HW#4

1 – What is JPA ?

ORM makes contact between database and programming language and matches database tables and classes without coding SQL.

So, JPA is standard of ORM Library to avoid confusion about usage of ORM.

2 - What is the naming convention for finder methods in the Spring data repository interface ?

Name of finder methods contains find keyword. For example : findByName(), findByNameEndingWith().

3 - What is PagingAndSortingRepository ?

Spring Data is a library for doing like create, update, delete and select process from different data sources. Spring Data Common is a basis package in Spring Data and PagingAndSortingRepository is an implementation doing process that sorting and paging in Spring Data Common.

When we want to use PagingAndSortingRepository we add this with extends keyword to our class.

4 - Differentiate between findById() and getOne() ?

getOne() is returned object reference and go to JVM not database because of that this method is faster than findById(). If this method can not find object, program throws EntityNotFoundException.

findById() go to database and is returned object. If object doesn't exist in database, method returns null.

When we need to object properties we have to use findById().

5 - What is @Query used for ?

When we use JPA if existing methods are not enough, with @Query annotation we can add SQL/JPQL in our methods and can create specific methods.

6 - What is lazy loading in hibernate ?

We can explain this with a example : I have a client entity and car entities related to client. If when we want client entity but not relational entities or want relational entities but not client entity this is lazy loading.

7 – What is SQL injection attack ? Is Hibernate open to SQL injection attack ?

SQLi is a common cyber attack in system that have database infrastructure. In this situation When web application sends sql query to database, hacker reach this query then change and reach datas.

Most important way to prevent a SQLi is a making statement with parameter. And Hibernate provides parameter statements with parameter binding. In this way input that taking from user doesn't send database directly.

8 - What is criteria API in hibernate ?

Criteria is API that add in Hibernate for creating SQL conditions. With this API we can use like <,>,=,or,and conditions with Restrictions methods.

9 - What Is Erlang? Why Is It Required For Rabbitmq ?

Erlang is a functional and concurent programming language which designed for real time systems.

Rabbitmq basically is a message queue system. It provides sending a message from a source to another source asynchronously when it's the message turn.

And also Rabbitmq developed with Erlang.

10 – What is the JPQL ?

JPQL (Java Persistence Query Language) is a language created for query entities by JPA. JPQL looks like SQL but in JPQL queries for entities not database objects.

11 – What are the steps to persist an entity object ?

-Create EntityManagerFactory object.

    EntityManagerFactory entityManagerFactory=

            Persistence.createEntityManagerFactory("entity");

-Create an EntityManager from factory.

    EntityManager entityManager = entityManagerFactory.createEntityManager();

-Initialize EntityManager.

    entityManager.getTransaction().begin();

-For persist a data into relational database adding persist method.

    entityManager.persist(e1);

-Close the transaction.

    entityManager.getTransaction().commit();

 -Release the factory resources.

    entityManagerFactory.close();

    entityManager.close();

12 – What are the different types of entity mapping ?

1) One to one : For example a person has only one identification number.
2) One to many or many to one : For example a person can work for only one company but company has many workers.
3) Many to many : For example a person can take many courses and course has many trainees.

13 - What are the properties of an entity ?

 Persistable: Entity must recordable and accessible.

 Identity: Entity must have unique id.

Transactionality: Transaction processes like creating, updating, deleting must be operate.

14 - Difference between CrudRepository and JpaRepository in Spring Data JPA?

CrudRepository has Create, Read, Update, Delete operations.

JpaRepository has CRUD operations and also has JPA methods : delete records in batch and flush data to db directly.

JpaRepository also can extends PagingAndSortingRepository.