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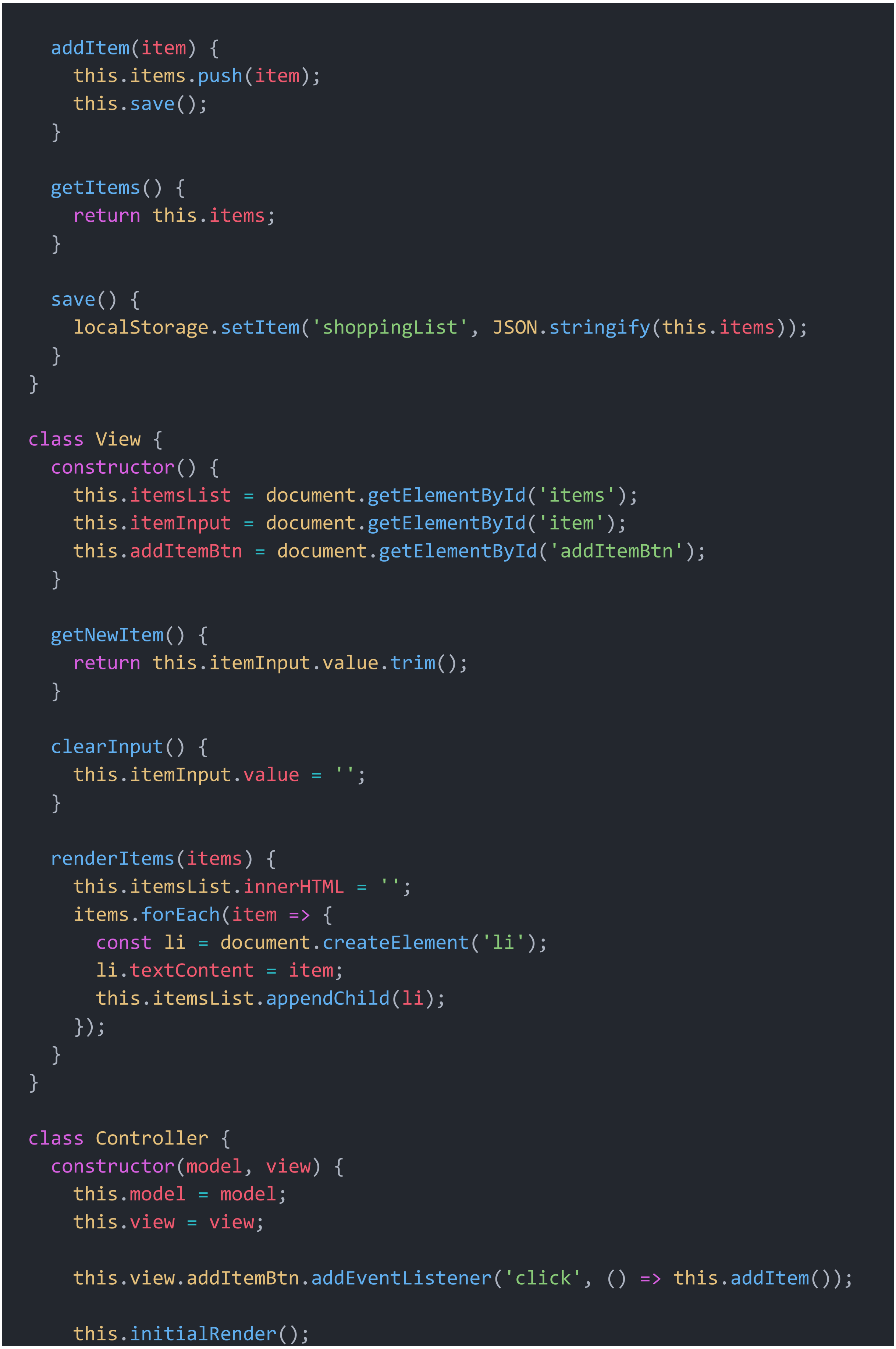
# LAB Assignment - 7

