# Spring Fundamentals Exam

# Shopping List Application

Exam for the "Spring Fundamentals" course @ SoftUni.

**Shopping List** Application is here to help us keep in mind our shopping needs. The functionality is simple. When a user thinks of something important, they log in and add it to existing ones. So when a person goes to the store, they have a clear idea of exactly what to buy. So our little app saves a lot of family scandals.

There are several requirements you must follow in the implementation:

## 1. Database Requirements

The **Database** of the **Shopping List** application needs to support **3 entities**:

### User

- Has an **Id – UUID-string or Long**
- Has a **Username (unique)**
  - Username length must be between 3 and 20 characters (inclusive 3 and 20).
- Has a **Password**
  - Password length must be between 3 and 20 characters (inclusive 3 and 20).
- Has an **Email**
  - Must contains '@'.
  - Cannot be null.

### Product

- Has an **Id – UUID-string or Long**
- Has a **Name (unique)**
  - Name length must be between 3 and 20 characters (inclusive 3 and 20).
- Has a **Description**
  - Description min length must be minimum 5(inclusive) characters
- Has a **Price**
  - Price must be a positive number
- Has a **Needed Before**
  - **Date** and **Time**, that cannot be in the past
- Has a **Category**
  - Category cannot be null.

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### Category

- Has an **Id – UUID-string or Long**
- Has a Name **`(unique)`**
  - `option between (`**`Food, Drink, Household, Other`**`)`
- `Has a `**`Description`**

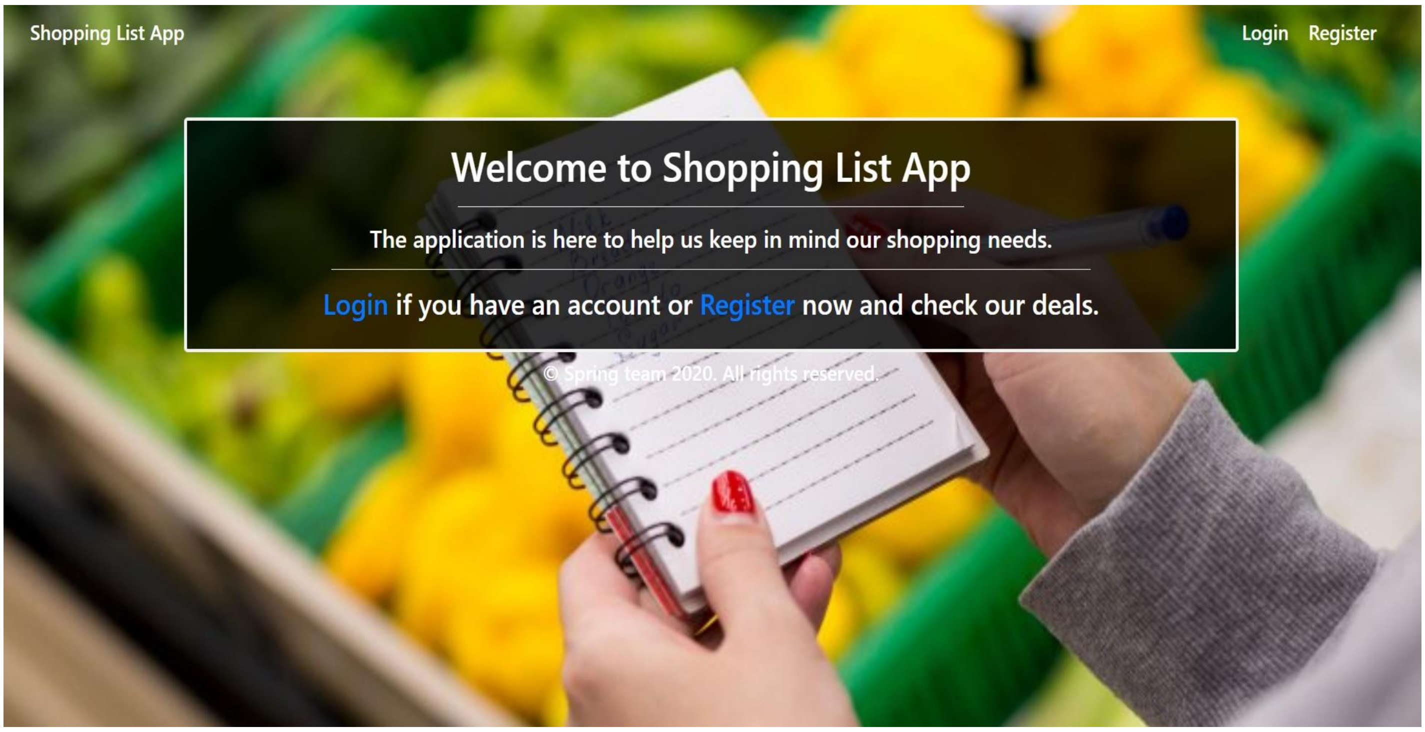
Implement the entities with the **correct datatypes** and implement **repositories** for them.

