION:"+Specialisation);
   }}
   class Manager extends Employee{
   String Department= "Marketing";
   Manager(String Name,int age,String Address,long Phoneno)
   {
   this.Name=Name;
   this.Age=Age;
   this.Address=Address;
   this.Phoneno=Phoneno;
```

```
System.out.println("NAME:"+Name+" AGE:"+Age+ " ADDRESS:"+Address+
"PHONENO:"+Phoneno+" DEPARTMENT:"+Department);
}}
class Inheritance{
public static void main(String args[]){
Officer obj1=new Officer("Arun",21,"GM Street,Kannur",9876117235L);
obj1.PrintSalary(640000L);
Manager obj2=new Manager("Sidharth",19,"MG Street,Kannur",9167540321L);
obj2.PrintSalary(870000L);
}}
```

```
PS C:\Users\sooraj\Desktop\java> javac  Inheritance.java
PS C:\Users\sooraj\Desktop\java> java  Inheritance
NAME:null AGE:0 ADDRESS:GM Street,KannurPHONENO:9876117235 SPECIALISATION:Robotics
SALARY:640000
NAME:Sidharth AGE:0 ADDRESS:MG Street,KannurPHONENO:9167540321 DEPARTMENT:Marketing
SALARY:870000
PS C:\Users\sooraj\Desktop\java>
```

```
import java.util.*;
abstract class Shape{
void numberOfSides(){}
}
class Rectangle extends Shape{
void numberOfSides(){
System.out.println("Number of sides of a rectangle is 4 ");
}
}
class Triangle extends Shape{
void numberOfSides(){
System.out.println("Number of sides of a triangle is 3");
}
}
class Hexagon extends Shape{
void numberOfSides(){
System.out.println("Number of sides of a hexagon is 6");
}
}
class Abstract{
public static void main(String args[]){
Rectangle r = new Rectangle();
Triangle t = new Triangle();
Hexagon h = new Hexagon();
r.numberOfSides();
t.numberOfSides();
h.numberOfSides();
}
}
```

```
PS C:\Users\sooraj\Desktop\java> javac  Abstract.java
PS C:\Users\sooraj\Desktop\java> java  Abstract
Number of sides of a rectangle is 4
Number of sides of a triangle is 3
Number of sides of a hexagon is 6
PS C:\Users\sooraj\Desktop\java>
```