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Subject:- object oriented
Program
Program:- BSCS
Semester 2

Question:-1

How To check Even and odd number in java using object oriented approach?

```
class checkEvenodd
{
    public static void main (String
    args[])
    {
        int num;
        System.out.println ("Enter an
        integer number");
        // The input provided by user
        is stored in num
```

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

```
num = input.nextInt();
```

```
/*if number is divisible by 2  
then it's an even number* else  
odd number*/
```

```
if (num % 2 == 0)
```

```
System.out.println("Enter number  
is even");
```

```
else
```

```
System.out.println("Enter number  
is odd");
```

```
}
```

```
}
```

Output 1:

Enter an Integer number:

78

Entered number is even

Output 2:

Enter an Integer number:

77

Entered number is odd

Even odd program in Java:-

Java program to check whether a number is even or odd; if it's divisible by two, then it's even, otherwise odd.

We use the modulus operator

To find the remainder: For an even number, it's zero

when it's divided by two

it's one for an odd number.

Question:-2

How to add 2 complex number in java using object oriented approach:

Complex number have two parts - real number and imaginary number
In this tutorial, we will

write a java Program to add two complex numbers. when we adding complex numbers we add real parts together and imaginary parts together like

$$(2 + 5i) + (4 + 3i)$$

$$(2 + 4) + (5i + 3i)$$

$$(6 + 8i) \text{ Answer.}$$

Program:-

```
Public class Complexnumber {  
    double real, img;  
    Complex number (double r, double i) {  
        this.real = r;  
        this.img = i;  
    }  
    Public static Complex number sum  
    (Complex number c1, Complex number c2)  
    {  
        temp.real = c1.real + c2.real;
```

```
temp.img = c1.img + c2.img;
```

```
return temp;
```

```
}
```

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

```
ComplexNumber c1 = new Complex  
number (5.5, 4);
```

```
ComplexNumber c2 = new Complex  
number (1.2, 3.5);
```

```
ComplexNumber tem = Sum (c1, c2);
```

```
System.out.println ("Sum is " +  
temp.real + " + temp.img + "i");
```

Output:-

Sum is 6.7 + 7.5i

Question:-3

How to check leap
year in java using obj-
ect oriented approach:

```
public class leapyear using if {
```

```

private static Scanner sc;
public static void main (String[]
arg) {
    int year;
    sc = new Scanner (System.in);
    System.out.println ("In Please
any year you wish:");
    year = sc.nextInt();
    if ((year % 400 == 0) || (year % 4
== 0) && (year % 100 != 0)) {
        System.out.
    }
    else {
        System.out.format ("In %d is
NOT a leap year.\n", year);
    }
}

```

output:-

Please enter any number you wish

2016 is a leap year.

Question:- 4

How to check that the input from the user is the vowel or not in java using object oriented approach;

```
Public class java Program  
{
```

```
    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.println("This is  
a vowel");
```

```
}
```

```
else
```

```
{
```

```
System.out.println("This is not  
a vowel");
```

```
}
```

```
}
```

```
}
```

Output:-

Enter an Alphabet: e

This is vowel

Enter an Alphabet: t

This is not vowel

Question:-5

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

```
Public class PowerofNumber{
    Public static void main (Str-
ing 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 'b
        ase' + " Power + exp + " is " + temp);
```

}

}

Output:-

Enter the base number ::

12

Enter the exponent number::

2

Result of

12 power 2 is 144