JavaScript OOP

Agenda

JS object definition

Object manipulation

Constructor functions

Object prototypes

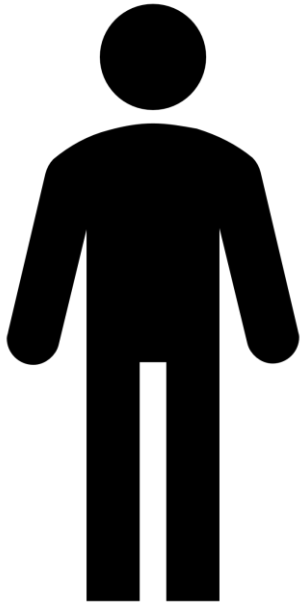
Objects

Properties

name
age
student
interests
address

Methods

greeting()



Object definition

```
var objectName = {

      name1: value1,
      name2: value2,
      name3: value3,
      …
}
```

value – number, string, array, object, function, …

Introducing JavaScript objects

JavaScript Objects

Object definition

```
var person = {

     name: "Adam",
     age: 23,
     student: true,
     interests: ["swimming", "reading"],
     address: {city:"Krakow", street:"Rakowicka"},

     greeting: function() {
          alert("Hi, I'm " + this.name);
     }

}
```

Object manipulation

```
alert(person.name);

person.student = false;

alert(person.fullname());

person.age = 24;

person.address.city = "Zakopane";

person.interests[0] = "shopping";

person.phone = "566 534 039";
```

Constructor functions

```
function Person(name, age, student) {
     this.name = name;
     this.age = age;
     this.student = student;
     this.greeting = function(){
          alert("Hi, I'm " + this.name);
     }
}

var person1 = new Person("Adam", 23, true);
```

Object prototypes

JavaScript – prototype-based language

Prototype-based (class-based vs. prototype-based)

Introduction to object prototypes

To do

Display movie

Complete the movie.html document. Display all movie details on the console.

Create mobile phone

1. **Open the mobile.html document. Then create an object describing your mobile phone.**
2. **The object should consist of at least five properties of different types (string, number, boolean, array, object).**
3. **Add a button and display the mobile phone description in a popup window after clicking on the button.**

Calculate BMI

Complete the JavaScript code in the bmi.html document to calculate BMI (Body Mass Index).

Analyse an array

Complete the JavaScript code in the array.html document.

Display books list

1. **Based on the list of books below, create in the books.html an array of five objects, where each object describes a single book.**
2. **Iterate through the array of books and display in the console the details of books in paperback.**

```
id,title,author,format,price
"The Return of Duck and Goose","Sir Piggy",paperback,19.99
"The Adventures of Duck and Goose","D. Cow",hardback,18.99
"My Friend is a Duck","A. Parrot",paperback,14.99
"'Duck and Goose' Cheat Sheet for Students","Polly Parrot",paperback,5.99
"'Duck and Goose': an allegory for modern times?","Bor Ing",ebook,59.99
```

Source: http://dickimaw-books.com/latex/admin/html/samplecsv.shtml

Create constructor function

1. **In the forsale.html document, create a constructor function** House **with the following properties and methods:**
   - bedrooms (the number of bedrooms)
   - facilities (an array of house facilities, eg. [’garden’,’garage’,’swimming pool’])
   - price
   - address (an object of street, city)
   - phone (eg. 555 222 111)
   - changePrice(newPrice){…}
   - addFacility(newFacility){…}
   - description() { returns a string containing a full house description, i.e. bedroom, facilities, price, address)}
2. **Then use the constructor function to create a collection of five houses.**
3. **Display the house details in the console (use the description method and a loop).**
4. **Change a price of two houses and add at least one facility in three houses).**
5. **Display the house details in the console.**