## 2. Initialize categories

- Implement a method that checks (when app started) if the database does not have categories and initialize them
  - You are free to do in different ways.

## 3. Page Requirements

### Index Page (logged out user)



Shopping List App

Login Register

Welcome to Shopping List App

The application is here to help us keep in mind our shopping needs.

Login if you have an account or Register now and check our deals.

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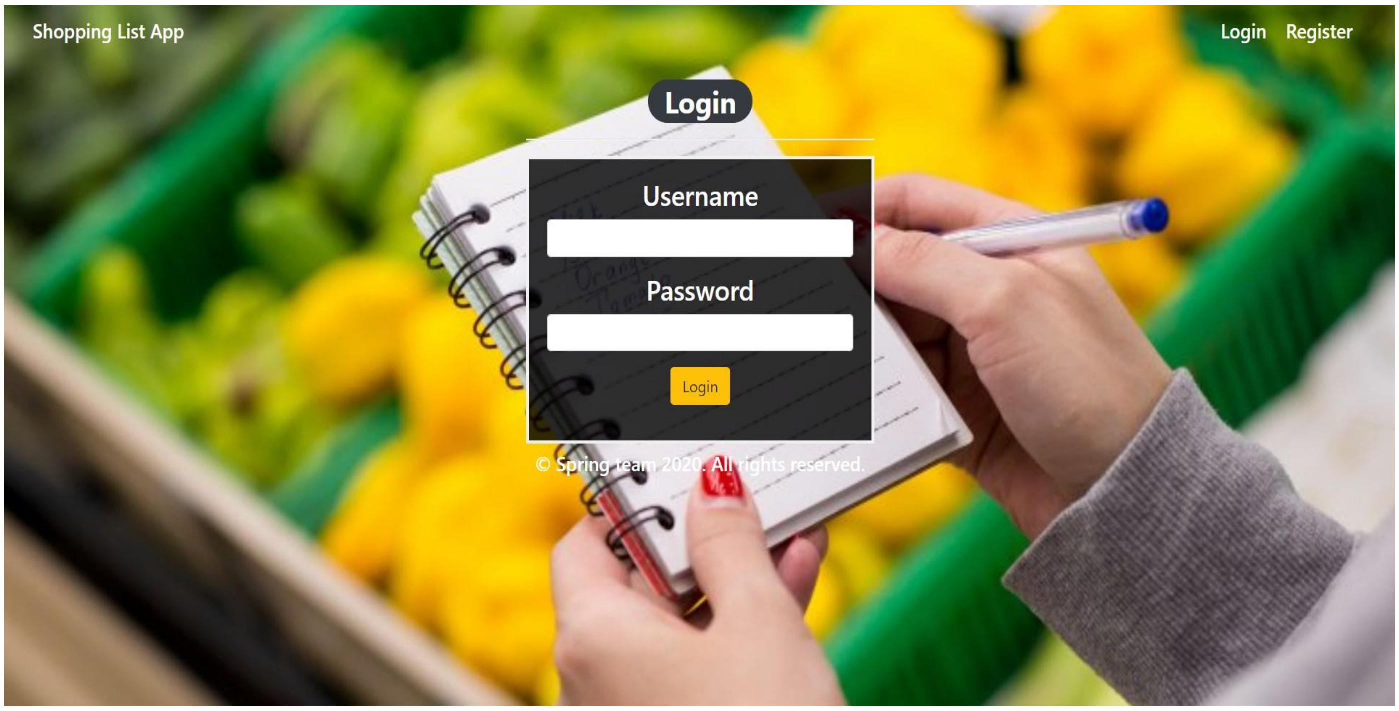
## Login Page (logged out user)