## Question 1

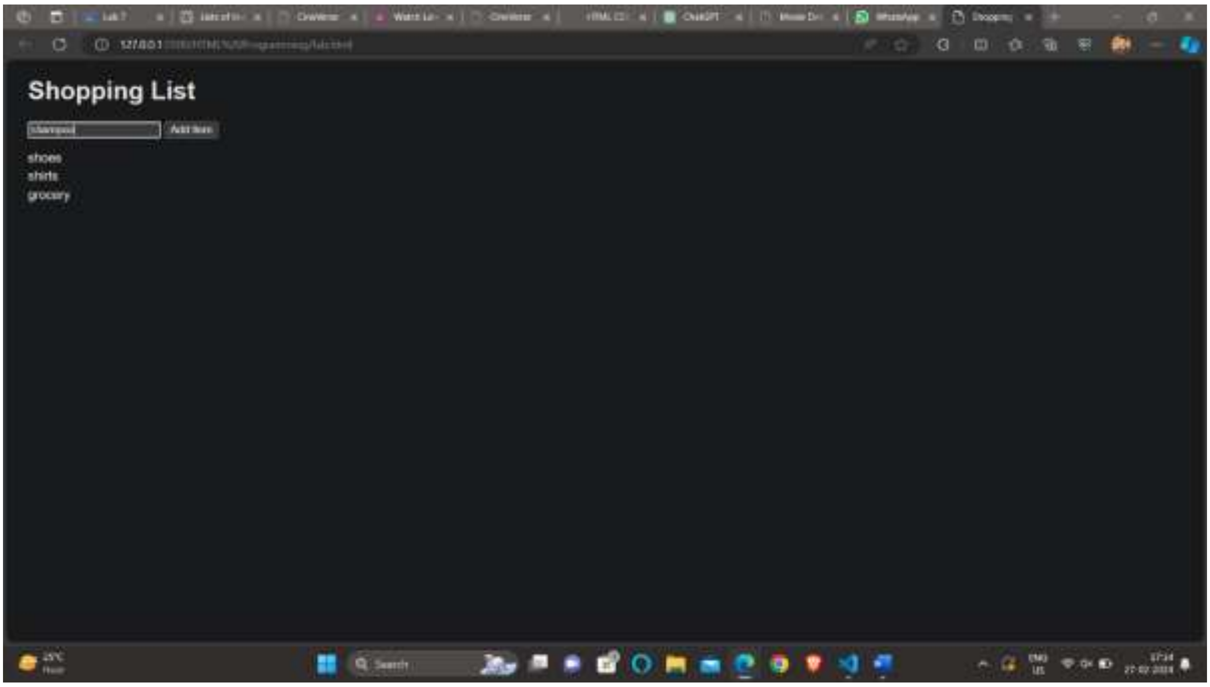
### Code :

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Shopping List</title>
  <style>
    body {
      font-family: Arial, sans-serif;
    }
    #shopping-list {
      margin: 20px;
    }
    #items {
      list-style-type: none;
      padding: 0;
    }
    #items li {
      margin-bottom: 5px;
    }
  </style>
</head>
<body>

<div id="shopping-list">
  <h1>Shopping List</h1>
  <input type="text" id="item" placeholder="Enter item">
  <button id="addItemBtn">Add Item</button>
  <ul id="items"></ul>
</div>

<script>
  class Model {
    constructor() {
      this.items = JSON.parse(localStorage.getItem('shoppingList')) || [];
    }
```



```
  addItem(item) {
    this.items.push(item);
    this.save();
  }

  getItems() {
    return this.items;
  }

  save() {
    localStorage.setItem('shoppingList', JSON.stringify(this.items));
  }
}

class View {
  constructor() {
    this.itemsList = document.getElementById('items');
    this.itemInput = document.getElementById('item');
    this.addItemBtn = document.getElementById('addItemBtn');
  }

  getNewItem() {
    return this.itemInput.value.trim();
  }

  clearInput() {
    this.itemInput.value = '';
  }

  renderItems(items) {
    this.itemsList.innerHTML = '';
    items.forEach(item => {
      const li = document.createElement('li');
      li.textContent = item;
      this.itemsList.appendChild(li);
    });
  }
}

class Controller {
  constructor(model, view) {
    this.model = model;
    this.view = view;

    this.view.addItemBtn.addEventListener('click', () => this.addItem());

    this.initialRender();
    }

    initialRender() {
      this.view.renderItems(this.model.getItems());
    }

    addItem() {
      const newItem = this.view.getNewItem();
      if (newItem !== '') {
        this.model.addItem(newItem);
        this.view.renderItems(this.model.getItems());
        this.view.clearInput();
      }
    }
  }

  const model = new Model();
  const view = new View();
  const controller = new Controller(model, view);
</script>

