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Q1. How to calculate parameter of a triangle in java using object-oriented approach?

```
class AreaOfTriangle
{
    public static void main(String args[])
    {

        Scanner s= new Scanner(System.in);

        System.out.println("Enter the width of the Triangle:");
        double b= s.nextDouble();

        System.out.println("Enter the height of the Triangle:");
        double h= s.nextDouble();

        //Area = (width*height)/2
        double area=(b*h)/2;
        System.out.println("Parameter of Triangle is: " + area);
    }
}
```

OUTPUT

```
Enter the width of the Triangle:
10
Enter the height of the Triangle:
20
Parameter of Triangle is:100.0
```

Q2. How to calculate diameter of a circle in java using object-oriented approach?

```
import java.util.Scanner;
class CircleDemo
{
    static Scanner sc = new Scanner(System.in);
```

```

public static void main(String args[])
{
    System.out.print("Enter the radius: ");
    /*We are storing the entered radius in double
    * because a user can enter radius in decimals
    */
    double radius = sc.nextDouble();
    //Area = PI*radius*radius
    double area = Math.PI * (radius * radius);
    System.out.println("The area of circle is: " + area);
    //Circumference = 2*PI*radius
    double circumference= Math.PI * 2*radius;
    System.out.println( "The circumference of the circle is:"+circumference) ;
}
}

```

OUTPUT

Enter the radius: 1

The area of circle is: 3.141592653589793

The circumference of the circle is:6.283185307179586

Q3. How to check Leap year in java using object-oriented approach?

```

class Leapyear
{
public static void main(String arg[])
{
    long a,y,c;
        Scanner sc=new Scanner(System.in);
        System.out.print("enter any calendar year :");
            y=sc.nextLong();
        if(y!=0)
        {
a=(y%400==0)?(c=1):((y%100==0)?(c=0):((y%4==0)?(c=1):(c=0)));
if(a==1)
        System.out.println(y+" is a leap year");
            else
        System.out.println(y+" is not a leap year");
        }
else

```

```
System.out.println("year zero does not exist ");
}
}
```

OUTPUT

enter any calendar yar :1950
1950 is not a leap year

Q4. How to check that the input from the user is the vowel or not in java using object-oriented approach?

```
public class VowelConsonant {

    public static void main(String[] args) {

        char ch = 'h';

        switch (ch) {
            case 'a':
            case 'e':
            case 'i':
            case 'o':
            case 'u':
                System.out.println(ch + " is vowel");
                break;
            default:
                System.out.println(ch + " is consonant");
        }
    }
}
```

OUTPUT

h is consonant

Q5. How to use power of a number in java using object-oriented approach?

```
public class Power {

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

```
int base = 3, exponent = 4;

long result = 1;

for (;exponent != 0; --exponent)
{
    result *= base;
}

System.out.println("Answer = " + result);
}
}
```

OUTPUT

Answer = 81