

Name: _____ ID: _____ Section: _____

(There is 1 question only. You must answer the complete java code.)

You are deciphering an alien message stored in a 2D array of Strings. However, the aliens have hidden fake symbols containing the letter 'b'. Your mission is to **extract and display only the valid strings from each column, excluding those with the character 'b'**. Write the complete **java code** to perform this task.

[No need to write code for taking array input, use the given array. But your code should work for any value in the array.]

Given Array	Output
<pre>String[][] arr = { {"camera", "bat", "tree"}, {"over", "ball", "banana"}, {"big", "cab", "blue"}, {"apple", "bark", "grab"} };</pre>	<p>Column 1: camera over apple Column 2: no valid strings Column 3: tree</p>

— Start your answer below this line —

```
public class AlienMessage {
    public static void main(String[] args) {
        String[][] arr = {
            {"camera", "bat", "tree"},
            {"over", "ball", "banana"},
            {"big", "cab", "blue"},
            {"apple", "bark", "grab"}
        };
        int rows = arr.length;
        int cols = arr[0].length;

        for (int col = 0; col < cols; col++) {
            String result = "";
            for (int row = 0; row < rows; row++) {
                if (!arr[row][col].contains("b")) {
                    if (!result.isEmpty()) {
                        result += " ";
                    }
                    result += arr[row][col];
                }
            }
            if (!result.isEmpty()) {
                System.out.println("Column " + (col + 1) + ": " + result);
            } else {
                System.out.println("Column " + (col + 1) + ": no valid strings");
            }
        }
    }
}
```

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(There is 1 question only. You must answer the complete java code.)

Archaeologists have discovered an ancient stone tablet covered in mysterious symbols, arranged in a 2D grid. However, some symbols contain a strange marking - represented by the letter 'a' - which corrupts their meaning. To decipher the true message, you must **iterate through each row from bottom to top and extract only the valid symbols that do not contain 'a'**. Write the complete **java code** to perform this task. [No need to write code for taking array input, use the given array. But your code should work for any value in the array.]

Given Array	Output
<pre>String[][] arr = { {"eagle", "shine", "man"}, {"light", "ball", "moon"}, {"bag", "cat", "blank"}, {"arm", "sun", "water"} };</pre>	<p>Row 4: sun Row 3: all words corrupted Row 2: light moon Row 1: shine</p>

— Start your answer below this line —

```
public class AncientSymbols {
    public static void main(String[] args) {
        String[][] arr = {
            {"eagle", "shine", "man"},
            {"light", "ball", "moon"},
            {"bag", "cat", "blank"},
            {"arm", "sun", "water"}
        };

        int rows = arr.length;
        int cols = arr[0].length;

        for (int row = rows - 1; row >= 0; row--) {
            String result = "";
            for (int col = 0; col < cols; col++) {
                if (!arr[row][col].contains("a")) {
                    if (!result.isEmpty()) {
                        result += " ";
                    }
                    result += arr[row][col];
                }
            }
            if (!result.isEmpty()) {
                System.out.println("Row " + (row + 1) + ": " + result);
            } else {
                System.out.println("Row " + (row + 1) + ": all words corrupted");
            }
        }
    }
}
```