Exercise 2: Difference Between JPA, Hibernate, and Spring Data JPA

# JPA

Java Persistence API (JPA) is a specification (JSR 338) for object-relational mapping. It provides annotations and APIs for ORM but does not contain any implementation.

# Hibernate

Hibernate is a popular ORM tool and a concrete implementation of JPA. It manages sessions and transactions manually using SessionFactory and provides extended features beyond JPA.

# Spring Data JPA

Spring Data JPA is an abstraction over JPA. It integrates Spring with JPA to reduce boilerplate code. Repositories like JpaRepository offer ready-made methods such as findAll(), save(), deleteById(), etc.

## Code Comparison

Hibernate:

Session session = factory.openSession();  
Transaction tx = session.beginTransaction();  
session.save(employee);  
tx.commit();

Spring Data JPA:

@Autowired  
private EmployeeRepository repo;  
  
@Transactional  
public void addEmployee(Employee emp) {  
 repo.save(emp);  
}