Shopping List App

Login Register

Login

Username

Password

Login

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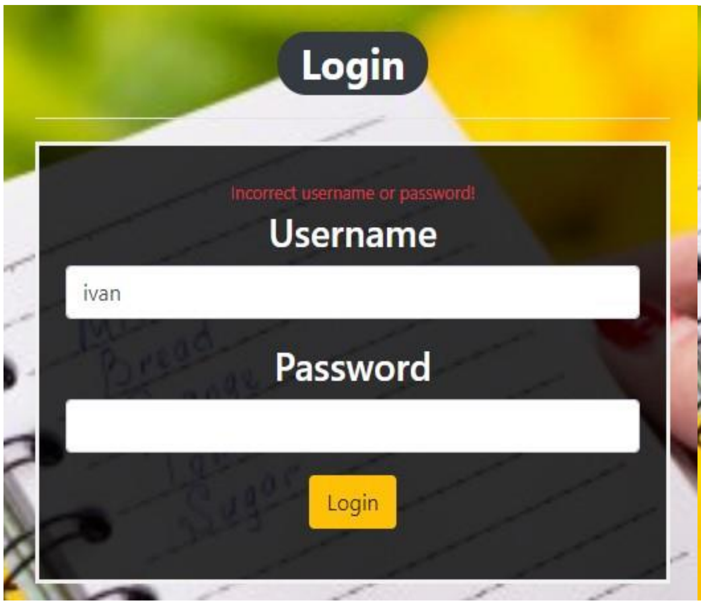
## Login Page validations


Login

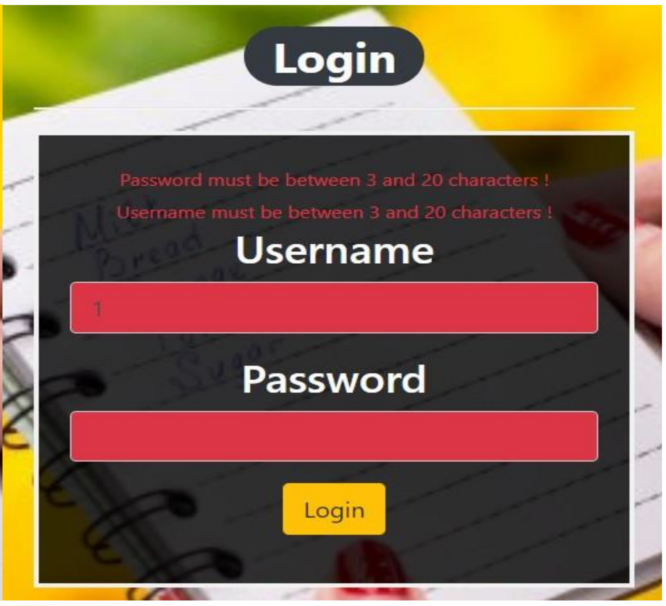
Incorrect username or password!

Username

ivan

Password

Login


Login

Password must be between 3 and 20 characters !

Username must be between 3 and 20 characters !

