**HIGH LEVEL DESIGN**

**Problem Statement:**

Measurements differ for different Brands for a particular size, so when a user purchases an apparel from a particular brand of a size, the user should be recommended with the appropriate size when the user switches to another brand next time.

**Tools Required:**

1. Java 8
2. Spring Boot 2.2.4.RELEASE
3. MYSQL
4. Postman

**Features:**

1. Registration of new users.
2. Login with validation check.
3. Taking category and dimensions as input from the user and listing out brand names and their recommended size of the input dimensions. Performing the task using the user’s history of purchases if the user does not provide the dimensions.
4. Taking category previous purchase brand, size and interested brand as input from the user and recommending them with the size for the chosen brand based on input previous brand and size. Performing the task using the user’s history of purchases if the user does not provide the Reference Brand and size.

**Tables:**

1. User

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **UserId** | **Name** | **MobileNumber** | **Password**  **(Hashed)** | **Gender** |
| 1 | Rahul | 9876543210 | 31351331 | M |

1. Brand

|  |  |  |
| --- | --- | --- |
| **BrandId** | **BrandName** | **Enable** |
| 1 | Levis | 1 |
| 2 | Adidas | 1 |
| 3 | Bata | 0 |

1. Size

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SizeId** | **CategoryId** | **BrandId** | **Male Height** | **Male**  **Chest** | **Male**  **Sleeves** | **Male**  **Waist(cm)** | **Male**  **ShoeSize(cm)** |
| 1 | 1 | 1 | 28 | 22 | 2 | **null** | **null** |
| 2 | 2 | 2 | **null** | **null** | **null** | 70 | **null** |
| 3 | 3 | 3 | **nul** | **null** | **null** | **null** | 24 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Female**  **Height** | **Female**  **Chest** | **Female**  **Sleeves** | **Female**  **Waist(cm)** | **Female**  **ShoeSize(cm)** | **Size** |
| 24 | 18 | 1 | **null** | **null** | S |
| **null** | **null** | **null** | 69 | **null** | 28 |
| **null** | **null** | **null** | **null** | 23 | 8 |

1. User History

|  |  |  |  |
| --- | --- | --- | --- |
| **Id** | **UserId** | **CategoryId** | **SizeId** |
| 1 | 1 | 2 | 2 |

1. Category Table

|  |  |
| --- | --- |
| **CategoryId** | **CategoryName** |
| 1 | Shirt |
| 2 | Jean |
| 3 | Shoe |