</body>
</html>
```

**<u>Output</u> :**



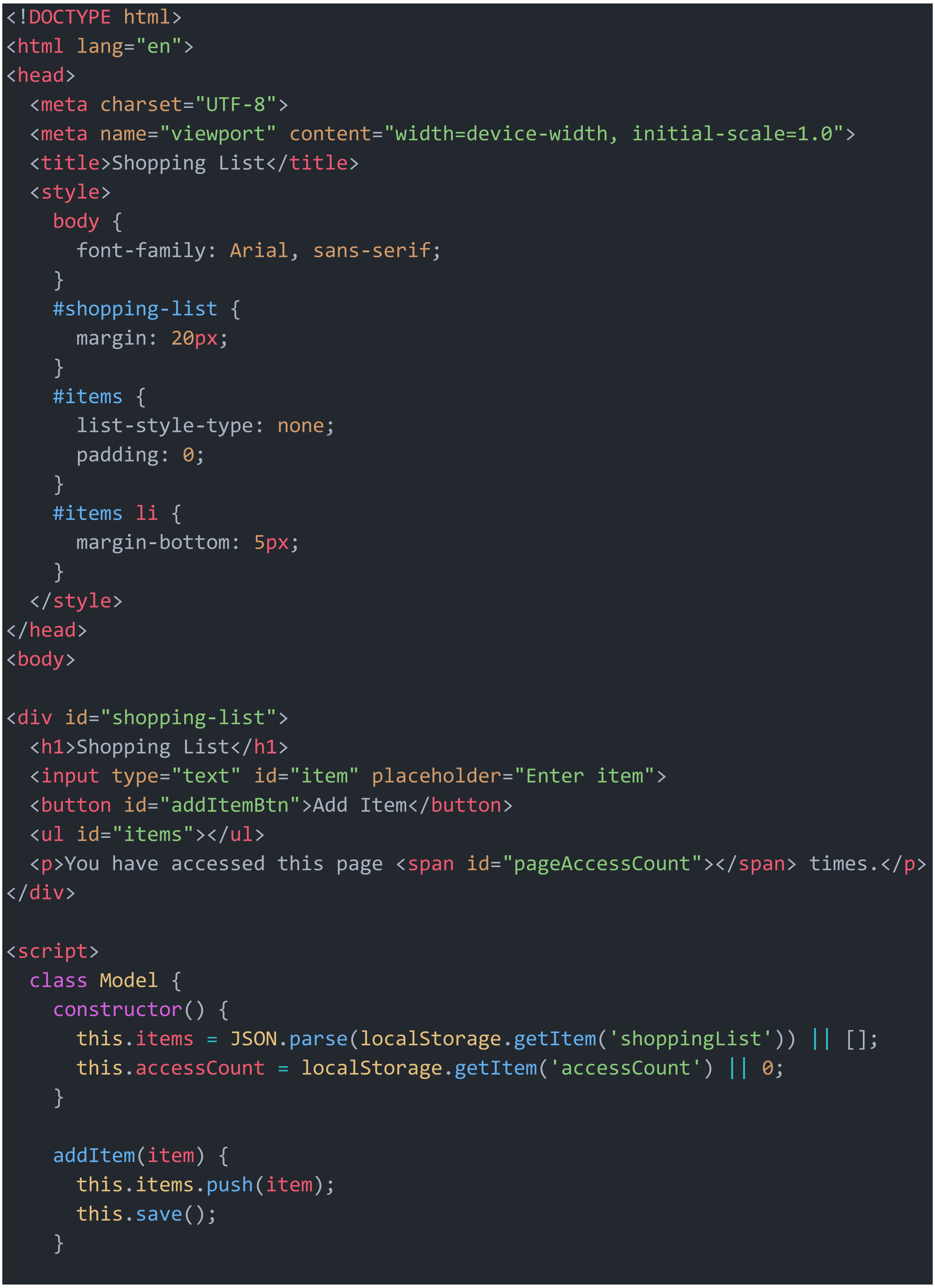
Shopping List

shampoo

