GENERAL ASSEMBLY

JAVASCRIPT DEVELOPMENT

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HELLO!

1. Pull changes from the `svodnik/jsd6` repo to your computer
2. Open the `starter-code` folder in your code editor

PROTOTYPAL INHERITANCE

LEARNING OBJECTIVES

At the end of this class, you will be able to

- Explain the difference between literal and constructed objects.
- Write a constructor for a JavaScript object.
- Explain prototypal inheritance and its purpose.
- Recognize the difference between prototypal and classical inheritance.
- Create and extend prototypes.

AGENDA

- Objects and constructors
- Prototypal inheritance

Checkin on Unit #2 Project - Feedr

- The **biggest challenge I have faced or anticipate facing** in completing the Feedr project is _____.
- (If you have already started on the Feedr project:) My **biggest accomplishment** so far in working on Feedr is _____.

What are some advantages of using templates in JavaScript?

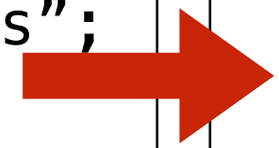
CREATE A TORTOISE OBJECT

PROTOTYPES

- Every object in JS has a `prototype` property, which is a reference to another object
- The object that the `prototype` property points to is generally an instance of the constructor object
- Any properties/methods defined on an object's prototype are available on the object itself, without defining those properties/methods a second time
- The relationship between objects that have a prototypal relationship with each other is known as the **prototype chain**

Using the `prototype` property

```
function Dog(name, breed) {
  this.name = name;
  this.breed = breed;
}
Dog.prototype.species = “Canis Canis”;
Dog.prototype.bark = function() {
  return “Woof! I’m “ + this.name;
}
```



Dog.prototype

```
{
  species: “Canis Canis”,
  bark: function() {
    return “Woof! I’m “ +
      this.name;
  }
}
```

Using the `prototype` property

```
var spot = new Dog("Spot", "Beagle");
```

`spot` object (constructed)

individual properties created by the constructor function

inherited from `Dog.prototype` object

```
{
  name: “Spot”,
  breed: “Beagle”,
  species: “Canis Canis”,
  bark: function() {
    return “Woof! I’m “ + this.name;
  }
}
```

PROTOTYPE TERMINOLOGY

- prototype: a model used to create instances
- `prototype` property: a reference to another object that is generally an instance of the constructor object
- `__proto__` (or “dunder proto”): a property used by web browsers that indicates an object’s parent in the prototype chain

CLASS VS PROTOTYPE

- In class-based languages, classes are objects that
  - manufacture new objects
  - define the behavior of the objects they manufacture
- In JavaScript
  - a constructor function manufactures new objects
  - a `prototype` property defines the behavior of new objects manufactured by the constructor

`Object.create()`

- Creates a new object
- Sets prototype of new object to be existing object
- Some differences under the hood, but essentially equivalent to using the `new` keyword
- Example:
  - `var me = Object.create(Person)`
  - equivalent to `var me = newPerson();`

LEARNING OBJECTIVES - REVIEW

- Explain the difference between literal and constructed objects.
- Write a constructor for a JavaScript object.
- Explain prototypal inheritance and its purpose.
- Recognize the difference between prototypal and classical inheritance.
- Create and extend prototypes.

NEXT CLASS PREVIEW

`this` and the module pattern

- Understand and explain Javascript context.
- Implement the module pattern in your code.

Exit Tickets!

Q&A