

Short Answer:

Answer the following questions with complete sentences in your own words. You are encouraged to conduct your own research online or through other methods before answering the questions. If you research online, please consult multiple sources before you write down your answers. You are expected to be able to explain your answers in detail

1. What is the difference between Runnable and Callable interface?
2. What is ExecutorService?
3. Describe when you would use @Async and ExecutorService to improve the performance of your web application.
4. Explain the difference between Future and CompletableFuture.
5. Can you list several Java built-in functional interface and their usage?

Coding Questions:

Write code in Java to solve following problems. Please write your own answers. You are highly encouraged to present more than one way to answer the questions. Please follow best practice when you write the code so that it would be easily readable, maintainable, and efficient. Clearly state your assumptions if you have any. You may discuss with others on the questions, but please write your own code.

Create another endpoint in the Quiz REST Application:

- This endpoint should be taking the userId as input and return all personal information about this user, as well as all the quiz submission by this user. More specifically, information should include:
 - User personal information:
 - Username
 - First name
 - Last name
 - Email
 - Status
 - List of quiz submission information, each submission should include:
 - Category
 - Start time
 - End time
 - Score
 - List of questions that were presented in this quiz (only need to include question content, does not need to include options and user choice)

Additional requirement:

- Retrieving user personal information and retrieving quiz submission information are independent tasks, therefore, use @Async, ExecutorService and CompletableFuture to retrieve these information asynchronously.