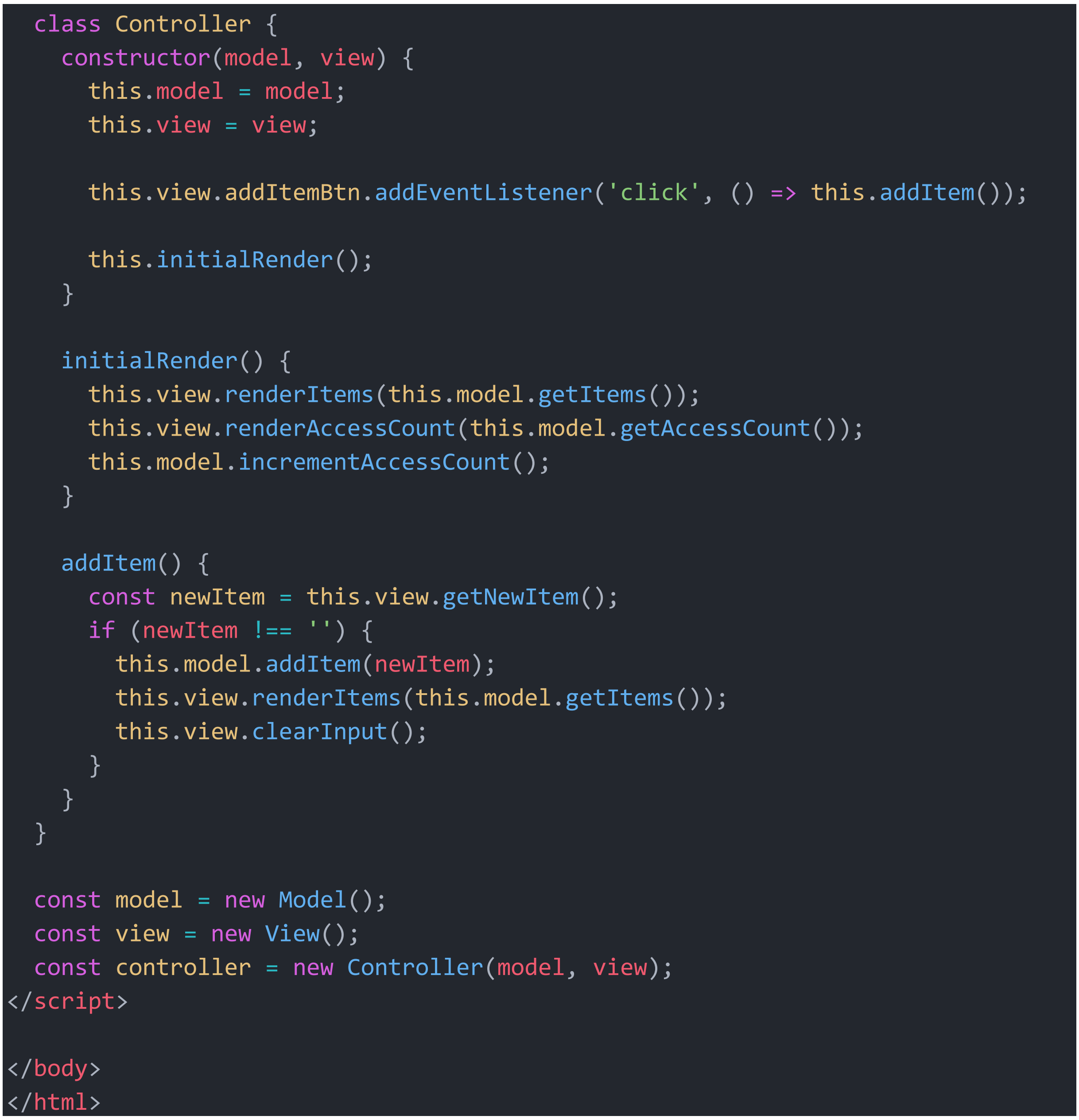
shoes
shirts
grocery

# Question 2

## Code :

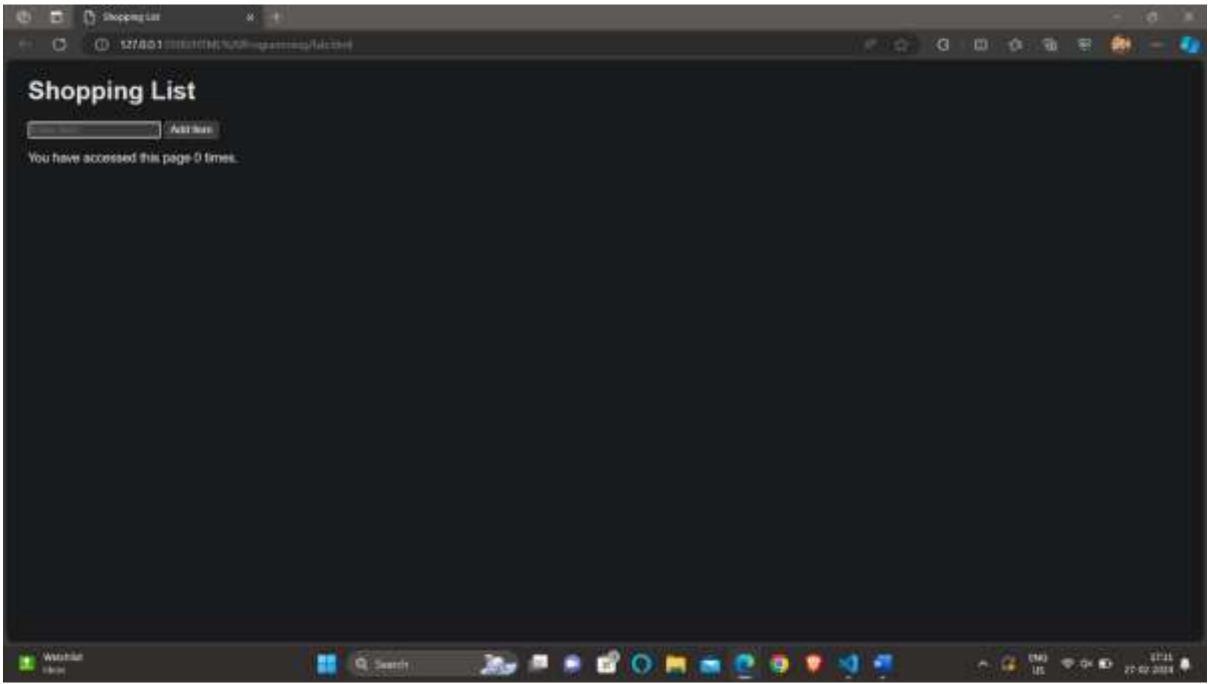


