**Chuck Norris Joke Fetcher Web Application**

**Overview:**

Create a web application that fetches Chuck Norris jokes from the Chuck Norris API based on specific categories or keywords. The application should allow users to search for jokes using JPQL (Java Persistence Query Language), implement pagination and sorting functionalities for efficient joke retrieval, and ensure transactional behavior when interacting with the Chuck Norris API.

**Functional Requirements:**

* Controller: Create a "Controller" folder within the "src" directory of the Spring Boot application.
* ApiController: Develop an "ApiController.java" file in the "Controller" folder to handle API requests.
* Service: Implement READ operations for accessing Chuck Norris jokes by creating a "Service" folder in the "src" directory.
* JokeService: Inside the "Service" folder, create a "JokeService.java" file to interact with the Chuck Norris API.
* **Chuck Norris API**: Utilize the Chuck Norris API to fetch jokes.
  + Access the API at [https://api.chucknorris.io/jokes/random](https://api.chucknorris.io/jokes/random.)
* **Example API Endpoint**: Use the following API endpoints to retrieve Chuck Norris jokes based on specified categories or keywords:

Fetch random joke: <https://api.chucknorris.io/jokes/random>

**Requirements :**

* Fetch all Categories

<http://localhost:8080/api/jokes/categories>

* Fetch joke by category: http://localhost:8080/api/jokes/random?category={category}
* Free text to search

[http://localhost:8080/api/jokes/search?query={query}](http://localhost:8080/api/jokes/search?query=%7bquery%7d)

* Fetch by id

[http://localhost:8080/jokes/random?query={id}](http://localhost:8080/jokes/random?query=%7bid%7d)

Ex : /jokes/random?query=Zxcnvj5vRTWZmH\_qmGY5hQ

**Additional Requirement**

Fetch a Random Joke with Explicit Exclusion of Categories:

* **Endpoint**: /jokes/random?exclude={category1,category2}
* **Description**: Retrieve a random Chuck Norris joke excluding specific categories.
* **Example URL:** <https://api.chucknorris.io/jokes/random?exclude=explicit,nerdy>

Fetch a Random Joke with Explicit Exclusion of Categories

* **Endpoint**: /jokes/random?include={category1,category2}
* **Description**: Retrieve a random Chuck Norris joke including specific categories.
* **Example URL:** <https://api.chucknorris.io/jokes/random?include=explicit,nerdy>