CSC3001-JAVA Programming

LAB CAT-II

NAME: NITHISH G
REG NO. : 19BCS0012
Date: 23-05-2021
Time: 10.45 AM-12.15 PM

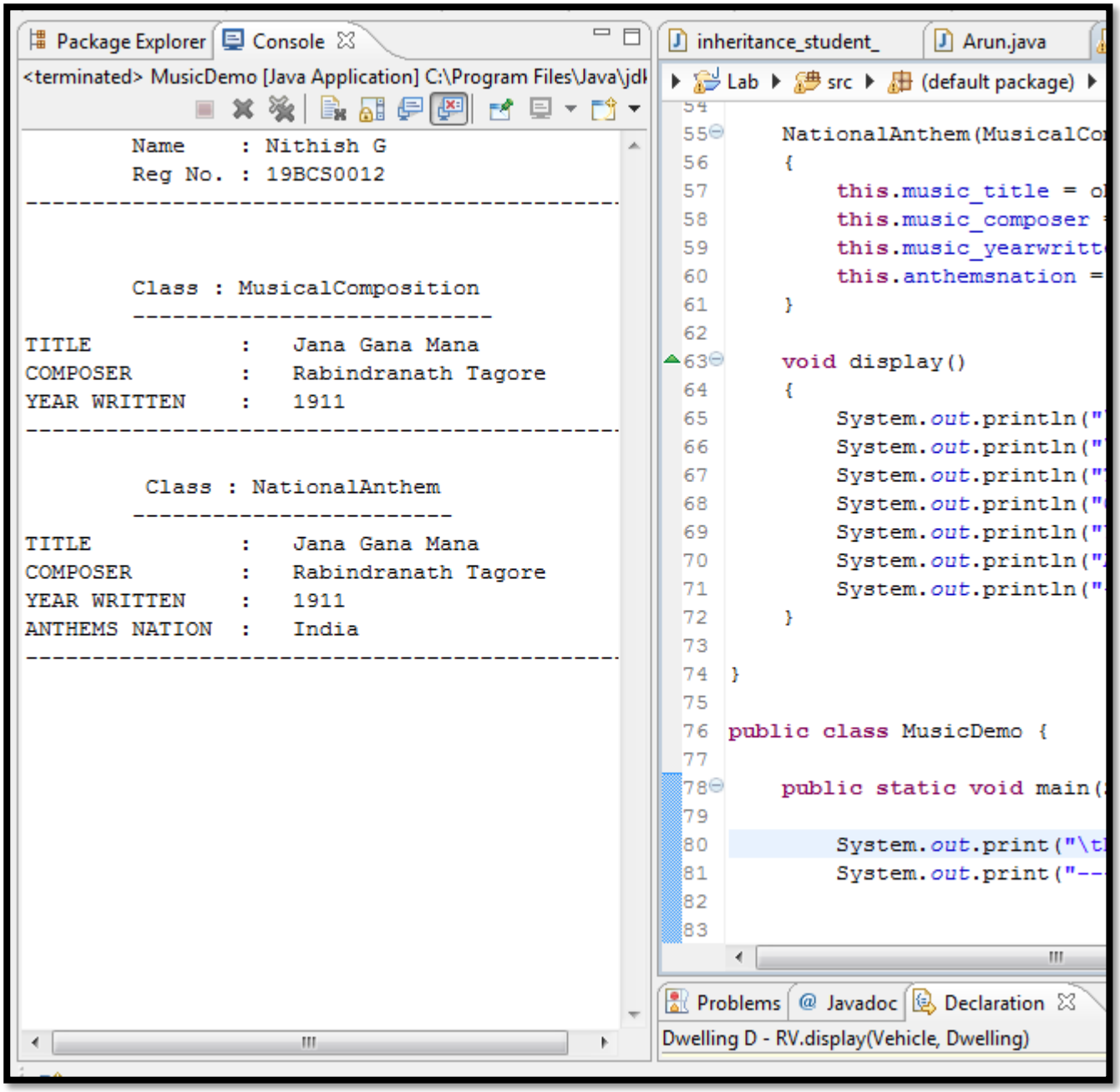
1. Create a class named MusicalComposition that contains fields for title, composer, and year written. Include a constructor that requires all three values and an appropriate display function. The child class NationalAnthem contains an additional field that holds the name of the anthem's nation. The child class constructor requires a value for this additional field. The child class also contains a display function. Write a main()function in class MusicDemothat instantiates objects of each class and demonstrates that the functions work correctly. (5 marks)

