

JS Objects

Objects

Objects are a data type that let us store a collection of properties and methods.

```
var objectName = {  
  propertyName: propertyValue,  
  propertyName: propertyValue,  
  ...  
};
```

```
var aboutMe = {  
  hometown: "Pasadena, CA",  
  hair: "brown"  
};  
  
var lizzieTheCat = {  
  age: 18,  
  furColor: "grey",  
  likes: ["catnip", "milk"],  
  birthday: {"month": 7, "day": 17, year: 1994}  
};
```

Objects Access

Access properties using "dot notation":

```
var aboutMe = {  
  hometown: "Pasadena, CA",  
  hair: "brown"  
};  
  
var myHometown = aboutMe.hometown;
```

Or using "bracket notation" (like arrays):

```
var myHair = aboutMe["hair"];
```

Non-existent properties will return undefined:

```
var myGender = aboutMe["gender"];
```

Changing Objects

Use dot or bracket notation with the assignment operator to change objects.

Change existing properties:

```
var aboutMe = {  
  hometown: "Pasadena, CA",  
  hair: "brown"  
};  
aboutMe.hair = "blue";
```

Or add new properties:

```
aboutMe.gender = "female";
```

You can also delete properties:

```
delete aboutMe.gender;
```

Arrays of Objects

Since arrays can hold any data type, they can also hold objects:

```
var myCats = [  
  {name: "Lizzie",  
    age: 18},  
  {name: "Daemon",  
    age: 1}  
];  
  
for (var i = 0; i < myCats.length; i++) {  
  var myCat = myCats[i];  
  console.log(myCat.name + ' is ' + myCat.age + ' years old.');
```

Objects as Arguments

Just like other data types, objects can be passed into functions:

```
var lizzieTheCat = {  
  age: 18,  
  furColor: "grey",  
  likes: ["catnip", "milk"],  
  birthday: {"month": 7, "day": 17, year: 1994}  
}  
  
function describeCat(cat) {  
  console.log("This cat is " + cat.age + " years old with " + cat.furColor + " fur.");  
}  
  
describeCat(lizzieTheCat);
```

Exercise Time!

Object methods

Object properties can also be functions. Object functions are called "methods".

```
var lizzieTheCat = {  
  age: 18,  
  furColor: 'grey',  
  meow: function() {  
    console.log('meowww');  
  },  
  eat: function(food) {  
    console.log('Yum, I love ' + food);  
  },  
  sleep: function(numMinutes) {  
    for (var i = 0; i < numMinutes; i++) {  
      console.log('z');  
    }  
  }  
};
```

Call object methods using dot notation:

```
lizzieTheCat.meow();  
lizzieTheCat.eat('brown mushy stuff');  
lizzieTheCat.sleep(10);
```

Built-in Objects

JS provides several built-in objects:

- [Array](#)
- [Boolean](#)
- [Number](#)
- [String](#)
- [RegExp](#)
- [Date](#)
- [Math](#)