

More Practice with JavaScript

CS 130: Conditionals, Lists,
Objects, Loops, & Event Handlers

Announcements

1. HW3 due Wednesday!
2. **IMPORTANT:** [Project proposal meetings](#) this week: [sign up for a timeslot!](#)
3. Tutorial 7 this week will help you get started on HW4!

Goals for Today

1. Review of Tutorial 6 (solutions posted on Canvas)
2. Do some of the exercises we didn't get to during Lecture 12
 - a. Color mixer
 - b. Objects
 - c. List of objects
3. If time: work through HW3 together

Outline

- 1. Review of Tutorial 6**
2. Exercises from Lecture 12
3. HW3

Takeaways from Tutorial 6

- Sometimes (but not always), you want to generate parts of your HTML page using data.
 - This is often the case for “web apps” – where the content is driven by a database of content
 - However for portfolio sites, this is less common, because the content is usually fixed.
- Big takeaway: if you want to create a web app that pulls from a database, it’s important to think about converting sections of your web pages to dynamic, data-driven **templates**
 - Also important to know how to attach event handlers to your templates so that you can interact with them!

Tutorial 6: Code Review

1. Use a loop to generate all of the cards
2. Embed some data in the card
3. Create the event listener / handler

Outline

1. Review of Tutorial 6
- 2. Exercises from Lecture 12**
3. HW3

Exercises from Lecture 12

Let's try doing the following exercises:

- 01-color-mixer
- 04-single-object
- 05-list-of-objects

01-color-mixer > If / Else Statements

If the condition evaluates to True, the first block executes.

If the condition evaluates to False, the second block executes.

```
if (condition) {  
    statement 1;  
    statement 2;  
}  
else {  
    statement 1;  
    statement 2;  
}
```

CONDITION

Boolean expression that evaluates to True or False.

01-color-mixer > Logical Operators

Operator	Meaning	Explanation
&&	and	If both operands are true, then the “and expression” also evaluates to true. Otherwise, the “and expression” evaluates to false.
	or	If either or both of the operands are true, then the “or expression” also evaluates to true. Otherwise, the “or expression” evaluates to false.
!	not	if the operand is false, then the “not” of the operand is true (and vice versa).

Exercises from Lecture 12

Let's try doing the following exercises:

- 01-color-mixer
- **04-single-object**
- 05-list-of-objects

Objects: Representing Complex Entities

Some kinds of data (i.e. data about people, places, and belongings) are complex, and need more complex data structures to represent them in ways that a computer can understand and easily store and manipulate.

Often entities that are made up of sub-entities, which are related in some way. Examples:

- Tweets, Facebook posts, etc.
- Student data (like in Caesar)
- IRS data
- Human resources data

Example

```
const person = {  
  name: "Jane",  
  pic: "http://knight.gamebanana.com/img/ico/sprays/patrick_star_preview_2.png",  
  score: 300  
};
```

Code Example: Object Demo

- Download lecture files and open the **04-single-object** folder in VS Code
- Practice with dot notation

Exercises from Lecture 12

Let's try doing the following exercises:

- 01-color-mixer
- 04-single-object
- **05-list-of-objects**

for...of loop versus forEach method

If you want to do something for each item of a list, you have many options. Here are 2 of them (they do the same thing):

```
const names = ['charlie', 'freddie', 'lucy'];
```

```
//option 1:
```

```
for (const name of names) {  
    console.log(name);  
}
```

```
//option 2:
```

```
names.forEach(name => {  
    console.log(name, idx);  
});
```


Before we do 05-list-of-objects...

```
const people = [  
  { name: "Jane", pic: "http://knight.gamebanana.com/patrick.png", score: 300 },  
  { name: "Brenda", pic: "https://3.bp.blogspot.com/spongeBob.png", score: 10 } ,  
  { name: "Wanda", pic: "https://3.bp.blogspot.com/spongeBob.png", score: 60 },  
  { name: "Maria", pic: "http://knight.gamebanana.com/patrick.png", score: 80 },  
  { name: "Jasper", pic: "https://3.bp.blogspot.com/spongeBob.png", score: 600 },  
  { name: "Malik", pic: "http://knight.gamebanana.com/patrick.png", score: 40 }  
];
```

- Write code that prints the name of the fourth player to the console.
- Write code that draws the avatar of the third player to the screen (as an img tag).
- Write code that adds the scores of the fifth and sixth player together.

Outline

1. Review of Tutorial 6
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- 3. HW3**

Let's download and work through HW3 together