Source code:

```
import java.io.*;
import java.lang.*;
import java.util.*;


class MusicalComposition
{
	String music_title;
	String music_composer;
	String music_yearwritten;

	MusicalComposition()
	{

		this. music_title = "";
		this. music_composer = "";
		this. music_yearwritten = "";

	}

	MusicalComposition(String title, String composer, String yearwritten)
	{
		this.music_title = title;
		this.music_composer = composer;
		this.music_yearwritten = yearwritten;
	}

	void display()
	{
		System.out.println("\n\tClass : MusicalComposition");
		System.out.println("\t--------------------------");
		System.out.println("TITLE           :   " + this.music_title);
		System.out.println("COMPOSER        :   " + this.music_composer);
		System.out.println("YEAR WRITTEN    :   " + this.music_yearwritten);
		System.out.println("-----------------------------------------------");
	}
```

```
}

class NationalAnthem extends MusicalComposition
{
	String music_title;
	String music_composer;
	String music_yearwritten;
	String anthemsnation;

	NationalAnthem()
	{
		this. music_title = "";
		this. music_composer = "";
		this. music_yearwritten = "";
		this.anthemsnation = "";
	}

	NationalAnthem(MusicalComposition obj,String nation)
	{
		this.music_title = obj.music_title;
		this.music_composer = obj.music_composer;
		this.music_yearwritten = obj.music_yearwritten;
		this.anthemsnation = nation;
	}

	void display()
	{
		System.out.println("\n\t Class : NationalAnthem");
		System.out.println("\t------------------------");
		System.out.println("TITLE           :   " + this.music_title);
		System.out.println("COMPOSER        :   " + this.music_composer);
		System.out.println("YEAR WRITTEN    :   " + this.music_yearwritten);
		System.out.println("ANTHEMS NATION  :   " + this.anthemsnation);
		System.out.println("-----------------------------------------------");
	}

}

public class MusicDemo {

	public static void main(String[] Nithish) {

		System.out.print("\tName    : Nithish G \n\tReg No. : 19BCS0012\n");
		System.out.print("-------------------------------------------
\n\n");


MusicalComposition object1 = new MusicalComposition("Jana Gana Mana",
"Rabindranath Tagore", "1911");
		NationalAnthem object2 = new NationalAnthem(object1, "India");

		object1.display();

		object2.display();
}

}
```

OUTPUT


Package Explorer
Console
<terminated> MusicDemo [Java Application] C:\Program Files\Java\jdk
Name : Nithish G
Reg No. : 19BCS0012
Class : MusicalComposition
TITLE : Jana Gana Mana
COMPOSER : Rabindranath Tagore
YEAR WRITTEN : 1911
Class : NationalAnthem
TITLE : Jana Gana Mana
COMPOSER : Rabindranath Tagore
YEAR WRITTEN : 1911
ANTHEMS NATION : India
inheritance_student_
Arun.java
Lab
src
(default package)
NationalAnthem(MusicalCo
this.music_title = o
this.music_composer
this.music_yearwritt
this.anthemsnation =
void display()
System.out.println("
public class MusicDemo {
public static void main(
System.out.print("\t
System.out.print("--
Problems
Javadoc
Declaration
Dwelling D - RV.display(Vehicle, Dwelling)

2. Create the classes named Vehicle and Dwelling. The Vehicle class contains data members such as a vehicle identification number, make, and number of miles the vehicle can travel on a gallon of gas. The Dwelling class contains data members such as number of bedrooms and area in square feet. Create a recreational vehicle class RV inherits from both Vehicle and Dwelling. RV is a vehicle that "is a" Vehicle (you drive it; it runs on gas), but also "is a" Dwelling (you sleep, cook, and live in it, at least during road trips). Create main function in RVDemo class to receive five arguments required for the RV class constructor; in which, three are passed to the Vehicle constructor and the other two are passed to the Dwelling constructor. Display the received values and the rental amount using RV class display()function.

.

(10 marks)

Source code:

```
interface V
{

}

interface H
{

}

class Vehicle implements V
{
	String Vehicle_ID;
	String make;
	double milespergal;
}

class Dwelling implements H
{
	int nofbedroom;
	double areasqft;
}

class RV implements V, H
{
	RV()
	{
```

```
	}

	RV(String Vehicle_ID, String make, double milespergal, int nofbedroom,
double areasqft)
	{
		Vehicle V = new Vehicle();
		V.Vehicle_ID = Vehicle_ID;
		V.make = make;
		V.milespergal = milespergal;

		Dwelling D = new Dwelling();
		D.nofbedroom = nofbedroom;
		D.areasqft = areasqft;

		RV obj = new RV();
		obj.display(V,D);
	}

	void display(Vehicle V, Dwelling D)
	{
		System.out.println("	From Class RV ---> Display()\n");
		System.out.println("VEHICLE ID		:	" + V.Vehicle_ID);
		System.out.println("VEHICLE MAKE		:	" + V.make);
		System.out.println("MILES PER GALON GAS	:	" + V.milespergal);
		System.out.println("NO.OF BEDROOMS		:	" + D.nofbedroom);
		System.out.println("AREA IN SQ.FEET		:	" + D.areasqft+"
sq.ft");
		System.out.println("RENT			:	" + "Rs.
"+(D.nofbedroom*V.milespergal*10));
		System.out.println("-----------------------------------------");
	}
}
public class RVDemo {

	public static void main(String[] NITHISH) {

		System.out.print("\tName	: Nithish G \n\tReg No. : 19BCS0012\n");
		System.out.print("-----------------------------------------
\n\n");
```

```
            RV object = new RV("A712", "AUDI", 15, 5, 250);
        }


}
```

Output