

# CS2304 JAVA PROGRAMMING

## Week 7

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**REGISTER NUMBER: 2024503305**

### 7. Code

```
class Complexnumber {  
    public double real;  
    public double imag;  
    public double real(){  
        return real;  
    }  
    public double imag(){  
        return imag;  
    }  
    Complexnumber(double real, double imag) {  
        this.real = real;  
        this.imag = imag;  
    }  
    @Override  
    public String toString(){  
        return real + "+" + imag+"i";  
    }  
}
```

}

**public Complexnumber add(Complexnumber c2){**

**double sumreal= c2.real();**

**double sumimag=c2.imag();**

**Complexnumber sum= new Complexnumber(real+sumreal,imag+sumimag);**

**return sum;**

**}**

**public Complexnumber sub(Complexnumber c2){**

**double subreal= c2.real();**

**double subimag=c2.imag();**

**Complexnumber sum= new Complexnumber(real-subreal,imag-subimag);**

**return sum;**

**}**

**public Complexnumber mul(Complexnumber c2){**

**double mulreal= c2.real();**

**double mulimag=c2.imag();**

**Complexnumber mul= new Complexnumber(real\*mulreal-  
imag\*mulimag,real\*mulimag+imag\*mulreal);**

**return mul;**

**}**

**public Complexnumber div(Complexnumber c2){**

**double divreal= c2.real();**

```
double divimag=c2.imag();
```

```
Complexnumber div= new
```

```
Complexnumber(((real*divreal)+(imag*divimag))/((divreal*divreal)+(divimag*divimag)),((imag*divreal)-(real*divimag))/((divreal*divreal)+(divimag*divimag)));
```

```
return div;
```

```
}
```

```
}
```

```
public class Main {
```

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

```
System.out.println("Name:B.Satlas Rohit \n Regno:2024503305");
```

```
Complexnumber c1=new Complexnumber(3,4);
```

```
System.out.println("c1:"+c1);
```

```
Complexnumber c2=new Complexnumber(1,-2);
```

```
System.out.println("c2:"+c2);
```

```
Complexnumber sum=c1.add(c2);
```

```
System.out.println("Sum :"+sum);
```

```
Complexnumber diff=c1.sub(c2);
```

```
System.out.println("Difference:"+diff);
```

```
Complexnumber mul=c1.mul(c2);
```

```
System.out.println("Product:"+mul);
```

```
Complexnumber quo=c1.div(c2);
```

```
System.out.println("Quotient:"+quo);
```

```
boolean isEqual = c1.equals(c2);
```

```
System.out.println("c1 equals c2: " + isEqual);
```

```
}
```

```
}
```

**Output:**

```
Name:B.Satlas Rohit  
Regno:2024503305  
c1:3.0+4.0i  
c2:1.0+-2.0i  
Sum :4.0+2.0i  
Difference:2.0+6.0i  
Product:11.0+-2.0i  
Quotient:-1.0+2.0i  
c1 equals c2: false
```