Difference between Java Persistence API, Hibernate and Spring Data JPA

Java Persistence API: JPA is Java Specification for managing relational data in Java Applications. It defines Entity annotations (@Entity, @Id, @OneToMany etc), Entity Lifecycle, Querying (JPQL), Persistence Context etc. It is not an implementation. JPA can be thought of as set of rules/interfaces that ORM tools must follow.

Hibernate: Hibernate is the most popular implementation of JPA. It provides the actual code that map Java Objects to Database Tables. We can use Hibernate with or without JPA. It provides additional features not defined in JPA (like caching, filtering, custom naming strategies). Hibernate can be thought as a tool that does the work following the rules of JPA.

Spring Data JPA: Spring Data JPA is a Spring project that builds on JPA and Hibernate. It automates the boiler plate code. It provides JPAResposiotry, CRUDRepository, derived queries, custom queries, pagination and sorting. Spring Data JPA can be thought of as helper on top of JPA and Hibernate that simplifies the code and development.