Programming for Journalists

UC Berkeley Graduate School of Journalism

Functions

- A function is a list of code that is stored so that it can be executed at a later time.

- The code within a function does not run, until you tell it to.

- Function names follow same naming rules as variables.

- Functions can be stored inside variables.

Anatomy of a function

```
function someName(){

    $('#response').html("Hello World");

}
```

Anatomy of a function

```
function someName(){

    $('#response').html("Hello World");

}
```

Always start with the word function,
written in lowercase

Anatomy of a function

```
function someName(){

    $('#response').html("Hello World");

}
```

Naming rules follow same for variable names. Should start with lowercase letter

Anatomy of a function

```
function someName(){

    $('#response').html("Hello World");

}
```

Open and closing parenthesis. This will be important later.

Anatomy of a function

```
function someName(){

   $('#response').html("Hello World");

}
```

Code is surrounded by curly brackets.

Anatomy of a function

```
function someName(){

    $('#response').html("Hello World");

}
```

Remember: Code doesn't run until we want
it to.

Anatomy of a function

```
function someName(){

    $('#response').html("Hello World");

}
```

```
someName();
```

One way to run a function, is to type it with the parenthesis.

Pop Quiz

```
function showMessage(){

    $('#response').html(5 + "5");

}

showMessage();

output:
```

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    $('#response').html(5 + "5");

}

showMessage();

output: 55
```

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    var myarray = [4, 5, 2, 1];
    $('#response').html(myarray[0] + myarray[1]);

}

showMessage();

output:
```

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    var myarray = [4, 5, 2, 1];
    $('#response').html(myarray[0] + myarray[1]);

}

showMessage();
```

output: 9

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    var obj = {"name":"Bob", "age":56};
    $('#response').html(obj.name);

}

showMessage();

output:
```

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    var obj = {"name":"Bob", "age":56};
    $('#response').html(obj.name);


}

showMessage();

output: Bob
```

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    $('#response').html("Hello World");

}
```

output:

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    $('#response').html("Hello World");

}
```

output:

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    $('#response').html("Hello");

}

showMessage();

output:
```

What do we see on the screen?

Pop Quiz

```
function showMessage(){

    $('#response').html("Hello");

}

showMessage();

output: Hello
```

What do we see on the screen?

Passing Data into a Function

```
function showMessage(message){


    $('#response').html(message);

}
```

Passing Data into a Function

```
function showMessage(message){


    $('#response').html(message);


}


showMessage("Hello World! How are you?");
```

Passing Data into a Function

```
function showMessage(message){


    $('#response').html(message);


}


showMessage("Hello World! How are you?");
```
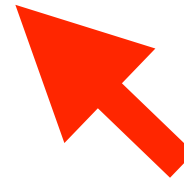
Passing Data into a Function

```
function showMessage(message){



    $('#response').html(message);


}


showMessage("Hello World! How are you?");
```

Passing Data into a Function

```
function showMessage(message){


    $('#response').html(message);


}


showMessage("Hello World! How are you?");
```

Passing Data into a Function

```javascript
function showMessage(message){


    $('#response').html(message);


}


showMessage("Hello");
showMessage("World");
showMessage("Ahhhhhhhh");
```

Pop Quiz

```
function showMessage(message){

   $('#response').html(message);

}

showMessage("This isn't so hard");

output:
```

What do we see on the screen?

Pop Quiz

```
function showMessage(message){

    $('#response').html(message);

}

showMessage("This isn't so hard");

output: This isn't so hard
```

What do we see on the screen?

Pop Quiz

```
function showMessage(message){

    $('#response').append(message);

}
showMessage("Testing...");
showMessage("1, 2, 3");

output:
```

What do we see on the screen?

Pop Quiz

```
function showMessage(message){

    $('#response').append(message);

}
showMessage("Testing...");
showMessage("1, 2, 3");

output: Testing... 1, 2, 3
```

What do we see on the screen?

Pop Quiz

```
function calculateScore(score){

    score += 1000;
    $('#response').html("You scored " + score);
}

calculateScore(1);

output:
```

What do we see on the screen?

