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STUDENT MANAGER ASSIGNMENT

CODE:

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



public class Java_Lab_StudentManager  {

    ArrayList<Student> students = new ArrayList<>();


    public static void main(String[] args) {


        Java_Lab_StudentManager sm = new
Java_Lab_StudentManager();
        while (true) {
            System.out.println("Select an option:");
            System.out.println("1. Add a student");
            System.out.println("2. Display all students");
            System.out.println("3. Search by PRN");
            System.out.println("4. Search by name");
            System.out.println("5. Search by position");
            System.out.println("6. Update a student");
            System.out.println("7. Delete a student");
            System.out.println("8. Exit");
            Scanner sc = new Scanner(System.in);
            int option = sc.nextInt();
            switch (option) {
                case 1:
                    sm.addStudent();
```

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```java
                break;
            case 2:
                sm.displayAllStudents();
                break;
            case 3:
                sm.searchByPrn();
                break;
            case 4:
                sm.searchByName();
                break;
            case 5:
                sm.searchByPosition();
                break;
            case 6:
                sm.updateStudent();
                break;
            case 7:
                sm.deleteStudent();
                break;
            case 8:
                System.exit(0);
                break;
            default:
                System.out.println("Invalid option. Try
again.");
                break;
        }
    }
}
```

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```java
class Student
{
    int prn;
    String name;
    String dob;
    float marks;

    // Constructor to initialize student object
    public Student(int prn, String name, String dob, float marks)
    {
        this.prn = prn;
        this.name = name;
        this.dob = dob;
        this.marks = marks;
    }

    // Method to display student details
    public void display() {
        System.out.println("PRN: " + prn);
        System.out.println("Name: " + name);
        System.out.println("Date of Birth: " + dob);
        System.out.println("Marks: " + marks);
    }
}

    public void addStudent() {
        Scanner sc = new Scanner(System.in);
```

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```java
        System.out.println("Enter PRN:");

        int prn = sc.nextInt();

        System.out.println("Enter name:");

        String name = sc.next();

        System.out.println("Enter date of birth (DD/MM/YYYY):");

        String dob = sc.next();

        System.out.println("Enter marks:");

        float marks = sc.nextFloat();

        Student s = new Student(prn, name, dob, marks);

        students.add(s);

        System.out.println("Student added successfully.");

    }


    public void displayAllStudents() {

        if (students.size() == 0) {

            System.out.println("No students found.");

        } else {

            for (Student s : students) {

                s.display();

                System.out.println("------------");

            }

        }

    }


    public void searchByPrn() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter PRN:");

        int prn = sc.nextInt();

        boolean found = false;

        for (Student s : students) {
```

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```java
            if (s.prn == prn) {

                s.display();

                found = true;

                break;

            }

        }

        if (!found) {

            System.out.println("Student not found.");

        }

    }


    public void searchByName() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter name:");

        String name = sc.next();

        boolean found = false;

        for (Student s : students) {

            if (s.name.equalsIgnoreCase(name)) {

                s.display();

                found = true;

            }

        }

        if (!found) {

            System.out.println("No matching students found.");

        }

    }


    public void searchByPosition() {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter position:");
```

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```java
        int pos = sc.nextInt() - 1;
        if (pos < 0 || pos >= students.size()) {
            System.out.println("Invalid position.");
        } else {
            students.get(pos).display();
        }
    }


    public void updateStudent() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter PRN of student to update:");
        int prn = sc.nextInt();
        boolean found = false;
        for (Student s : students) {
            if (s.prn == prn) {
                System.out.println("Enter new name:");
                s.name = sc.next();
                System.out.println("Enter new date of birth
(DD/MM/YYYY):");
                s.dob = sc.next();
                System.out.println("Enter new marks:");
                s.marks = sc.nextFloat();
                found = true;
                System.out.println("Student details updated
successfully.");
                break;
            }
        }
        if (!found) {
            System.out.println("Student not found.");
```

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```java
        }
    }


    public void deleteStudent() {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter PRN of student to delete:");
        int prn = sc.nextInt();
        boolean found = false;
        for (Student s : students) {
            if (s.prn == prn) {
                students.remove(s);
                found = true;
                System.out.println("Student deleted
successfully.");
                break;
            }
        }
        if (!found) {
            System.out.println("Student not found.");
        }
    }
}
```

STUDENT MANAGER ASSIGNMENT

OUTPUT

```
Enter PRN:
31
Enter name:
Harsh
Enter date of birth (DD/MM/YYYY):
21/11/2003
Enter marks:
50
Student added successfully.
Select an option:
1. Add a student
2. Display all students
3. Search by PRN
4. Search by name
5. Search by position
6. Update a student
7. Delete a student
8. Exit
1
Enter PRN:
43
Enter name:
Devansh
Enter date of birth (DD/MM/YYYY):
26/02/2001
Enter marks:
67
Student added successfully.
Select an option:
1. Add a student
2. Display all students
3. Search by PRN
4. Search by name
5. Search by position
6. Update a student
7. Delete a student
8. Exit
2
PRN: 31
Name: Harsh
Date of Birth: 21/11/2003
Marks: 50.0
--------------
PRN: 43
Name: Devansh
Date of Birth: 26/02/2001
Marks: 67.0
--------------
Select an option:
1. Add a student
2. Display all students
3. Search by PRN
4. Search by name
5. Search by position
6. Update a student
7. Delete a student
8. Exit
8
```

Opening Java Projects: check details