

Piruz Alemi

Report on D3, JavaScript, HTML – CSS

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Level 1: Automatic Table and Date Search

1. Created a basic HTML web page. (I built my own signed custom page!).
2. Using the UFO dataset provided in the form of an array of JavaScript objects, wrote code that appends a table to my web page and then adds new rows of data for each UFO sighting dynamically utilizing D3. See also: <https://getbootstrap.com/docs/3.3/css/#tables-striped>
3. Made sure I had a column for:
 - date/time,
 - city, state,
 - country, shape
 - comment

at the very least, as in:

```
{  
  datetime: "1/11/2010",  
  city: "fairfield",  
  state: "ca",  
  country: "us",  
  shape: "oval",  
  durationMinutes: "unknown",  
  comments: "Shape was black in color"  
},
```

4. Used a date form in my HTML document and wrote JavaScript code that would listen for events and search through the date/time column or through State to find rows that match user's input. In short two Search options were provided

Level 2: Multiple Search Categories (Optional)

- Completed all of Level 1 criteria.
- Using multiple input tags and/or select dropdowns, wrote JavaScript code so the user can set multiple filters, searched for UFO sightings using the following criteria based on the table columns:

1. date/time
2. city
3. state
4. country
5. shape

Steps:

- Used D3 to convert the Bootstrap table into a striped table.
- Use D3 to select the table body and appended a new row and cells for the new data.

For background See:

- [Bootstrap Striped Tables](#)
- <https://giphy.com/artists>
- <https://media.giphy.com/media/hDSy8w6rGHeTe/giphy.gif>
- <https://www.mokafolio.de/information>

Used the following Arrow, Map & Filter Functions:

Arrow Functions

Basic Function

```
function sum(a, b) {  
  return a + b;  
}  
  
var results = sum(1, 2);
```

Function Expression

```
var sum = function sum(a, b) {  
  return a + b;  
}  
  
var results = sum(1, 2);
```

Arrow Function

```
var sum = (a, b) => a + b;  
  
var results = sum(1, 2);
```

Arrow Multiline

```
var sum = (a, b) => {  
  console.log("Adding Two Numbers");  
  return a + b;  
};
```

Map

Basic Map

```
var data = [1, 2, 3, 4, 5];  
var dataCopy = data.map(function(item) {  
  return item;  
});
```

Map with Arrow

```
var data = [1, 2, 3, 4, 5];  
var dataCopy = data.map(item => item);
```

Map with Array of Objects

```
var data = [{x: 1, y: 1}, {x: 2, y: 3}, {x: 3, y: 5}];  
var xData = data.map(obj => obj.x);  
var yData = data.map(obj => obj.y);
```

Filter

Basic Filter

```
var data = [1, 2, 3, 4, 5];  
var filteredData = data.filter(function(item) {  
  return item < 3;  
});
```

Filter with Arrow Function

```
var data = [1, 2, 3, 4, 5];  
var filteredData = data.filter(item => item < 3);
```

Filter by Object Values

```
var data = [{x: 1, y: 1}, {x: 2, y: 3}, {x: 3, y: 5}];  
var xFiltered = data.filter(obj => obj.x < 3);
```

Math Functions

min()	max()
abs()	sqrt()
random()	round()

Array Functions

push()	concat()
slice()	splice()
split()	join()

A snapshot of the final result from a dynamic output of moving UFO sightings:

Piruz Alemi

UFO Sightings

The Revolution Will not be Televised

Search by date

Click Me!

Search by State

Click Me!

Summary by State:

Date	City	State	Country	Shape	DurationMinutes	Comments
1/1/2010	benton	ar	us	circle	5 mins.	4 bright green circles high in the sky going in circles then one bright green light at my front door.
1/6/2010	searcy	ar	us	disk	1 hour	disc shape hovering above Searcy, AR
1/12/2010	alma	ar	us	other	night	((HOAX???)) a strange ball of fire, like after burners.

• JavaScript - D3 - HTML - CSS written by Piruz Alemi