Pop Quiz

```
function calculateScore(score){

    score += 1000;
    $('#response').html("You scored " + score);
}

calculateScore(1);

output: Your score is 1001
```

What do we see on the screen?

Pop Quiz

```
function canYouRideFerrisWheel(height){
    if(height > 40){
      document.write("Hop on!");
    } else {
      document.write("Sorry");
    }
}
canYouRideFerrisWheel(40);

output:
```

What do we see on the screen?

Pop Quiz

```
function canYouRideFerrisWheel(height){
    if(height > 40){
      document.write("Hop on!");
    } else {
      document.write("Sorry");
    }
}
canYouRideFerrisWheel(40);

output:  Sorry
```

What do we see on the screen?

Pop Quiz

```
function canYouRideFerrisWheel(height){
    if(height > 40){
     $('#response').html("Hop on!");
    } else {
     $('#response').html("Too short to ride");
    }
}
canYouRideFerrisWheel(100000);

output:
```

What do we see on the screen?

Pop Quiz

```
function canYouRideFerrisWheel(height){
    if(height > 40){
      $('#response').html("Hop on!");
    } else {
      $('#response').html("Too short to ride");
    }
}
canYouRideFerrisWheel(100000);

output:  Hop on!
```

What do we see on the screen?

Pop Quiz

```
function canYouRideFerrisWheel(height){
    if(height > 40){
     $('#response').html("Hop on!");
    } else {
     $('#response').html("Too short to ride");
    }
}
canYouRideFerrisWheel(40);

output:
```

What do we see on the screen?

Pop Quiz

```
function canYouRideFerrisWheel(height){
    if(height > 40){
     $('#response').html("Hop on!");
    } else {
     $('#response').html("Too short to ride");
    }
}
canYouRideFerrisWheel(40);

output:  Too short to ride
```

What do we see on the screen?

Passing multiple values into function

```
function fullName(first, last){

    $('#response').html("Hi " + first + " " + last);

}

fullName("Jeremy", "Rue");
```

Pop Quiz

```
function addNumbers(num1, num2){

    $('#response').html(num1 + num2);

}

addNumbers(4, 8);


output:
```

Pop Quiz

```javascript
function addNumbers(num1, num2){

    $('#response').html(num1 + num2);

}

addNumbers(4, 8);



output: 12
```

Pop Quiz

```
function showData(array, index){

   $('#response').html(array[index]);

}

showData([1, 2, 3], 1);


output:
```

Pop Quiz

```
function showData(array, index){

    $('#response').html(array[index]);

}

showData([1, 2, 3], 1);


output: 2
```

Pop Quiz

```javascript
function canDrive(age, hasLicense){
    if(age > 16 && hasLicense == true){
        $('#response').html("Let's drive!");
    } else {
        $('#response').html("Keep to the bike");
    }
}

canDrive(43, false);
```

output:

Pop Quiz

```javascript
function canDrive(age, hasLicense){
    if(age > 16 && hasLicense == true){
      $('#response').html("Let's drive!");
    } else {
      $('#response').html("Keep to the bike");
    }
}

canDrive(43, false);


output: Keep to the bike
```

Pop Quiz

```
function canDrive(age, hasLicense){
    if(age > 16 && hasLicense){
     $('#response').html("Let's drive!");
    } else {
     $('#response').html("Keep to the bike");
    }
}

canDrive(8, true);


output:
```

Pop Quiz

```
function canDrive(age, hasLicense){
    if(age > 16 && hasLicense){
     $('#response').html("Let's drive!");
    } else {
     $('#response').html("Keep to the bike");
    }
}

canDrive(8, true);


output: Keep to the bike
```

Pop Quiz

```
function retrieveProperty(obj, prop){
    $('#response').html(obj[prop]);
}

retrieveProperty({"type":"cat"}, "type");
```

output:

Pop Quiz

```
function retrieveProperty(obj, prop){
    $('#response').html(obj[prop]);
}

retrieveProperty({"type":"cat"}, "type");
```

output: cat

Pop Quiz

```
function retrieveProperty(obj, prop){
    $('#response').html(obj[prop]);
}

retrieveProperty({"type":"cat"}, "type");
```

output: cat

Pop Quiz

```
function retrieveProperty(obj, prop){
    $('#response').html(obj[prop]);
}

retrieveProperty({"type":"cat"}, "type");
```

output: cat

Return Values

```
function addNumbers(num1, num2){

    return num1 + num2;

}
```

