

Spot Questions– I Date: 22.08.2024

Scenario: Student Grading System

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You are tasked with developing a student grading system for a school. The system should allow teachers to input and manage student information, including their names, grades in multiple subjects, and calculate the overall grade for each student. Additionally, the system should determine if the student has passed or failed based on their overall grade.

Java Programming Tasks

1. Class Design (Object Orientation):

- Create a `Student` class that represents a student with the following attributes: `name` (String), an array of `grades` (double[]), and `overallGrade` (double).
- The `Student` class should have a constructor to initialize the student's name and grades. It should also include a method to calculate the overall grade by averaging the grades in all subjects.

2. Array Management (Arrays):

- Use an array to store grades for each subject within the `Student` class.
- Implement methods to add, update, and retrieve grades for a student.

3. Control Flow:

- Implement a method in the `Student` class to determine if the student has passed or failed. A student passes if their overall grade is 60% or above.
- Use control flow statements (if-else) to decide the pass/fail status and to manage input validation for grades.

4. Operators:

- Use arithmetic operators to calculate the overall grade (i.e., the average of all grades).
- Use comparison operators within the control flow to determine if a student has passed or failed.