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SUBJECT: OBJECT ORIENTED PROGRAMMING
LAB

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ANS 1: import java.util.Scanner;

```
class Triangle
```

```
{
```

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

```
{
```

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

```
System.out.print("Enter the sides of triangle : ");
```

```
int a = sc.nextInt();
```

```
int b = sc.nextInt();
```

```
int c = sc.nextInt();
```

```
if(a+b>c && b+c>a && a+c>b && a!=0 && b!=0 && c!=0)
```

```
System.out.println("Perimeter of triangle : " + (a+b+c));
```

```
else
```

```
System.out.println("Invalid sides entered.");
```

```
}
```

Output:

Enter the sides of triangle : 5 12 13

Perimeter of triangle : 30

ANS 2: import java.util.Scanner;

```
public class Circle {
```

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

```
        Scanner input = new Scanner(System.in);
```

```
        int radius=0;
```

```
        int diameter;
```

```
        int circumference ;
```

```
        int area;
```

```
        int Pi;
```

```
        Pi=(int) 3.14;
```

```
        area = (int) (radius*radius*Pi);
```

```
        circumference =(int)(radius*2*Pi);
```

```
        diameter = (int)(radius*2);
```

```
        System.out.print("Enter radius value:");
```

```
radius=input.nextInt();

System.out.printf("area is %d%n" , area);

System.out.printf("diameter is %d%n", diameter);

System.out.printf("circumference is %d%n", environment);

}

}
```

Output:

Enter radius value: (for exmaple) 4

area is 0 // (real value is 50.24)

diameter is 0 // (8)

ANS 3: import java.util.Scanner;

```
public class LeapYear {

    public static void main(String[] args) {

        // declare variables

        int year = 0;

        boolean result = false;

        // create Scanner class object to read input

        Scanner scan = new Scanner(System.in);

        // read input

        System.out.print("Enter year:: ");

        year = scan.nextInt();

        // check year is leap year or not
```

```
        if(( year%4==0) && ( (year%400==0) || (year%100!=0) ) )
            result = true;
        else
            result = false;

        // display result
        if(result == true)
            System.out.println(year+" is a leap year");
        else System.out.println(year+" is not a leap year");

        // close Scanner class object
        scan.close();
    }
}
```

Output:

Enter year:: 2000

2000 is a leap year

ANS 4: import java.util.Scanner;

public class JavaProgram

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

        Scanner scan = new Scanner(System.in);
```

```

System.out.print("Enter an Alphabet : ");
ch = scan.next().charAt(0);

if(ch=='a' || ch=='A' || ch=='e' || ch=='E' ||
ch=='i' || ch=='I' || ch=='o' || ch=='O' ||
ch=='u' || ch=='U')
{
    System.out.print("This is a Vowel");
}
else
{
    System.out.print("This is not a Vowel");
}
}
}

```

Output:

Enter an alphabet : e

This is a vowel

Enter an alphabet : t

this is not vowel

ANS 5: import java.util.Scanner;

```
public class PowerOfNumber {
```

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

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

System.out.println("Enter the base number ::");

int base = sc.nextInt();

int temp = base;

System.out.println("Enter the exponent number ::");

int exp = sc.nextInt();

for (int i=1; i<exp; i++){
    temp = temp*temp;
}

System.out.println("Result of "+base+" power "+exp+" is "+temp);
}
}
```

Output:

Enter the base number ::

12

Enter the exponent number ::

2

Result of 12 power 2 is 144