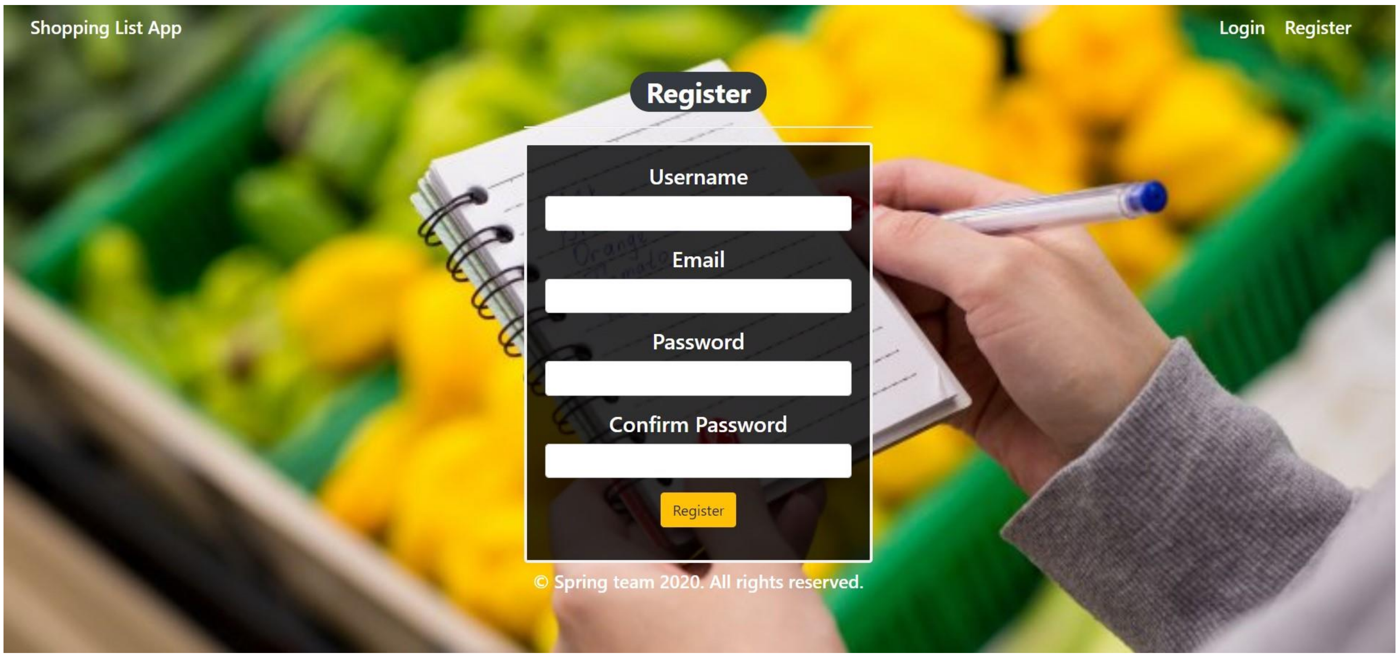
Username

1

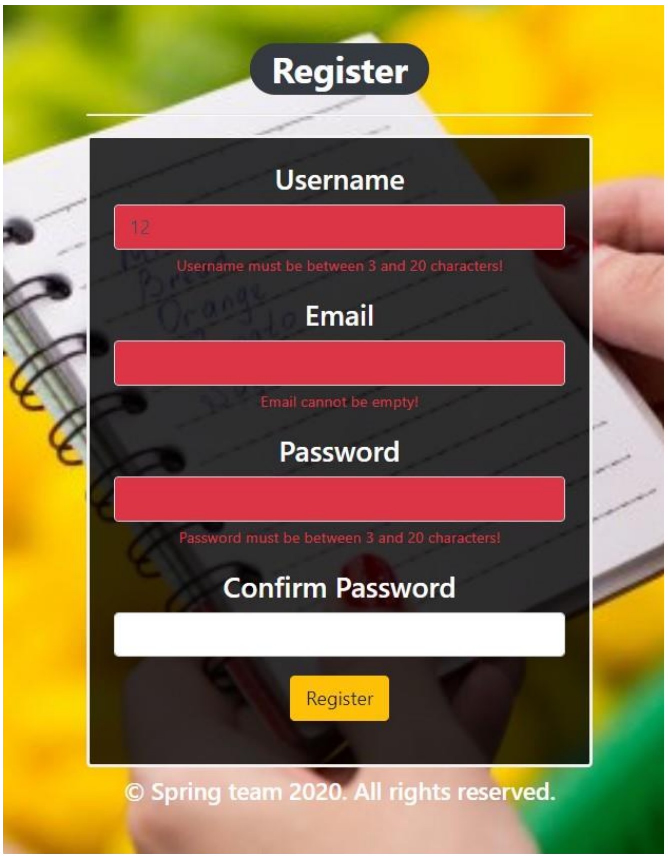
Password

Login

## Register Page (logged out user)



## Register Page validations



Username must be between 3 and 20 characters!

Email cannot be empty!

Password must be between 3 and 20 characters!

