

P1: students array demo using map, filter, find, reduce

File Edit Selection View Go Run Terminal Help app.js - W06 homework - Visual Studio C... 00 - X

```

JS app.js X
JS app.js > ...
2 const updateStudents = students.map( (student) => {
3   student.role = 'student';
4   // console.log(student);
5   return student;
6 }
7 )
8 console.log('updateStudents', updateStudents);
9
10 const highScores = students.filter((student)=>{
11   // if(student.score > 85) {
12   //   return student;
13   // }
14   // if(student.score > 85) return student; //
15   //   return student.score > 85
16   }
17 })
18 console.log('highScores', highScores);
19
20
21 const specificId = students.find((student)=> {
22   return student.id === 1;
23 });
24 console.log('specificId', specificId);
25
26 const averageScore = students.reduce( (scoreTotal, student)=>{
27   // console.log('student', student );
28   // console.log('scoreTotal', scoreTotal);
29   return scoreTotal + student.score;
30 }, 0 ) /students.length;
31 console.log('acerageScore', averageScore);
32
33 const survey = students.reduce((survey, student)=>{
34   // console.log('favoriteCourse', student.favoriteCourse);

```

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Elements Console Sources Network Performance Memory Application > + 1 ⚙️ ⚙️ ...

top Filter Default levels 1

updateStudents ▶ Array(5) i
 0: {id: 1, name: 'kerry', score: 100, favoriteCourse: 'JS', role: 'student'}
 1: {id: 2, name: 'fuze', score: 90, favoriteCourse: 'Java', role: 'student'}
 2: {id: 3, name: 'zofla', score: 95, favoriteCourse: 'chinese', role: 'student'}
 3: {id: 4, name: 'mirror', score: 70, favoriteCourse: 'math', role: 'student'}
 4: {id: 5, name: 'ash', score: 60, favoriteCourse: 'english', role: 'student'}
 length: 5
 [[Prototype]]: Array(0)

highScores ▶ Array(3) i
 0: {id: 1, name: 'kerry', score: 100, favoriteCourse: 'JS', role: 'student'}
 1: {id: 2, name: 'fuze', score: 90, favoriteCourse: 'Java', role: 'student'}
 2: {id: 3, name: 'zofla', score: 95, favoriteCourse: 'chinese', role: 'student'}
 length: 3
 [[Prototype]]: Array(0)

specificId ▶ Object i
 favoriteCourse: "JS"
 id: 1
 name: "kerry"
 role: "student"
 score: 100
 [[Prototype]]: Object

acerageScore 83

survey ▶ Object i
 JS: 1
 Java: 1
 chinese: 1
 english: 1
 math: 1
 [[Prototype]]: Object

Live reload enabled.

index.html:40

```
35 const favCourse = student.favoriteCourse;
36 if(survey[favCourse]) {
37     survey[favCourse] = survey[favCourse] +1 ;
38 } else {
39     survey[favCourse] = 1;
40 }
41 return survey;
42 }, {});
43 console.log('survey', survey);
```

Ln 1, Col 1 Spaces: 4 UTF-8 CRLF {} JavaScript Port : 5500 ✓ Prettier

P2: getRandomUser three times

```
File Edit Selection View Go Run Terminal Help • script.js - DOM_demo - Visual Studio C... 00 - □ ×
index.html JS script.js style.css
theme > JS script.js > ...
1 const main = document.querySelector('#main');
2 const addUserBtn = document.querySelector('#add-user');
3 const doubleBtn = document.querySelector('#double');
4 const showMillionairesBtn = document.querySelector('#show-millionaires');
5 const sortBtn = document.querySelector('#sort');
6 const calculateBtn = document.querySelector('#calculate-wealth');
7
8 let data = [];
9
10 const addData = (obj) => {
11     data.push(obj);
12     console.log('data', data);
13 }
14
15
16 const getRandomUser = async () => {
17     const res = await fetch('https://randomuser.me/api');
18     const data = await res.json();
19     console.log('random user data ', data);
20     const user = data.results[0];
21     const newUser = {
22         name: `${user.name.last}`,
23         money: Math.floor(Math.random()*10000000)
```

