1. Create a package called Shape. Inside this package define a class named as Figure, which computes the volume of a cube, cylinder and rectangular box using method overloading.
2. Create a package named Maths. Define class MathsOperations with static methods to find the maximum and minimum of three numbers. Create another package Stats. Define class StatsOperations with methods to find the average and median of three numbers. Use these methods in main to perform operations on three integers accepted using command line arguments.
3. Write a program in Java to create a String object. Initialize this object with your name. Find the length of your name using appropriate String method. Find whether character ‘a’ is in your name or not, if yes find the number of time ‘a’ it appear in your name. Print locations of occurrences of ‘a’. Try same for different String objects
4. Write a Package MCA which has one class Student. Accept student detail through parameterized constructor. Write display () method to display details. Create a main class which will use package and calculate total marks and percentage.

**1**

package shape;

public class Figure123{

public void vol\_Display(double side)

{

double vol=side\*side\*side;

System.out.println("Volume of cube is : "+vol);

}

public void vol\_Display(double rad,double height)

{

final double pi=3.14;

double vol=pi\*rad\*rad\*height;

System.out.println("Volume of cylinder is : "+vol);

}

public void vol\_Display(double len,double bre,double wid)

{

double vol=len\*bre\*wid;

System.out.println("Volume of rectangular box is: "+vol );

}

public static void main(String args[]){

Figure123 fg=new Figure123();

fg.vol\_Display(3.5);

fg.vol\_Display(4.5,7);

fg.vol\_Display(7,8,10);

}

**2**

package maths;

public class Mathsoperation{

public static void max\_min(int num1,int num2,int num3){

if(num1 > num2 && num1 > num3)

{

System.out.println("Num 1 is greater");

}

else if(num2 > num1 && num2 > num3)

{

System.out.println("Num 2 is greater");

}

else if(num3 > num1 && num3 > num2)

{

System.out.println("Num 3 is greater");

}

else

{

System.out.println("All Numbers Are Equal ");

}

}

}

package stats;

import maths.\*;

public class Statsoperation{

public static void avg(int num1,int num2,int num3){

int avg=(int)(num1+num2+num3)/3;

System.out.println("Average of number is"+avg);

}

public static void median(int num2){

System.out.println("Median number is"+num2);

}

public static void main(String[]args){

int num1=Integer.parseInt(args[0]);

int num2=Integer.parseInt(args[1]);

int num3=Integer.parseInt(args[2]);

Mathsoperation.max\_min(num1,num2,num3);

Statsoperation.avg(num1,num2,num3);

Statsoperation.median(num2);

}

}

**3**

class StringOb1

{

public static void main(String args[])

{

String name ="Akshay";

int count=0;

int i=0;

System.out.println("Enterd String is:"+name);

System.out.println("Length of String is : "+name.length());

if(name.charAt(i)=='A' || name.charAt(i)=='a')

{

System.out.println(" Character 'a' is present in given string " );

}

else

{

System.out.println(" Character 'a' is not present in given string " );

}

for(i=0; i<name.length();i++)

{

if(name.charAt(i)=='A' || name.charAt(i)=='a')

{

count++;

System.out.println(" Character 'a' is present in given string at " + i + " index" );

}

}

System.out.println("Repetation of letter a :"+count);

if (count == 0)

{

System.out.println("There is no 'a' available in your name.");

}

System.out.println("===============================================");

}

}

**4**

package mca;

public class Student{

int stud\_id, m1,m2,m3,total;

String name;

float per;

public Student(int stud\_id, String name, int m1,int m2,int m3){

this.stud\_id = stud\_id;

this.name=name;

this.m1=m1;

this.m2=m2;

this.m3=m3;

}

public void display(){

System.out.println("Student id :"+stud\_id);

System.out.println("Student Name :"+name);

System.out.println(" marks 1 :"+m1);

System.out.println(" marks 2 :"+m2);

System.out.println(" marks 3 :"+m3);

total = m1+m2+m3;

System.out.println("total :"+total);

per= (total/3);

System.out.println("Percentage :"+per);

}

}

package mca;

import mca.Student;

public class MainStud

{

public static void main(String args[]){

Student s = new Student(111, "AKSHAY", 85, 90, 80);

s.display();

}

}