```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Shopping List</title>
  <style>
    body {
      font-family: Arial, sans-serif;
    }
    #shopping-list {
      margin: 20px;
    }
    #items {
      list-style-type: none;
      padding: 0;
    }
    #items li {
      margin-bottom: 5px;
    }
  </style>
</head>
<body>

<div id="shopping-list">
  <h1>Shopping List</h1>
  <input type="text" id="item" placeholder="Enter item">
  <button id="addItemBtn">Add Item</button>
  <ul id="items"></ul>
  <p>You have accessed this page <span id="pageAccessCount"></span> times.</p>
</div>

<script>
  class Model {
    constructor() {
      this.items = JSON.parse(localStorage.getItem('shoppingList')) || [];
      this.accessCount = localStorage.getItem('accessCount') || 0;
    }

    addItem(item) {
      this.items.push(item);
      this.save();
    }
    getItems() {
      return this.items;
    }

    save() {
      localStorage.setItem('shoppingList', JSON.stringify(this.items));
    }

    incrementAccessCount() {
      this.accessCount++;
      localStorage.setItem('accessCount', this.accessCount);
    }

    getAccessCount() {
      return this.accessCount;
    }
  }

  class View {
    constructor() {
      this.itemsList = document.getElementById('items');
      this.itemInput = document.getElementById('item');
      this.addItemBtn = document.getElementById('addItemBtn');
      this.pageAccessCount = document.getElementById('pageAccessCount');
    }

    getNewItem() {
      return this.itemInput.value.trim();
    }

    clearInput() {
      this.itemInput.value = '';
    }

    renderItems(items) {
      this.itemsList.innerHTML = '';
      items.forEach(item => {
        const li = document.createElement('li');
        li.textContent = item;
        this.itemsList.appendChild(li);
      });
    }