## Home Page (without having any products)

- Note: The home page should visualize **all of the products** from the database

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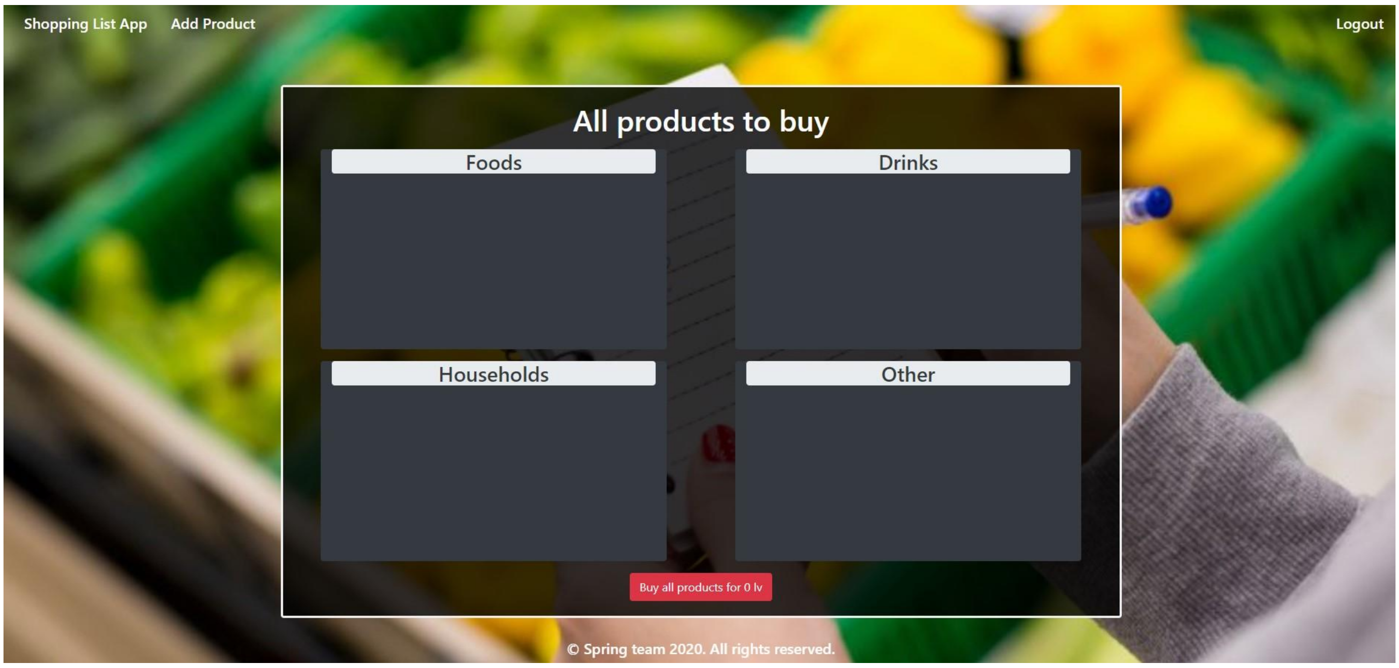
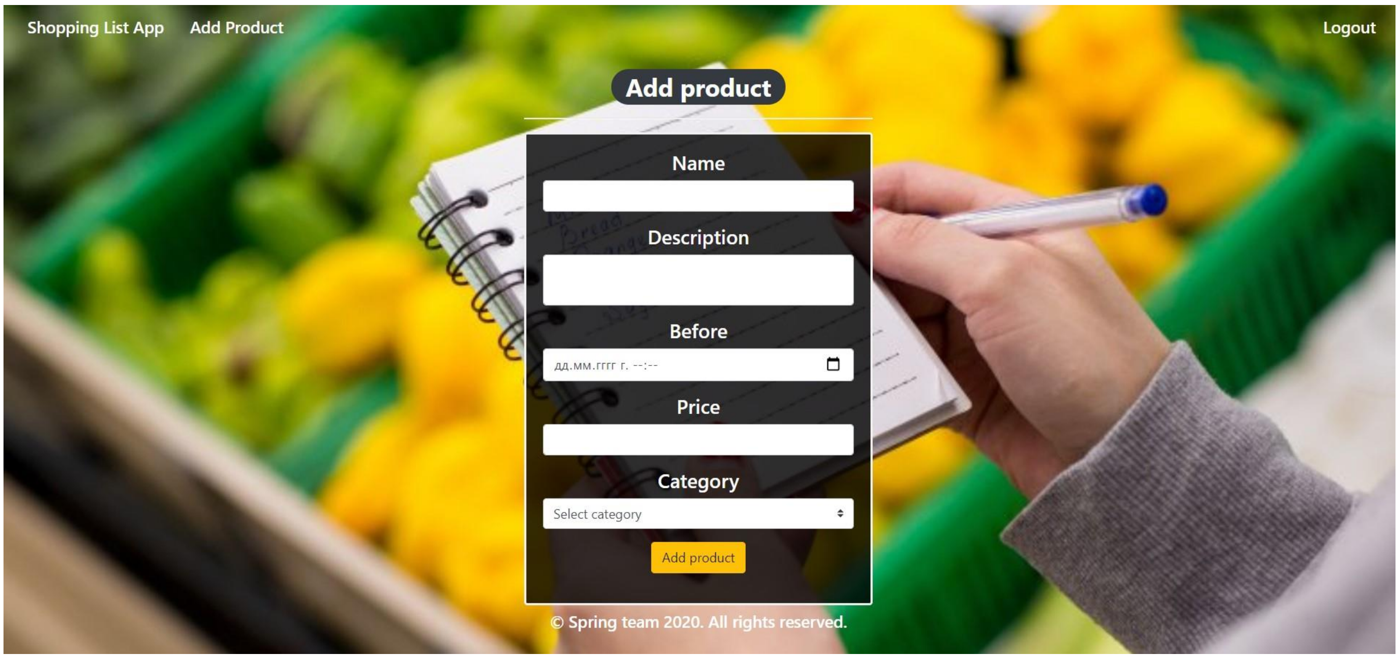
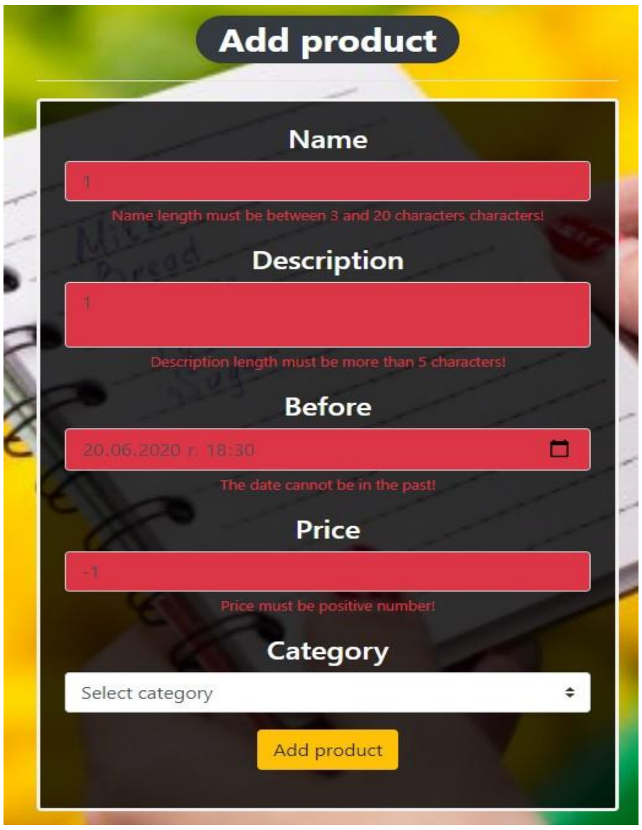


