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=> shopping.html

```html
<html>
    <head>

        <title>Shopping List Application</title>

    <link rel="stylesheet" href="shopping.css">

    </head>

    <body>
        <div class="container">
                <nav class="navbar navbar-default">
                        <div class="container-fluid">
                        <div class="navbar-header">
                            <a class="navbar-brand" href="#">Shopping
List</a>
                        </div>
                        <ul class="nav navbar-nav">
                            <li class="active"><a href="#">Home</a></li>
                            <li><a href="#">Page 1</a></li>
                            <li><a href="#">Page 2</a></li>
                            <li><a href="#">Page 3</a></li>
                        </ul>
                        </div>
                </nav>
            <div class="panel panel-default col-md-12">
                <div class="panel-body">
                <div class="row form-inline">

                <div class="form-group">
                    <label for="itemname">Item Name</label>
                    <input type=text class="form-control" name="itemname"
id=itemname />
                </div>
```

```html
                    <div class="form-group">
                    <label for="qty">Quantity</label>
                    <select name="quantity" id="qty" class="form-control">
                        <option value="1">1</option>
                        <option value="2">2</option>
                        <option value="3">3</option>
                        <option value="4">4</option>
                        <option value="5">5</option>
                        <option value="6">6</option>
                        <option value="7">7</option>
                        <option value="8">8</option>
                        <option value="9">9</option>
                        <option value="10">10</option>
                    </select>
                    </div>
                    <div class="form-group">
                    <label for="priority">Priority</label>
                    <select name="priority" id="priority"
class="form-control">
                        <option value="low">low</option>
                        <option value="medium">medium</option>
                        <option value="high">high</option>
                    </select>
                </div>
                    </div>

                    <div class="row form-inline" style="margin-top: 20px;
margin-bottom: 20px;">
                        <div class="form-group">
                        <label for="store">Store Name</label>
                        <select name="store" id="store" class="form-control">
                        </select>
                        </div>
                        <div class="form-group">
                        <label for="category">Store Section</label>
                        <select name="category" id="category"
class="form-control">
                        </select>
                        </div>
                        <div class="form-group">
```

```html
                <label for="price">Price</label>
                <input type="text" name="price" id="price"
class="form-control">
                </div>
            </div>
            <div class="form-inline" style="float: right;">
            <button onclick="clickedon()" class="btn btn-primary"
id=gobutt>Add Item</button>
            </div>
            </div>
        </div>
        <div class="col-md-12">
        <table class="table table-bordered">
            <thead>
                <tr>

<th></th><th>Item</th><th>Quantity</th><th>Store</th><th>Section</th><th>Price</th>
                </tr>
            </thead>
            <tbody id="shoppinglist"></tbody>
        </table>
        </div>
    </div>

    <select id="myid"></select>
<script type="text/javascript">
    function populateSelect(selectId, sList) {
        let sel = document.getElementById(selectId)
        for (let s of sList) {
            let opt = document.createElement("option")
            opt.value = s
            opt.innerHTML = s
            sel.appendChild(opt)
        }
    }
    populateSelect('myid', ['one', 'two', 'three', 'four'])
</script>

        <script src="shopping.js" type=text/javascript></script>
```

```html
        <script src="model.js"></script>
        <script src="view.js"></script>
        <script src="congtroller.js"></script>
    </body>
</html>
```

=> shopping.css

```css
.nav{
    display: flex;
justify-content: space-around;

}
.navbar{
    background-color: black;

}
.navbar-header{
    display: flex;
    padding: 10px;

}
a{

    text-decoration: none;
    color: red;
    font-size: 30px;
}
.panel, .panel-default, .col-md-12 {
    border: 2px solid black;
    border-collapse: collapse;
    display: flex;
    flex-direction: column;
    gap: 10px;
    background-color: yellow;
}
.row,.form-inline{
    display: flex;
    flex-direction: column;
    gap: 10px;

}
```

