

**Program # 1** (5 Points) write a program that grades multiple-choice tests. Assume there are eight students and ten questions, and the answers are stored in a two-dimensional array. Each row records a student's answers to the questions, as shown in the following array.

Students' Answers to the Questions:

```
    0 1 2 3 4 5 6 7 8 9
Student 0 A B A C C D E E A D
Student 1 D B A B C A E E A D
Student 2 E D D A C B E E A D
Student 3 C B A E D C E E A D
Student 4 A B D C C D E E A D
Student 5 B B E C C D E E A D
Student 6 B B A C C D E E A D
Student 7 E B E C C D E E A D
```

Key to the Questions:

```
    0 1 2 3 4 5 6 7 8 9
Key D B D C C D A E A D
```

Program grades the test and displays the result. It compares each student's answers with the key, counts the number of correct answers, and displays it.

```
Student 0's correct count is 7
Student 1's correct count is 6
Student 2's correct count is 5
Student 3's correct count is 4
Student 4's correct count is 8
Student 5's correct count is 7
Student 6's correct count is 7
Student 7's correct count is 7
```

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**Program # 2** (10 Points) Revise the Course class as follows:

- The array size is fixed as 100. Improve it to automatically increase the array size by creating a new larger array and copying the contents of the current array to it.
- Implement the `dropStudent` method.
- Add a new method named `clear()` that removes all students from the course.

Write a test program that creates a course, adds three students, removes one, and displays the students in the course.

```
1 public class Course {
2     private String courseName;
3     private String[] students = new String[100];
4     private int numberOfStudents;
5
6     public Course(String courseName) {
7         this.courseName = courseName;
8     }
9
10    public void addStudent(String student) {
11        students[numberOfStudents] = student;
12        numberOfStudents++;
13    }
14
15    public String[] getStudents() {
16        return students;
17    }
18
19    public int getNumberOfStudents() {
```

```
20 return numberOfStudents;
21 }
22
23 public String getCourseName() {
24     return courseName;
25 }
26
27 public void dropStudent(String student) {
28     // Left as an exercise
29 }
30 }
```

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**Program # 3** (15 Points) Write application that can use the play/pause button to play or pause the video and use the rewind button to restart the video, and use the slider to control the volume of the audio.

