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BSSE- 2nd Semester

Department of Computer Science

Object Oriented Programming

(Lab Paper)

Q#1: How to check Even and Odd numbers in java using object oriented approach?

Ans:

Program

```
import java.util.Scanner;

class CheckEvenOdd
{
    public static void main(String args[])
    {
        int num;

        System.out.println(" Please 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("The number you Entered number is even");
        else
            System.out.println("The number you Entered number is odd");
    }
}
```

Output

```
Enter an Integer number: 78
The number you Entered number is even
```

Q#2: How to add 2 complex numbers in java using object oriented approach?

Program

```
public class ComplexNumber{
    //for real and imaginary parts of complex numbers
    double real, img;
    //constructor to initialize the complex number
    ComplexNumber(double r, double i){
        this.real = r;
        this.img = i;
    }
    public static ComplexNumber sum(ComplexNumber c1, ComplexNumber c2)
    {
        //creating a temporary complex number to hold the sum of two numbers
        ComplexNumber temp = new ComplexNumber(0, 0);

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

        //returning the output complex number
        return temp;
    }
    public static void main(String args[]) {
        ComplexNumber c1 = new ComplexNumber(5.5, 4);
        ComplexNumber c2 = new ComplexNumber(1.2, 3.5);
        ComplexNumber temp = sum(c1, c2);
        System.out.printf("Sum is: "+ temp.real+" + "+ temp.img +"i");
    }
}
```

Output

Sum is: 6.7 + 7.5i

Q#3: How to check Leap year in java using object oriented approach?

Program

```
import java.util.Scanner;

public class LeapYear {
    public static void main(String[] args){
        int year;

        System.out.println("Enter an Year : ");
        Scanner sc = new Scanner(System.in);
        year = sc.nextInt();

        if (((year % 4 == 0) && (year % 100 != 0)) || (year % 400 == 0))
            System.out.println("Specified year is a leap year");
        else
            System.out.println("Specified year is not a leap year");
        }
    }
}
```

Output

Enter an Year :

2020

Specified year is a leap year

Q#4: How to check that the input from the user is the vowel or not in java using object oriented approach?

Program

```
import java.util.Scanner;

public class VowelOrConsonant {

    public static void main(String args[]){
        System.out.println("Enter a character :");

        Scanner sc = new Scanner(System.in);
        char ch = sc.next().charAt(0);
        if(ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' || ch == ' '){

            System.out.println("Given character is an vowel");
        }else{
            System.out.println("Given character is a consonant");
        }
    }
}
```

Output

Enter a character :

a

Given character is an vowel

Enter a character :

l

Given character is a consonant

Q#5: How to use power of a number in java using object oriented approach?

Program

```
public class JavaExample {  
    public static void main(String[] args) {  
        //Here number is the base and p is the exponent  
        int number = 2, p = 5;  
        long result = 1;  
  
        //Copying the exponent value to the loop counter  
        int i = p;  
        for (;i != 0; --i)  
        {  
            result *= number;  
        }  
  
        //Displaying the output  
        System.out.println(number+"^"+p+" = "+result);  
    }  
}
```

Output

2^5 = 32

END....