=> shopping.js

```javascript
var stores = ['Fareway', 'Ace Hardware', 'Caseys', 'The Hatchery',
'Amundsens']
var sections = ['Produce', 'Meats', 'Cereal', 'Canned Goods', 'Frozen
Foods', 'Dairy', 'Liquor', 'Tools', 'Clothing']

function clickedon() {
    let rowcolids = ['itemname', 'qty', 'store', 'category', 'price']
    let vals = []
    for (let cid of rowcolids) {
        vals.push(document.getElementById(cid).value)
    }
    makeRow(vals, document.getElementById('shoppinglist'))
}

function makeRow(valueList, parent) {
    let row = document.createElement("tr")
    row.classList.add(document.getElementById("priority").value)
    let cb = document.createElement("input")
    cb.type = "checkbox"
    cb.classList.add("form-control")
    row.appendChild(cb)

    for (let val of valueList) {
        let td = document.createElement("td")
        td.innerHTML = val
        row.appendChild(td)
    }
    parent.appendChild(row)
}

function populateSelect(selectId, sList) {
    let sel = document.getElementById(selectId)
    for (let s of sList) {
        let opt = document.createElement("option")
        opt.value = s
        opt.innerHTML = s
        sel.appendChild(opt)
    }
}
```

```javascript
$(document).ready(function () {
    populateSelect('store', stores)
    populateSelect('category', sections)
})
```

=> model.js

```javascript
'use strict';
class Item {
    constructor(name, quantity, priority, store, section, price) {
        this.name = name;
        this.quantity = quantity;
        this.priority = priority;
        this.store = store;
        this.section = section;
        this.price = price;

        this._purchased = false;

    }

    get purchased() {
        return this._purchased;
    }

    set purchased(nv) {
        this._purchased = nv;
        alert(`${this.name} was purchased`)
    }



}

class Subject {

    constructor() {
        this.handlers = []
    }
```

```js
    subscribe(fn) {
        this.handlers.push(fn);
    }


    unsubscribe(fn) {
        this.handlers = this.handlers.filter(
            function(item) {
                if (item !== fn) {
                    return item;
                }
            }
        );
    }


    publish(msg, someobj) {
        var scope = someobj || window;
        for (let fn of this.handlers) {
            fn(scope, msg)
        }
    }
}



class ShoppingList extends Subject {
    constructor() {
        super()
        this.newItems = []
        this.oldItems = [];
    }


    addItem(it) {
        this.newItems.push(it)
        this.publish('newitem', this)
    }
}
```

=> view.js

```js
class ShoppingView {
    constructor(model) {
```

```
        // The bind() method creates a new function that, when called, has
its this keyword set to the provided value.
        model.subscribe(this.redrawList.bind(this))
    }

    redrawList(shoppingList, msg) {
        let tbl = document.getElementById("shoppinglist")
        tbl.innerHTML = ""
        for (let item of shoppingList.newItems) {
            this.addRow(item, tbl)
        }
    }

    addRow(item, parent) {
        let row = document.createElement("tr")
        row.classList.add(item.priority)
        let cb = document.createElement("input")
        cb.type = "checkbox"
        cb.classList.add("form-control")
        cb.onclick = function() { item.purchased = true; }
        row.appendChild(cb)

        for (let val of ['name', 'quantity', 'store', 'section', 'price'])
{
            let td = document.createElement("td")
            td.innerHTML = item[val]
            row.appendChild(td)
        }
        parent.appendChild(row)
    }
}
```

=> controller.js

```
var stores = ['Fareway', 'Ace Hardware', 'Caseys', 'The Hatchery',
'Amundsens']
var sections = ['Produce', 'Meats', 'Cereal', 'Canned Goods', 'Frozen
Foods', 'Dairy', 'Liquor', 'Tools', 'Clothing']

var shoppingModel = new ShoppingList()
var myView = new ShoppingView(shoppingModel)
```

```javascript
function clickedon() {
    let rowcolids = ['itemname', 'qty', 'store', 'category', 'price',
'priority']
    let vals = {}
    for (let cid of rowcolids) {
        vals[cid] = document.getElementById(cid).value;
    }
    let it = new Item(vals.itemname, vals.qty, vals.priority, vals.store,
vals.category, vals.price)
    shoppingModel.addItem(it)
}


function populateSelect(selectId, sList) {
    let sel = document.getElementById(selectId, sList)
    for (let s of sList) {
        let opt = document.createElement("option")
        opt.value = s
        opt.innerHTML = s
        sel.appendChild(opt)
    }
}

$(document).ready(function () {
    populateSelect('store', stores)
    populateSelect('category', sections)
})
```

OUTPUT

Shopping List

Home   Page 1   Page 2   Page 3

Item Name meat

Quantity 4

Priority high

Store Name

Store Section

Price 234

Add Item

Item	Quantity	Store	Section	Price
☐ egg	4			234
☐ meat	4			234

two