Return Values

```
function addNumbers(num1, num2){

    return num1 + num2;

}
```

Return Values

```
function addNumbers(num1, num2){

    return num1 + num2;

}

addNumbers(3, 5);
```

Return Values

```
function addNumbers(num1, num2){

    return num1 + num2;

}

var sum = addNumbers(3, 5);
```

Pop Quiz

```
function addNumbers(num1, num2){

    var total = num1 + num2;

    return total;
}

$('#res').html(addNumbers(4, 1));

output:
```

Pop Quiz

```javascript
function addNumbers(num1, num2){

    var total = num1 + num2;

    return total;
}

$('#res').html(addNumbers(4, 1));

output: 5
```

Pop Quiz

```
function calculatePercentage(is, of){

    var percent = is/of * 100;

    return is + " is " + percent + " percent of " + of;

}

$('#res').html( calculatePercentage(3, 10) );

output:
```

Pop Quiz

```
function calculatePercentage(is, of){

    var percent = is/of * 100;

    return is + " is " + percent + " percent of " + of;

}

$('#res').html( calculatePercentage(3, 10) );

output: 3 is 30 percent of 10
```

Pop Quiz

```javascript
function appendPrefix(gender, name){
    if(gender == "male"){
        name = "Mr. " + name;
    } else {
        name = "Ms. " + name;
    }
    return name;
}
```

```javascript
$('#res').html("Why hello " + appendPrefix("male", ""Stevens"));
```

output:

Pop Quiz

```javascript
function appendPrefix(gender, name){
    if(gender == "male"){
        name = "Mr. " + name;
    } else {
        name = "Ms. " + name;
    }
    return name;
}
```

```javascript
$('#res').html("Why hello " + appendPrefix("male", "“Stevens"));
```

output: Why hello Mr. Stevens

Pop Quiz

```
function appendPrefix(gender, name){
    if(gender == "male"){
        name = "Mr. " + name;
    } else {
        name = "Ms. " + name;
    }
    return name;
}
```

```
$('#res').html(appendPrefix("male", "Stevens") + ", please meet "
+ appendPrefix("female", "Wright"));
```

output:

Pop Quiz

```
function appendPrefix(gender, name){
    if(gender == "male"){
        name = "Mr. " + name;
    } else {
        name = "Ms. " + name;
    }
    return name;
}

$('#res').html(appendPrefix("male", "Stevens") + ", please meet "
+ appendPrefix("female", "Wright"));
```

output: Mr. Stevens, please meet Ms. Wright

Pop Quiz

```
function average(num1, num2, num3, num4){
   var avg = (num1 + num2 + num3 + num4)/4;
   return avg;
}


$('#res').html(average(1, 1, 1, 1) + " is boring, while " +
average(1, 2, 3, 4) + " is more interesting.");
```

output:

Pop Quiz

```
function average(num1, num2, num3, num4){
    var avg = (num1 + num2 + num3 + num4)/4;
    return avg;
}


$('#res').html(average(1, 1, 1, 1) + " is boring, while " +
average(1, 2, 3, 4) + " is more interesting.");


output: 1 is boring while 2.5 is interesting
```

Pop Quiz

```
function calculateAverage(arrayOfNumbers){
  var total = 0;

  for(var i=0; i<arrayOfNumber.length;i++){
    total += arrayOfNumbers[i];
  }

  return total/arrayOfNumbers.length;
}
```

```
$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

output:

Pop Quiz

