Day 10 Ja111 Assignment

Q1)Make a class Person which Has-A relationship with the Address class and has following instance variable-

```
name :String
gender :String
```

Address class has following instance variable-

```
city : String
state : String
pinCode : String
```

Create another class Instructor which is a child of Person and has following instance variable-

```
instructorId : int
salary : int
```

Create another class Student which is a child of Person and has following instance variable-

```
studentId : int
courseEnrolled : String
courseFee : int
```

Create a Main class with a following static method-

```
public static Person generatePerson(Person person);
```

Inside the main method of this Main class call the generatePerson() method with one object of the student and one object of the instructor class.

And print the same with the help of overriding toString method.

Note : Override toString method in all the classes.

Eg- main():

```
public static void main(String[] args) {
    Person newStudent = generatePerson(new Student());

    Person newTeacher = generatePerson(new Teacher());

    System.out.println(newStudent);
    System.out.println(newTeacher)
}
```

Sample OutPut:
Student [studentId=1, courseFee=300000, courseEnrolled=JA111, address=Address [city=Chennai, state=TN, pincode=60001]]

Instructor [instructorId =456, salary=45612, address=Address [city=Chennai, state=TN, pinCode=60001]]

Q3) What is the use of ‘this’ and ‘super’ keywords in java ? Explain with an example.

Q4) Define a Java class Parent with the following 3 methods:

```
method1(): void
method2(): void
method3(): void
```

And the following Final filed:

```
number: integer
```

Make sure that method1() must be overridden inside the child class.Make sure that method2() can not be overridden inside the child class.

The method3() may or may not be overridden inside the child class.
Define method4() method inside the child class.

Make sure nobody can extend the child class.

While creating the child class object of the above class, take a positive number from the user between the range of 1 to 10, and initialize the value of the number variable of the parent class otherwise print “Invalid number”.From method1() print the value of the number variable.

Call method1(), method2(), method3() and method4() from the parent class variable.

Note: Inside each method body mention this method belongs to which class

Question 3:

```
class Bank{
   private Bank(){
      System.out. println(“Inside private constructor of Bank”)
   }
}


class Main{

   public static void main(String[] args) {

       //Create an object of bank here

   }

}
```

Sample Output:
Inside private constructor of Bank

Note: You can not change the access level of the Bank constructor from private to public but you can create your own methods inside the Bank class.