JAVA CODE FOR

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QUESTION FOR

Suppose you're creating a program to manage a school's enrollment system.

Your program should have a `Student` class, which has the following attributes:

name: a string representing the student's name

id: an integer representing the student's ID number

courses: an array of strings representing the courses the student is enrolled in

Your Student class should have the following methods:

A constructor that takes in the student's name and ID number and initializes the name and id attributes.

Getter and setter methods for the name, id, and courses attributes.

A method called addCourse that takes in a string representing a course and adds it to the courses array.

A method called printInfo that prints out the student's name, ID number, and enrolled courses.

Additionally, you should create a `GraduateStudent` class that inherits from the Student class. The GraduateStudent class should have an additional attribute:

researchArea: a string representing the graduate student's research area

The GraduateStudent class should have the following methods:

A constructor that takes in the graduate student's name, ID number, and research area, and initializes the name, id, and researchArea attributes.

Getter and setter methods for the researchArea attribute.

Override the printInfo method from the Student class to also print out the graduate student's research area.

CODE IN JAVA :

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```java
import java.util.Scanner;
import java.util.Arrays;
import java.util.ArrayList;

class Student {
    private String name;
    private long id;
    private String[] courses;

    public Student(String name, long id) {
        this.name = name;
        this.id = id;
    }

    public void setName(String name) {
        this.name = name;
    }

    public void setId(long id) {
        this.id = id;
    }

    public void setCourses() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the total number of courses this student is registered with:");
        int n = sc.nextInt();
        System.out.println("Enter the courses into the array:");
        String[] newarr = new String[n];
        for (int i = 0; i < n; i++) {
            newarr[i] = sc.next();
        }
        this.courses = newarr;
        sc.close();
    }
```

```java
    }

    public void getName() {
        System.out.println(this.name);
    }

    public void getId() {
        System.out.println(this.id);
    }

    public void getCourses() {
        System.out.println(Arrays.toString(this.courses));
    }

    public void printInfo() {
        System.out.println("Student name: " + this.name);
        System.out.println("Student ID: " + this.id);
        System.out.println("Courses enrolled: " + Arrays.toString(this.courses));
    }

    public void addNewCourse(String newcourse) {
        ArrayList<String> temp = new ArrayList<String>(Arrays.asList(this.courses));
        temp.add(newcourse);
        this.courses = temp.toArray(new String[temp.size()]);
    }
}

class GraduateStudent extends Student {
    private String researchArea;

    public GraduateStudent(String name, long id, String researchArea) {
        super(name, id);
        this.researchArea = researchArea;
    }
```

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```
    }

    public void setResearchArea(String researchArea) {
        this.researchArea = researchArea;
    }

    public String getResearchArea() {
        return this.researchArea;
    }

    @Override
    public void printInfo() {
        super.printInfo();
        System.out.println("Research Area: " + this.researchArea);
    }
}

public class Main {
    public static void main(String[] args) {



        Student student1 = new Student("Teja", 123456);
        student1.setName("rakesh");
        student1.setCourses();
        student1.printInfo();
    }
}
```

OUTPUT FOR THE CODE IS:

```
        student1.setName("rakesh");
        student1.setCourses();
        student1.printInfo();
    }
}
```

input

```
nter the total number of courses this student is registered with:
1
nter the courses into the array:
dbms
tudent name: rakesh
tudent ID: 123456
ourses enrolled: [dbms]


..Program finished with exit code 0
ress ENTER to exit console.
```