

# **Class Design Draft**

## **QuizPlatform**

Description: Serves as the main entry point for users to interact with the quiz system.

topics: Array - A list of topics available in the platform. (4 topics)

Methods:

selectTopic(): Displays topics and allows the user to select one.

run(): The main method that initializes the platform and starts the quiz process.

## **Topic**

Description: Represents a quiz topic, containing multiple quizzes. (each topic 4 quizzes)

name: String - The name of the topic.

quizzes: Array - A list of quizzes under this topic.

Methods:

selectQuiz(): Allows the user to select a specific quiz or choose to have a random quiz.

getQuiz(int index): Returns a quiz.

getRandomQuiz(): Returns a random quiz from the topic.

## **Quiz**

Description: Represents a single quiz, containing 10 questions.

name: String - The name of the quiz.

questions: A list of questions in the quiz.

Methods:

takeQuiz(): Starts the quiz-taking process, presenting questions to the user and collecting answers.

calculateScore(): Calculates the user's score based on correct answers.

displayScore(): Displays the user's score after completing the quiz.

## **Question**

Description: Represents a single quiz question.

questionText: String - The text of the question.

options: A list of answer options.

correctAnswer: String - The correct answer to the question.

Methods:

askQuestion(): Displays the question and answer options to the user.

checkAnswer(String answer): Checks if the user's answer is correct.

## **User**

username: String - The user's name.

scores: The user's achieved scores.

Methods:

addScore(Quiz quiz, int score): Adds a score for a completed quiz.

getScore(Quiz quiz): Retrieves the score for a specific quiz.

viewScores(): Displays scores for all quizzes taken.

## Relationships Among Classes

- **QuizPlatform** is composed of multiple **Topic** instances.
- **Topic** contains a collection of **Quizzes**.
- **Quiz** is made up of several **Questions**.
- **User** interacts with **Quiz** in a repetitive way. This means a single user can engage with any number of quizzes multiple times.