Explain the difference between Java Persistence API, Hibernate and Spring Data JPA

Answer:-

Java Persistence API (JPA) is a specification that provides a standard approach for object-relational mapping (ORM) in Java applications. It defines how Java objects can be persisted, managed, and retrieved from relational databases. JPA is not an implementation; it is only a Java specification that outlines the standards for ORM.

Hibernate, on the other hand, is an implementation of the JPA specification. It is an ORM tool that allows Java objects to be saved in a relational database system. Hibernate provides a reference implementation of the Java Persistence API, making it a great choice as an ORM tool with the benefits of loose coupling.

Spring Data JPA is a library that adds an extra layer of abstraction on top of the ORM JPA implementation. It is not a JPA provider but rather a framework that enhances the JPA provider, such as Hibernate, by reducing the amount of boilerplate code needed to implement data access layers for various persistence stores. Spring Data JPA can generate JPA queries on your behalf through method name conventions and allows you to use Hibernate, EclipseLink, or any other JPA provider.