    renderAccessCount(count) {
      this.pageAccessCount.textContent = count;
    }
  }
```



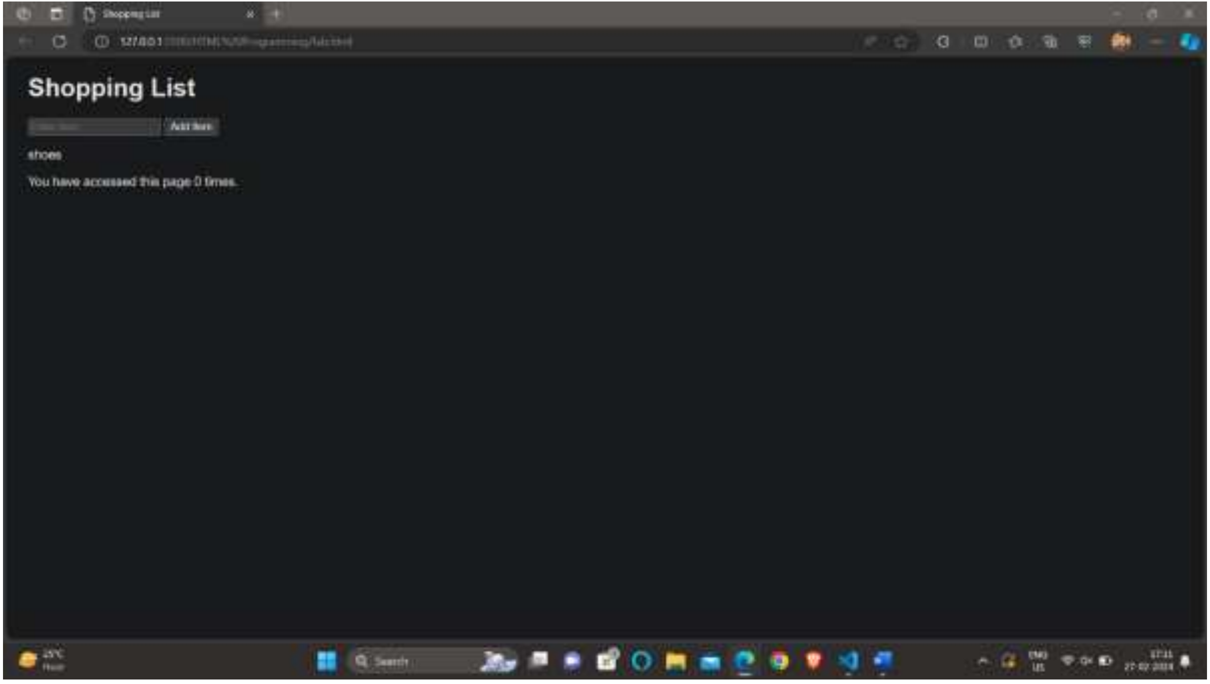
```
  class Controller {
    constructor(model, view) {
      this.model = model;
      this.view = view;

      this.view.addItemBtn.addEventListener('click', () => this.addItem());

      this.initialRender();
    }

    initialRender() {
      this.view.renderItems(this.model.getItems());
      this.view.renderAccessCount(this.model.getAccessCount());
      this.model.incrementAccessCount();
    }

    addItem() {
      const newItem = this.view.getNewItem();
      if (newItem !== '') {
        this.model.addItem(newItem);
        this.view.renderItems(this.model.getItems());
        this.view.clearInput();
      }
    }
  }

  const model = new Model();
  const view = new View();
  const controller = new Controller(model, view);
</script>