DOM Array Methods

Add User

Double Money

Show Only Millionaires

Console

```
random user data ► {results: Array(1), info: {...}}
data ► [...]
random user data ► {results: Array(1), info: {...}}
data ► (2) [..., ...]
random user data ► {results: Array(1), info: {...}}
data ► (3) [..., ..., ...]
► 0: {name: 'Koçoglu', money: 5740548}
► 1: {name: 'Lambert', money: 5592044}
► 2: {name: 'Clarke', money: 2031012}
length: 3
► [[Prototype]]: Array(0)
```

```
23     money: Math.floor(Math.random() * 1000000)
24   }
25   addData(newUser);
26 }
27
28 getRandomUser();
29 getRandomUser();
30 getRandomUser();
31
32 addUserBtn.addEventListener('click', getRandomUser);
```

Sort by Richest ↓

Calculate entire Wealth

Ln 31, Col 1 Spaces: 4 UTF-8 CRLF {} JavaScript Port : 5500 Prettier

P3: add 6 users to the DOM

File Edit Selection View Go Run Terminal Help script.js - DOM_demo - Visual Studio Code

index.html JS script.js 2.png W06_05.md

theme > JS script.js > [getRandomUser] > [newUser]

```
8 let data = [];
9
10
11
12
13 const updateDOM = (providedData = data)=> {
14   let tempData =  providedData.map((item)=> {
15     return `<div class="person"><strong>${item.name}</strong> ${formatMoney(item.
16       money)}</div>`
17   });
18   tempData = tempData.join('');
19   console.log('tempData', tempData);
```

iClass DOM Array Methods 127.0.0.1:5500/theme/index.html

DOM Array Methods

Add User

Person Wealth

Waara \$1,795,290.00

Console

```
data ▶ (4) [{} , {} , {} , {} ] script.js:25
tempData <div class="person">
<strong>Waara</strong> $1,795,290.00</div>
<div class="person">
<strong>Aho</strong> $2,589,619.00</div>
<div class="person">
<strong>Rosenvinge</strong> $2,892,697.00</div>
<div class="person">
<strong>Nærø</strong> $822,516.00</div>
```

```

19 main.innerHTML = `<h2><strong>Person</strong> Wealth</h2> ${tempData}`
20 }
21
22
23 const addData = (obj) => {
24   data.push(obj);
25   console.log('data', data);
26   updateDOM();
27 }
28
29 // Format number as money - https://stackoverflow.com/questions/149055/
30 how-to-format-numbers-as-currency-string
31 function formatMoney(number) {
32   return '$' + number.toFixed(2).replace(/\d(?=(\d{3})+\.)/g, '$&,');
33 }
34
35 const getRandomUser = async () => {
36   const res = await fetch('https://randomuser.me/api');
37   const data = await res.json();
38   console.log('random user data ', data);
39   const user = data.results[0];
40   const newUser = {
41     name: `${user.name.last}`,
42     money: Math.floor(Math.random()*10000000)
43   }
44   addData(newUser);
45 }
46
47 getRandomUser();
48 getRandomUser();

```

Ln 39, Col 21 Spaces: 4 UTF-8 CRLF {} JavaScript ⚡ Port: 5500 ✅ Prettier ⌂ ⌂



0 0 ⚡

P4: add 6 users first, than filter condition > 3000000

Double Money 💰

Show Only Millionaires 💰

Sort by Richest ↓

Calculate entire Wealth 📊

Name	Wealth
Aho	\$2,589,619.00
Rosenvinge	\$2,892,697.00
Nærø	\$822,516.00
Moore	\$9,257,377.00
Keçeci	\$6,754,867.00

```

random user data
▶ {results: Array(1), info: {...}}
data ▶ (5) [..., ..., ..., ..., ...] script.js:25
tempData <div class="person"> script.js:18
<strong>Waara</strong> $1,795,290.00</div><div
class="person"><strong>Aho</strong>
$2,589,619.00</div><div class="person">
<strong>Rosenvinge</strong> $2,892,697.00</div><div
class="person"><strong>Nærø</strong>
$822,516.00</div><div class="person">
<strong>Moore</strong> $9,257,377.00</div>
random user data
▶ {results: Array(1), info: {...}}
data
▼ (6) [..., ..., ..., ..., ..., ...] i
▶ 0: {name: 'Waara', money: 1795290}
▶ 1: {name: 'Aho', money: 2589619}
▶ 2: {name: 'Rosenvinge', money: 2892697}
▶ 3: {name: 'Nærø', money: 822516}
▶ 4: {name: 'Moore', money: 9257377}
▶ 5: {name: 'Keçeci', money: 6754867}
length: 6
▶ [[Prototype]]: Array(0)
tempData <div class="person"> script.js:18
<strong>Waara</strong> $1,795,290.00</div><div
class="person"><strong>Aho</strong>
$2,589,619.00</div><div class="person">
<strong>Rosenvinge</strong> $2,892,697.00</div><div
class="person"><strong>Nærø</strong>
$822,516.00</div><div class="person">
<strong>Moore</strong> $9,257,377.00</div>
class="person"><strong>Keçeci</strong>
$6,754,867.00</div>

