Week-6

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IT PCC-CS593 L - OBJECT ORIENTED PROGRAMMING LAB

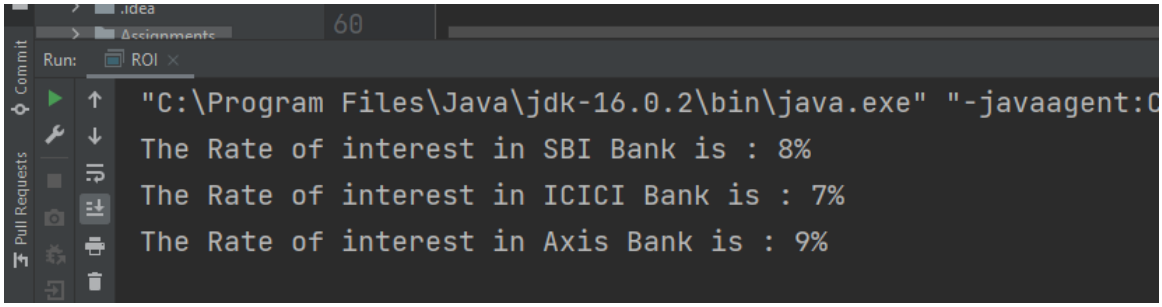
Consider a scenario, Bank is a class that provides functionality to get rate of interest. But, rate of interest varies according to banks. For example, SBI, ICICI and AXIS banks could p rovide 8%, 7% and 9% rate of interest.

```
package com.randrita.week6;

/*
Consider a scenario, ROI is a class that provides
functionality to get rate of interest.
But, rate of interest varies according to banks.
For example, SBI, ICICI and AXIS banks could
provide 8%, 7% and 9% rate of interest.
*/

class Bank{
    int r;
    void rate_of_interest(int r){
        this.r = r;
    }
}

//for SBI Bank
//-----------------------------------------------
-
class SBI extends Bank{
    int r;

    @Override
    void rate_of_interest(int r)
    {
        super.rate_of_interest(0);
        this.r=r;
    }

    void display(){
        System.out.println("The Rate of interest
```

```
in SBI Bank is : "+r+'%');
    }
}

//for ICICI Bank
//-----------------------------------------------
-

class ICICI extends Bank{
    int r;

    @Override
    protected void rate_of_interest(int r){
        super.rate_of_interest(8);
        this.r=r;
    }

    protected void display(){
        System.out.println("The Rate of interest
in ICICI Bank is : "+r+'%');
    }
}

//for AXIS Bank
//-----------------------------------------------
-

class AXIS extends Bank{
    int r;

    @Override
    public void rate_of_interest(int r){
        this.r=r;
    }

   public void display(){
        System.out.println("The Rate of interest
in Axis Bank is : "+r+'%');
    }
}
```

```java
//main method
public class ROI {
    public static void main(String[] args) {

        SBI obj_sbi = new SBI();
        obj_sbi.rate_of_interest(8);
        obj_sbi.display();

        ICICI obj_icici = new ICICI();
        obj_icici.rate_of_interest(7);
        obj_icici.display();

        AXIS obj_axis = new AXIS();
        obj_axis.rate_of_interest(9);
        obj_axis.display();
    }
}
```

Output:

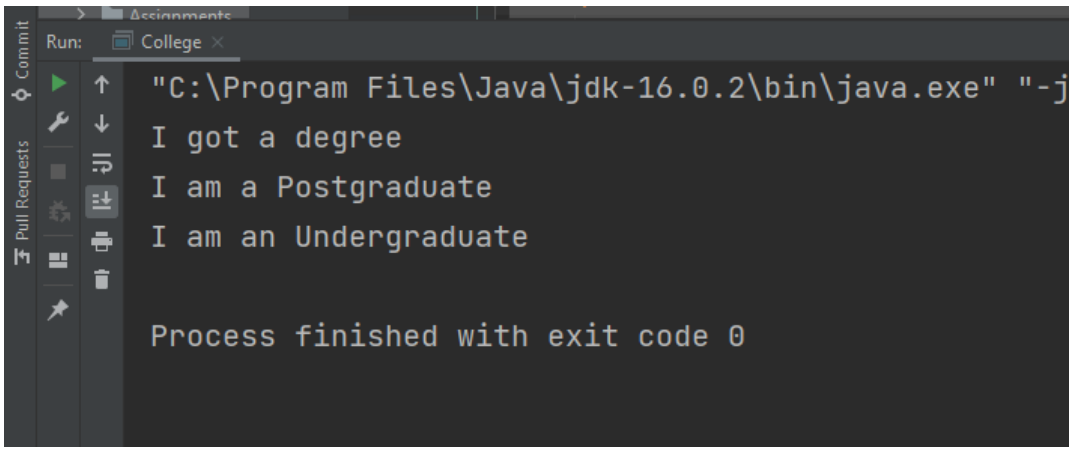


2. Create a class 'Degree' having a method 'getDegree' that prints "I got a degree". It has two subclasses namely 'Undergraduate' and 'Postgraduate' each having a method with the same name that prints "I am an Undergraduate" and "I am a Postgraduate" respectively. Call the method by creating an object of each of the three classes.

```java
package com.randrita.week6;

/*Create a class 'Degree' having a method
'getDegree' that prints "I got a degree". It has
two subclasses namely 'Undergraduate'
 and 'Postgraduate' each having a method with the
same name that prints "I am an Undergraduate" and
```

```
"I am a Postgraduate" respectively.
 Call the method by creating an object of each of
the three classes.*
 */

public class College {
    public static void main(String[] args) {
        Degree degree = new Degree();
        Postgraduate pDegree = new Postgraduate();
        Undergraduate uDegree = new
Undergraduate();

        degree.getDegree();
        pDegree.getDegree();
        uDegree.getDegree();

    }
}

class Degree{
    void getDegree(){
        System.out.println("I got a degree");
    }
}

class Undergraduate extends Degree{
    void getDegree(){
        System.out.println("I am an
Undergraduate");
    }
}

class Postgraduate extends Degree{
    void getDegree(){
        System.out.println("I am a Postgraduate");
    }
}
```

Output:

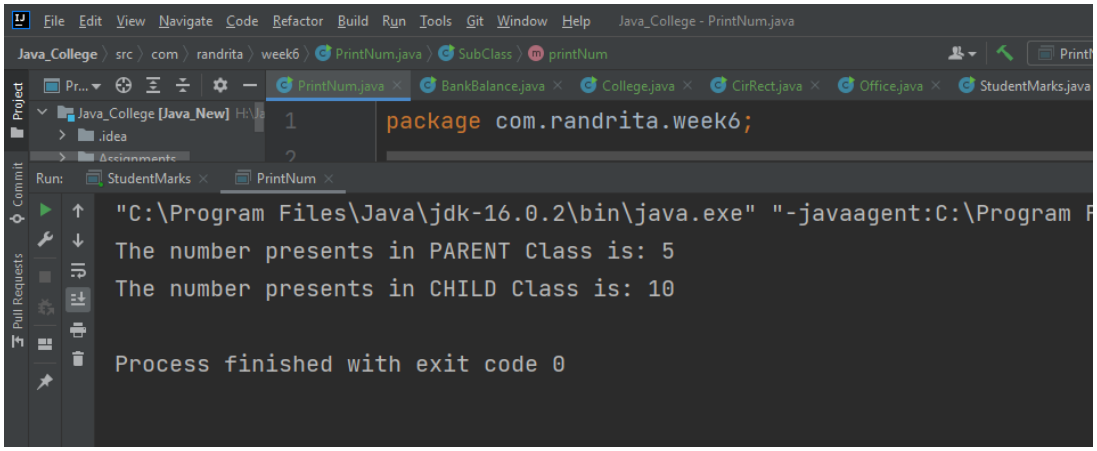


3. A class has an integer data member 'i' and a method named 'printNum' to print thevalue of 'i'. Its subclass also has an integer data member 'j' and a method named 'printNum' to print the value of 'j'. Make an object of the subclass and use it to assign a value to 'i' and to 'j'. Now call the method 'printNum' by this object.

```
package com.randrita.week6;

/*A class has an integer data member 'i' and a
method named 'printNum' to print thevalue of 'i'.
Its subclass also has an integer data member 'j'
and a method named 'printNum' to print the value
of 'j'.
Make an object of the subclass and use it to
assign a value to 'i' and to 'j'. Now call the
method 'printNum'
by this object.*/

public class PrintNum {
    int i;
    void printNum(int i){
        this.i=i;
        System.out.println("The number presents in
PARENT Class is: "+i);
    }

    public static void main(String[] args) {
       SubClass child = new SubClass();
```

```
        child.printNum(10);
    }
}

class SubClass extends PrintNum{
    int j;

    @Override
    void printNum(int j){
        super.printNum(5);
        this.j=j;
        System.out.println("The number presents in
CHILD Class is: "+j);
    }
}
```

output:



4.

```
package com.randrita.week6;

/*A boy has his money deposited $1000, $1500 and
$2000 in banks-Bank A, Bank B and Bank C
respectively. We have to print the money deposited
by him in a particular bank.
Create a class 'Bank' with a method 'getBalance'
```

```
which returns 0. Make its three subclasses named
'BankA', 'BankB' and 'BankC' with a method with
the same name 'getBalance' which returns the
amount deposited in that particular bank. Call the
method 'getBalance' by the object of each of the
three banks.*/

public class BankBalance {
    public static void main(String[] args) {
        BankA a = new BankA();
        BankB b = new BankB();
        BankC c = new BankC();

        //printing elements
        System.out.println("The amount deposited
in BankA : $" + a.getBalance());
        System.out.println("The amount deposited
in BankB : $" + b.getBalance());
        System.out.println("The amount deposited
in BankC : $" + c.getBalance());
    }

}

class bank1{
    int getBalance(){
        return 0;
    }
}

class BankA extends bank1{
    int getBalance(){
        return 1000;
    }
}

class BankB extends bank1{
    int getBalance(){
        return 1500;
    }
}
```

```
class BankC extends bank1{
    int getBalance(){
        return 2000;
    }
}
```

output: