**Exercise 1: Employee Management System - Overview and Setup**

**Business Scenario:**

You are developing an employee management system that will manage employee data, departments, and their relationships.

**Instructions:**

1. **Creating a Spring Boot Project:**
   * Initialize a new Spring Boot project named **EmployeeManagementSystem**.
   * Add dependencies: **Spring Data JPA, H2 Database, Spring Web, Lombok**.
2. **Configuring Application Properties:**
   * Configure **application.properties** for H2 database connection.

*spring.datasource.url=jdbc:h2:mem:testdb*

*spring.datasource.driverClassName=org.h2.Driver*

*spring.datasource.username=sa*

*spring.datasource.password=password*

*spring.jpa.database-platform=org.hibernate.dialect.H2Dialect*

## Answer:

1. Initialize Spring Boot Project:   
 - Use Spring Initializr (https://start.spring.io/) to create a new project named `EmployeeManagementSystem`.  
 - Select Maven Project, Java, and Spring Boot version (latest stable release).  
 - Add the following dependencies: Spring Data JPA, H2 Database, Spring Web, and Lombok.  
  
2. Add Dependencies:   
 - Ensure the dependencies are added in the `pom.xml` file if using Maven:  
 ```xml  
 <dependencies>  
 <!-- Spring Data JPA -->  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-data-jpa</artifactId>  
 </dependency>  
  
 <!-- H2 Database -->  
 <dependency>  
 <groupId>com.h2database</groupId>  
 <artifactId>h2</artifactId>  
 </dependency>  
  
 <!-- Spring Web -->  
 <dependency>  
 <groupId>org.springframework.boot</groupId>  
 <artifactId>spring-boot-starter-web</artifactId>  
 </dependency>  
  
 <!-- Lombok -->  
 <dependency>  
 <groupId>org.projectlombok</groupId>  
 <artifactId>lombok</artifactId>  
 <scope>provided</scope>  
 </dependency>  
 </dependencies>  
 ```  
  
3. Configure Application Properties:   
 - In `src/main/resources/application.properties`, add the following configuration for the H2 database connection:  
 ```properties  
 spring.datasource.url=jdbc:h2:mem:testdb  
 spring.datasource.driverClassName=org.h2.Driver  
 spring.datasource.username=sa  
 spring.datasource.password=password  
 spring.jpa.database-platform=org.hibernate.dialect.H2Dialect  
 ```