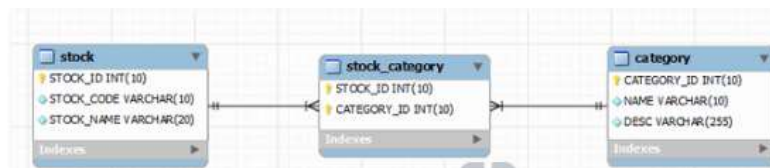# Quiz 3 (Duration: 10am – 12:00pm)

1. What is the difference between JDBC Statement and PreparedStatement?
2. When using Spring JdbcTemplate query function to retrieve data from database, how do you convert the result into Java model class object?
3. Why do we need NamedParameterJdbcTemplate since there is already JdbcTemplate?
4. Given the following Database Table, create the corresponding hibernate/JPA mapping class.

my_wp_postmeta

Field	Type	Null	Key	Default	Extra
meta_id	bigint(20) unsigned	NO	PRI		auto_increment
post_id	bigint(20) unsigned	NO	MUL	0	
meta_key	varchar(255)	YES	MUL		
meta_value	longtext	YES			

5. How do you map a composite primary key using ORM? Describe the details.
6. Given the following relationship in database, Is this a "one-to-one", "one-to-many" or "many-to-many" relation? Write Hibernate mapping classes to reflect this relation with proper annotation.

7. What is the difference between load() and get() in hibernate?
8. List the Persistence context in hibernate and explain the meaning of them.
9. Suppose you are given a transaction with methods: tx.beginTransaction(), tx.commit() and tx.rollback(), and there is another method to update data into database: session.save(user). Write a template code block to reflect this transaction flow.
10. You are given a "product" table in database. Now you need to read the product table and update the product "amount" field. In the meaning time, there is another thread trying to update the product amount field as well. How do you make sure that the field you are trying to update is not already updated by the other thread? Describe the Hibernate Option.
11. Explain the hibernate cache mechanism.
12. What is hibernate query cache?
13. What is hibernate Fetch Type and Cascade?
14. What is the difference between CrudRepository and JpaRepository?
15. Suppose front end is trying to retrieve large amount of data from your rest api, how do you handle it so that the front end will not feel too much delay in back end response?
16. Write a jpa repository to implement query: select * from user where firstname=? and age is not null.

17. Given the following service class, implement a logic to print "get method is triggered" whenever the getUser() or getAnotherUser() method is called. Add all the necessary annotations.

```
public class UserService{

        public String getUser(int id){
                throw new NoUserException();
        }

        public String getAnotherUser(User u){
                return u;
        }
}
```

18. Following previous question, how do you handle the getUser() exception in controller level?
19. When spring handle transaction for you, what is the annotation to add on top of your class or method?
20. Explain the meaning and common values of "propagation" and "isolation".
21. If you want to cancel the transaction whenever the "CustomException" is occurred, what attribute to you need to set and what value to give to that attribute?
22. Describe what is CICD and the tool to handle CICD pipeline.