```

File Edit Selection View Go Run Terminal Help script.js - DOM_demo - Visual Studio Code

index.html JS script.js W06_05.md

theme > JS script.js > [x] showMillionaires > [x] filteredData > [x] data.filter() callback

```

31   return '$' + number.toFixed(2).replace(/\d(?=(\d{3})+\.)/g, '$&,');

```

iClass DOM Array Me! 上傳圖片(照片) Upload.cc: 免費 127.0.0.1:5500/theme/index.html

收件匣 (391) - 2104... iClass 淡江大學身分別-淡... Class 2025 資訊鮮... kerry172128/1101...

```
32 }
33
34 const getRandomUser = async () => {
35     const res = await fetch('https://randomuser.me/api');
36     const data = await res.json();
37     console.log('random user data ', data);
38     const user = data.results[0];
39     const newUser = {
40         name: `${user.name.last}`,
41         money: Math.floor(Math.random()*10000000)
42     }
43     addData(newUser);
44 }
45
46 getRandomUser();
47 getRandomUser();
48 getRandomUser();
49
50 const doubleMoney = () => {
51     data = data.map( (user) => {
52         return {
53             name: user.name,
54             money: user.money * 2
55         }
56     });
57     updateDOM();
58 }
59
60 const showMillionaires = () => {
61     const filteredData = data.filter((user)=>{
62         return user.money>3000000
63     });
64     console.log('filteredData', filteredData);
65     updateDOM(filteredData);
66 }
67
68 addUserBtn.addEventListener('click', getRandomUser);
69 doubleBtn.addEventListener('click', doubleMoney);
70 showMillionairesBtn.addEventListener('click', showMillionaires);
```

Array Methods

Person	Wealth
Pütz	\$8,697,517.00
Petersen	\$4,388,027.00
Pedersen	\$6,350,551.00
Gray	\$6,106,891.00

Console ➞ + 1 ⚙ 1 ...

top Filter Default levels ▾

```
8,027.00</div><div class="person">
ng>Pedersen</strong> $6,350,551.00</div><div
="person"><strong>Marin</strong>
5,492.00</div><div class="person">
ng>Gray</strong> $6,106,891.00</div>

m user data script.js:37
results: Array(1), info: {...}

[[Prototype]]: Object
```

```
script.js:25
) [{}]
0: {name: 'Pütz', money: 8697517}
1: {name: 'Petersen', money: 4388027}
2: {name: 'Pedersen', money: 6350551}
3: {name: 'Marin', money: 2115492}
4: {name: 'Gray', money: 6106891}
5: {name: 'Kavaklıoğlu', money: 2770188}
length: 6
[[Prototype]]: Object
```

```
script.js:18
ata <div class= person >
ng>Pütz</strong> $8,697,517.00</div><div
="person"><strong>Petersen</strong>
8,027.00</div><div class="person">
ng>Pedersen</strong> $6,350,551.00</div><div
="person"><strong>Marin</strong>
5,492.00</div><div class="person">
ng>Gray</strong> $6,106,891.00</div><div
="person"><strong>Kavaklıoğlu</strong>
0,188.00</div>
```

```
redData script.js:64
) [{}]
0: {name: 'Pütz', money: 8697517}
1: {name: 'Petersen', money: 4388027}
2: {name: 'Pedersen', money: 6350551}
3: {name: 'Gray', money: 6106891}
length: 4
[[Prototype]]: Object
```

```
script.js:18
ata <div class="person">
ng>Pütz</strong> $8,697,517.00</div><div
="person"><strong>Petersen</strong>
8,027.00</div><div class="person">
ng>Pedersen</strong> $6,350,551.00</div><div
="person"><strong>Gray</strong>
6,891.00</div>
```



⊗ 0 △ 0 ⚡

Ln 62, Col 28 Spaces: 4 UTF-8 CRLF {} JavaScript ⚡ Port : 5500 ✅ Prettier ⚡ ⚡

Console Coverage + X

P5: use config for three buttons

```
const config = {  
    numRandom: 5,  
    ratio: 1.5,  
    showCondition: 2000000  
};
```