## Add products



## Add products validation



Add product

Name

1

Name length must be between 3 and 20 characters characters!

Description

1

Description length must be more than 5 characters!

Before

20.06.2020 г. 18:30

The date cannot be in the past!

Price

-1

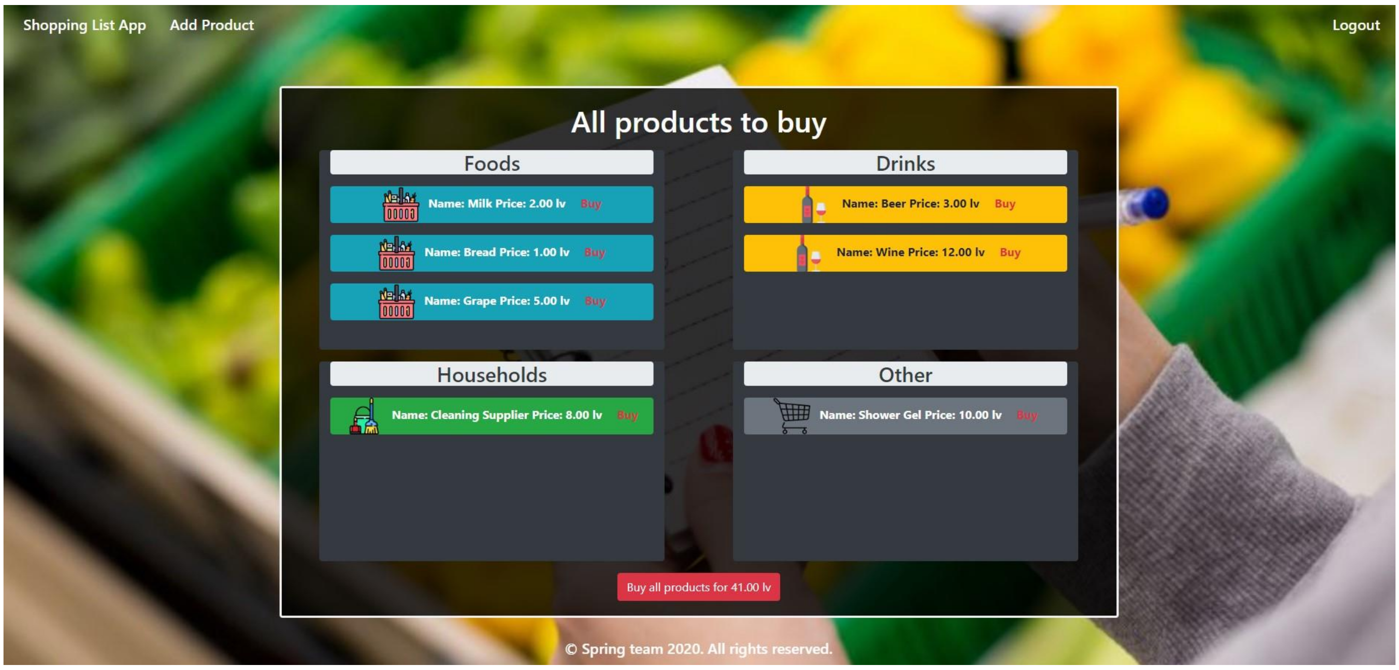
Price must be positive number!

Category

Select category

Add product

## Home Page (with products)



Shopping List App   Add Product   Logout

All products to buy

Foods

Name: Milk Price: 2.00 lv Buy

Name: Bread Price: 1.00 lv Buy

Name: Grape Price: 5.00 lv Buy

Drinks

Name: Beer Price: 3.00 lv Buy

Name: Wine Price: 12.00 lv Buy

Households

Name: Cleaning Supplier Price: 8.00 lv Buy

Other

Name: Shower Gel Price: 10.00 lv Buy

Buy all products for 41.00 lv

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The templates have been given to you in the application skeleton, so make sure you implement the pages correctly.

**NOTE**: The templates should look **EXACTLY** as shown above.

**NOTE**: The templates do **NOT require additional CSS** for you to write. Only **bootstrap** and the **given css** are enough.

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## 4. Functional Requirements

The **Functionality Requirements** describe the functionality that the **Application** must support.

The **application** should provide **Guest** (not logged in) users with the functionality to **login**, **register** and **view** the **Index** page.

The **application** should provide **Users** (logged in) with the functionality to **logout**, **add a Product**, **view all Products** (**Home page**) and **Buy a single one** from products **or Buy All** products.

**Shopping List App** in navbar should redirect to appropriate **URL depending** on that if the user is logged in.

The **application** should provide **functionality** for **adding products** with **category (**Food, Drink, Household or Other) and **buy** one or more of them.

**Buy all** products button show the **sum** of **all added products** prices.

The **product** should be separated in different divs according to their categories.

The **image** also depends on item's category.

When user clicks on **Buy button** of some item, he buys it. You need to **delete** this **item** and **redirect** to **home** page. When he clicks on **Buy all** products, just **delete all** products in DB and again **redirect** to **home** page.

The **application** should **store** its **data** into a **MySQL** database.

## 5. Security Requirements

The **Security Requirements** are mainly access requirements. Configurations about which users can access specific functionalities and pages.

- **Guest** (not logged in) users can access **Index** page.
- **Guest** (not logged in) users can access **Login** page.
- **Guest** (not logged in) users can access **Register** page.
- **Users** (logged in) can access **Home** page.
- **Users** (logged in) can access **Add Product** page.
- **Users** (logged in) can access **Logout** functionality.

## 6. Scoring

### Database – 10 points.

### Pages – 25 points.

### Functionality – 35 points.

### Security – 5 points.

### Validations – 15 points.

### Code Quality – 10 points.

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