</body>
</html>
```

## **Output :**



Shopping List

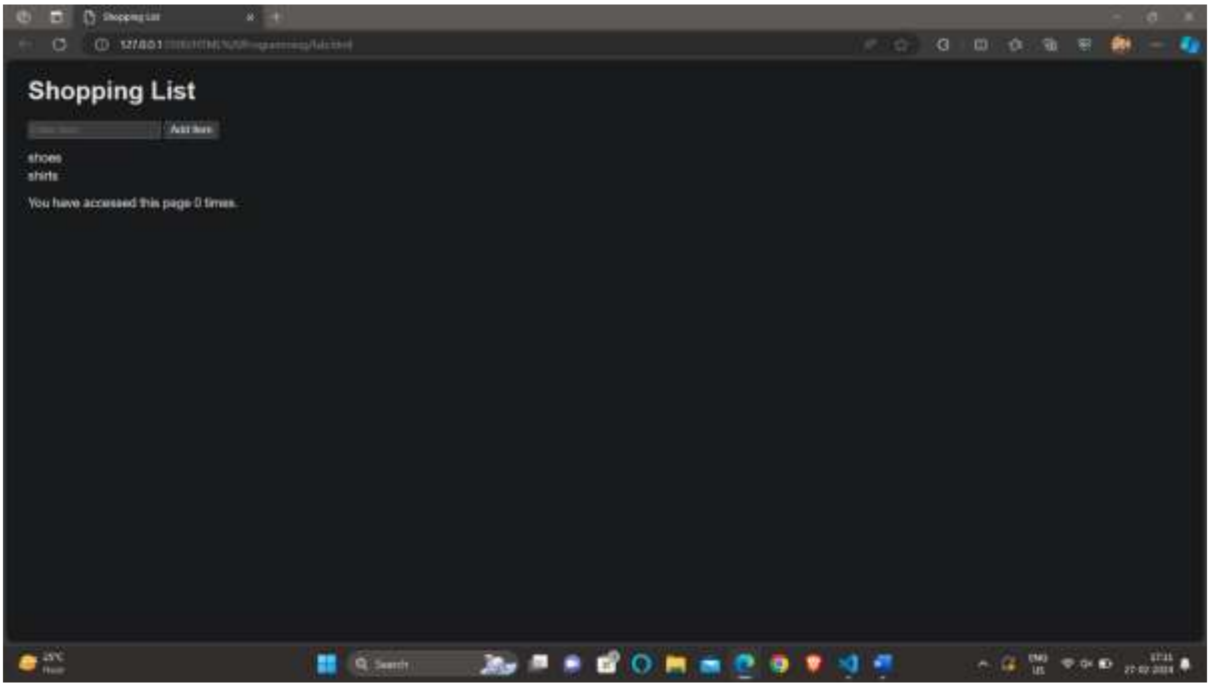
You have accessed this page 0 times.



Shopping List

shoes

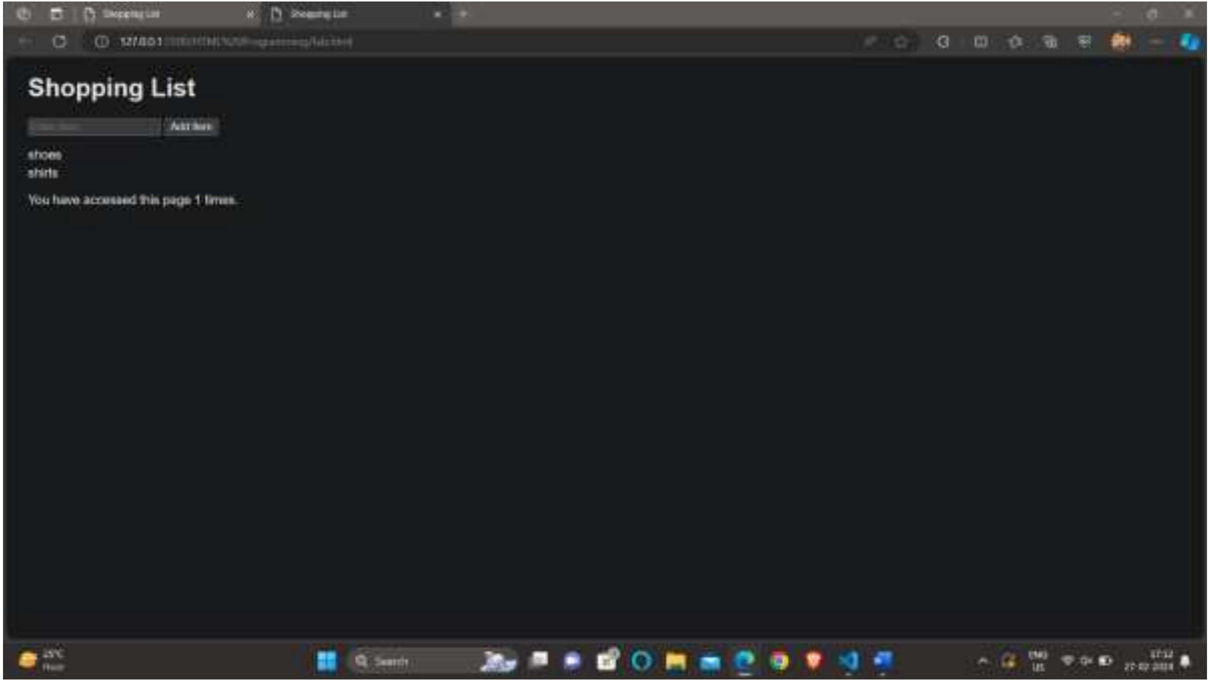
You have accessed this page 0 times.



# Shopping List

shoes
shirts

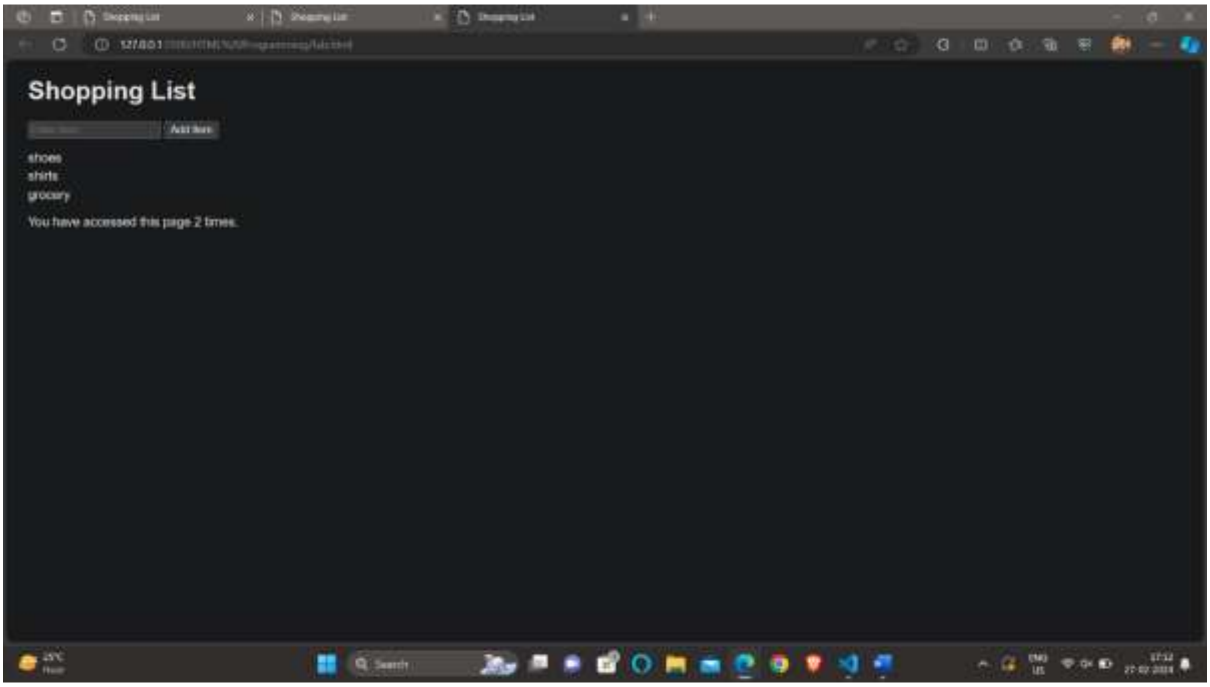