```javascript
function calculateAverage(arrayOfNumbers){
    var total = 0;

    for(var i=0; i<arrayOfNumber.length;i++){
        total += arrayOfNumbers[i];
    }

    return total/arrayOfNumbers.length;
}

$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));

output: 5
```

Pop Quiz

```javascript
function calculateAverage(arrayOfNumbers){
  var total = 0;

  for(var i=0; i<arrayOfNumbers.length;i++){
    total += arrayOfNumbers[i];
  }

  return total/arrayOfNumbers.length;
}

$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

Pop Quiz

```javascript
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$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

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Pop Quiz

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   var total = 0;

   for(var i=0; i<arrayOfNumbers.length;i++){
      total += arrayOfNumbers[i];
   }

   return total/arrayOfNumbers.length;
}

$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```
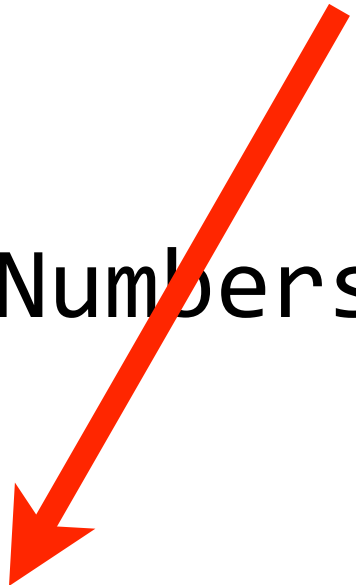
Pop Quiz

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function calculateAverage(arrayOfNumbers){
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  return total/arrayOfNumbers.length;
}

$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
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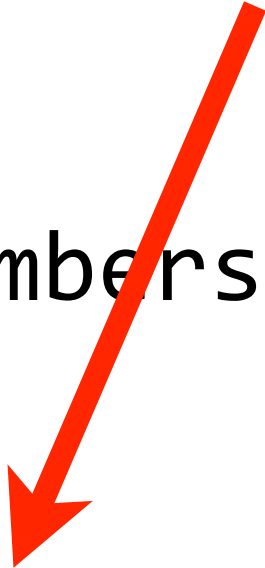
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Pop Quiz

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Pop Quiz

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Pop Quiz

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```

Pop Quiz

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  }

  return total/arrayOfNumbers.length;
}

$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

Pop Quiz

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function calculateAverage(arrayOfNumbers){
    var total = 0;

    for(var i=0; i<arrayOfNumbers.length;i++){
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    }

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}


$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

Pop Quiz

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function calculateAverage(arrayOfNumbers){
    var total = 0;

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    }

    return total/arrayOfNumbers.length;
}

$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```
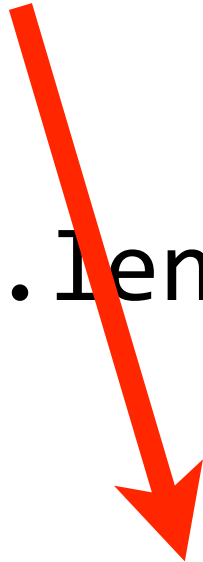
Pop Quiz

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   return total/arrayOfNumbers.length;
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$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

Pop Quiz

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Pop Quiz

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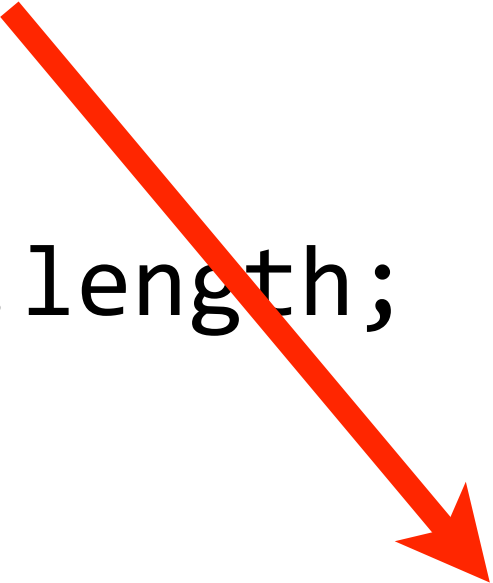
Pop Quiz

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   }

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$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

Pop Quiz

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function calculateAverage(arrayOfNumbers){
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Pop Quiz

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Pop Quiz

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$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```

Pop Quiz

```javascript
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$('#res').html(calculateAverage([1, 2, 3, 4, 5, 6, 7, 8, 9]));
```