

COM S 319 - Homework 4 Report

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Using the sample code, we can use the array of cars to create a table with the columns "Manufacturer, Model, Year, Stock, Price, Option" using the `render()` function inside the `App` class. React provides an easy way to do this using HTML syntax by using:

- `<table>` tag for the table
 - `<tr>` tag for the rows
 - `<th>` tag for header (bold and centered)
 - `<td>` tag for main elements
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Header

The header contains a button which calls the `sortYear()` function. The function copies `this.state.cars` to an array and checks the cars' year for the following conditions:-

- The array is sorted from oldest to newest (`carArray[i].year > carArray[i + 1].year`)
 - Calls `carArray.sort(this.reverseSort)` to sort in reverse (newest to oldest)
- Else
 - Calls `carArray.sort(this.regularSort)` to sort regularly (oldest to newest)

Initially, the rows are not sorted according to either of the conditions above. And the array has a built-in `sort()` function that can accept other functions as its parameter. In this case, the functions are `reverseSort(a, b)` and `regularSort(a, b)` which we use after checking the cars' year

Main Body

We use `map()` to render App's `state` data, and every car has a key, `i`, which is the index of its row. Therefore, we can easily render each row with `{car.manufacturer}` for instance. In addition, each car model has an `Increment` button to increase the number of its stock by 1. Similar to how the `sortYear()` function works, the button calls `handleAddStock(i)`, where `i` is the car's key or index. And `handleAddStock(i)` copies the cars' array and increments the stock of the car associated with `i`

Bindings and setState

All four functions mentioned above need bindings in the App's constructor, and both `handleAddStock(i)` and `sortYear()` call `setState()` to update the cars' array. Note that `regularSort(a, b)` and `reverseSort(a, b)` do not call `setState()` because they are internal functions of `sortYear()`

Outputs

- Initial

manufacturer	model	year	stock	price	Option
Toyota	Rav4	2008	3	\$8500.00	Increment
Toyota	Camry	2009	2	\$6500.00	Increment
Toyota	Tacoma	2016	1	\$22000.00	Increment
BMW	i3	2012	5	\$12000.00	Increment
Chevy	Malibu	2015	2	\$10000.00	Increment
Honda	Accord	2013	1	\$9000.00	Increment
Hyundai	Elantra	2013	2	\$7000.00	Increment
Chevy	Cruze	2012	2	\$5500.00	Increment
Dodge	Charger	2013	2	\$16000.00	Increment
Ford	Mustang	2009	1	\$8000.00	Increment

- Incrementing BMW i3 by 1

manufacturer	model	year	stock	price	Option
Toyota	Rav4	2008	3	\$8500.00	Increment
Toyota	Camry	2009	2	\$6500.00	Increment
Toyota	Tacoma	2016	1	\$22000.00	Increment
BMW	i3	2012	6	\$12000.00	Increment
Chevy	Malibu	2015	2	\$10000.00	Increment
Honda	Accord	2013	1	\$9000.00	Increment
Hyundai	Elantra	2013	2	\$7000.00	Increment
Chevy	Cruze	2012	2	\$5500.00	Increment
Dodge	Charger	2013	2	\$16000.00	Increment
Ford	Mustang	2009	1	\$8000.00	Increment

- Reverse sort

manufacturer	model	<input type="text" value="year"/>	stock	price	Option
Toyota	Tacoma	2016	1	\$22000.00	<input type="button" value="Increment"/>
Chevy	Malibu	2015	2	\$10000.00	<input type="button" value="Increment"/>
Honda	Accord	2013	1	\$9000.00	<input type="button" value="Increment"/>
Hyundai	Elantra	2013	2	\$7000.00	<input type="button" value="Increment"/>
Dodge	Charger	2013	2	\$16000.00	<input type="button" value="Increment"/>
BMW	i3	2012	6	\$12000.00	<input type="button" value="Increment"/>
Chevy	Cruze	2012	2	\$5500.00	<input type="button" value="Increment"/>
Toyota	Camry	2009	2	\$6500.00	<input type="button" value="Increment"/>
Ford	Mustang	2009	1	\$8000.00	<input type="button" value="Increment"/>
Toyota	Rav4	2008	3	\$8500.00	<input type="button" value="Increment"/>

- Regular sort

manufacturer	model	<input type="text" value="year"/>	stock	price	Option
Toyota	Rav4	2008	3	\$8500.00	<input type="button" value="Increment"/>
Toyota	Camry	2009	2	\$6500.00	<input type="button" value="Increment"/>
Ford	Mustang	2009	1	\$8000.00	<input type="button" value="Increment"/>
BMW	i3	2012	6	\$12000.00	<input type="button" value="Increment"/>
Chevy	Cruze	2012	2	\$5500.00	<input type="button" value="Increment"/>
Honda	Accord	2013	1	\$9000.00	<input type="button" value="Increment"/>
Hyundai	Elantra	2013	2	\$7000.00	<input type="button" value="Increment"/>
Dodge	Charger	2013	2	\$16000.00	<input type="button" value="Increment"/>
Chevy	Malibu	2015	2	\$10000.00	<input type="button" value="Increment"/>
Toyota	Tacoma	2016	1	\$22000.00	<input type="button" value="Increment"/>