You have accessed this page 0 times.



# Shopping List

shoes
shirts

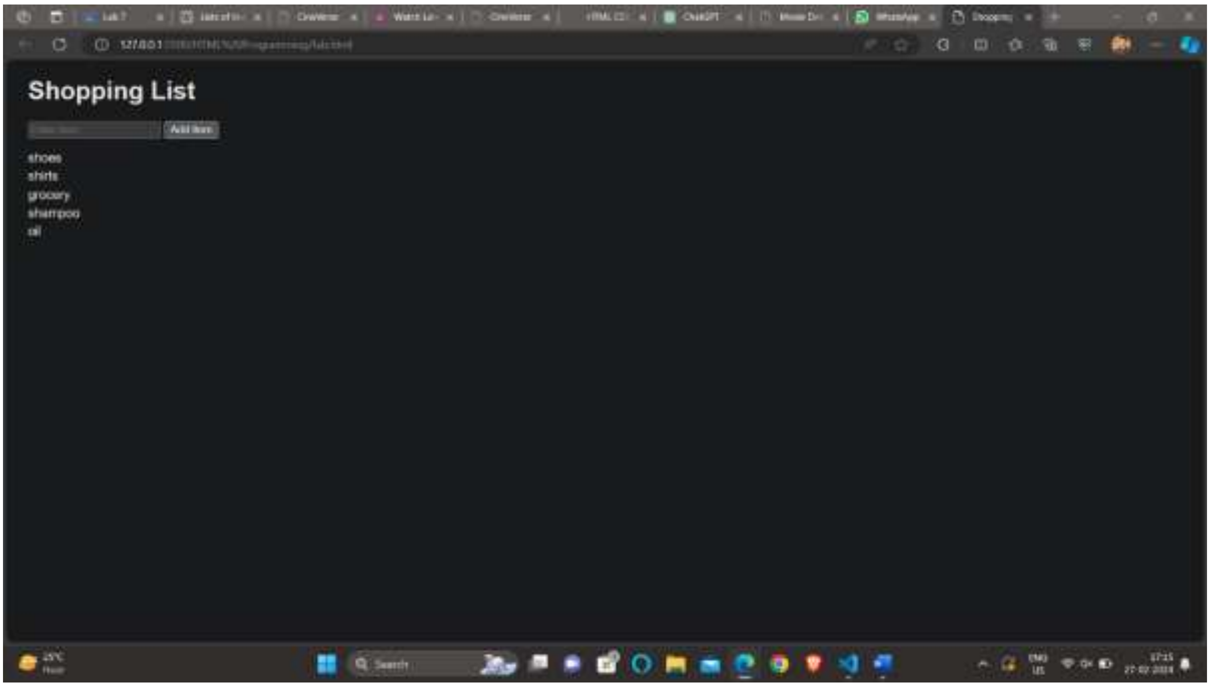
You have accessed this page 1 times.



Shopping List

shoes
shirts
grocery

You have accessed this page 2 times.



Shopping List

shoes
shirts
grocery
shampoo
oil