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Class :- BS (Computer Science)
2nd semester

Subject :- Fundamental programming

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Question :- 1

How to check even and odd number in Java using oriented approach?

Answer:-

Check even and odd nos. -

① public class odd -

even,

② int n;

③ Scanner s = new Scanner

(system)

④ System.out.println("Enter the number you want to check")

⑤ n = s.nextInt();

⑥ if (n % 2 == 0)

⑦ System.out.println("The given number "+ n + " is even");

⑧ System.out.println("The given number "+ n + " is odd");

Programs -

```
import java.util, Scanner;
public class odd - even
{
    public static void main
    (String [] args)
    {
        int n;
        Scanner s = new Scanner (System.in);
        System.out.println ("enter the no
        you want to check:");
        n = s.nextInt ();
        if (n % 2 == 0)
        {
            System.out.println ("The given
            number "+n+" is even");
        }
        else
        {
            System.out.println ("The given number
            "+n+" is odd");
        }
    }
}
```

output:

```
$ javac odd - even.java
$ java odd - even
```

Enter the number you want to check: 15
The given number 15 is odd.

Question # 2

How to add 2 complex number in Java using object oriented approach?

Answer,

Complex number-

Complex number has two parts real part and imaginary part

Program

```
public class Complex {
```

```
    double real;  
    double imag;
```

```
    public Complex (double real  
                    double imag) {  
        this . real = real  
        this . imag = imag  
    }
```

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

```
        Complex n1 = new Complex (2.3, 4  
        n2 = new Complex (3.4, 5.0);  
        temp ;
```

```
temp = add (n1, n2)
```

```

system.out.printf("sum = %0.1f + %0.1fi", temp.real, temp.imag);
}
public static complex add (complex
n1, complex n2)
{
complex temp = new complex(0.0, 0.0);
temp.real = n1.real + n2.real;
temp.imag = n1.imag + n2.imag;
return temp;
}

```

out put:

$$\text{sum} = 5.7 + 9.5i$$

4.5

Question # 3

How to check leap year oriented in Java using object approach?

Answer:

Enter any year as an input. We will first check whether the given year is or not if it is divisible then it is a leap year else we check for further condition. The Java program is successfully compiled and run on a window system.

Programs:

```
import java.util.Scanner;
public class checkLeapYear
{
    public static void main
    (String args[])
    {
        Scanner s = new Scanner
        (System.in);
    }
}
```

```

system.out.println("Enter any
Year : ");
int Year = S.nextInt();
boolean flag = false;
if (Year % 400 == 0)
{
    flag = true;
}
else if (Year % 100 == 0)
{
    flag = false;
}
else if (Year % 4 == 0)
{
    flag = true;
}
else
{
    flag = false;
}
if (flag)
    system.out.println(Year + "
is leap Year");
}
}

```

Outputs:

Enter any Year - 1800
 Year 1800 is not a leap year

Enter any Year - 2000
 Year 2000 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?

Answer

```
public class vowel consonant {  
    public static void main  
        (String [] arg ) {  
        char ch = 'i' ;
```

```
        if (ch == 'a' || ch == 'e'  
            || ch == 'i' || ch == 'o'  
            || ch == 'u' )
```

```
            System.out.println (ch + " is  
                vowel" );
```

else

```
        System.out.println (ch + "  
            is consonant" );
```

```
    }
```

```
}
```

Output ↴

i is vowel.

Question # 5

How to use power of
a number in Java
using object oriented
approach)

Answer

power of number in
used to calculate a
number raised to the
power of some other
number. This function accepts
two parameters and returns
to the second parameter.

Programs:

```
public class Example {  
    public static void main  
        (String args[]) {  
        double x = 60;  
        double y = 3;  
        System.out.println (Math.pow  
            (x, y));  
        x = 3;  
        y = 4;  
        System.out.println (Math.pow (x, y));  
        x = 2;  
        y = 5;  
    }  
}
```


system.out.println("math.pow(x,y)");

outputs.

216000

81

32