

# Loops

## The good ol' while loop

```
var count = 0;
while (count < 10) {
  console.log(count);
  count = count + 1;
}
```

## The good ol' while loop, with post-increment

```
var count = 0;
while (count < 10) {
  console.log(count);
  // count = count + 1;
  count++;
}
```

# The for loop

```
for (var count=0; count < 10; count++) {  
  console.log(count);  
}
```

# Collections

# Arrays

## A variable assigned to an empty array

```
var lottoNums = [];
```

## Adding values to an array

```
var lottoNums = [];  
lottoNums.push(23);  
lottoNums.push(11);  
lottoNums.push(43);  
lottoNums.push(19);  
lottoNums.push(37);  
lottoNums.push(16);
```

```
console.log(lottoNums);  
// [23, 11, 43, 19, 37, 16]
```



## A variable assigned to an array of numbers

```
var lottoNums = [23, 11, 43, 19, 37, 16];
```

## Accessing an element in an array

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
console.log(lottoNums[0]);  
// 23  
  
console.log(lottoNums[3]);  
// 19
```

## Accessing an element in an array

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
console.log(lottoNums[0]);  
// 23  
  
console.log(lottoNums[3]);  
// 19
```

### No error here:

```
console.log(lottoNums[30000000]);  
// undefined
```

## Reassigning an element in an array

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
lottoNums[0] = 100  
console.log(lottoNums[0]);  
// 100
```

## Removing an element from the end of an array

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
lottoNums.pop(); // removes *and* returns  
// 16  
  
var thePoppedNumber = lottoNums.pop();  
console.log(thePoppedNumber);  
// 37
```

## Removing an element from the end beginning an array

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
var theShiftedNumber = lottoNums.shift();  
console.log(theShiftedNumber);  
// 23
```

## Removing an element from the middle of an array

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
var arrayOfSplicedValues = lottoNums.splice(2, 1);  
console.log(arrayOfSplicedValues);  
// [43]
```

## Multiple values

```
var lottoNums = [23, 11, 43, 19, 37, 16];  
var arrayOfSplicedValues = lottoNums.splice(2, 3);  
console.log(arrayOfSplicedValues);  
// [43, 19, 37]
```

## Converting a string to an array of words

```
var words = 'oh hey how is it going'.split(' ');  
console.log(words);  
// [ "oh", "hey", "how", "is", "it", "going" ]
```



## Looping through an array

```
var words = 'oh hey how is it going'.split(' ');  
for (var i=0; i<words.length; i++) {  
    console.log(words[i]);  
}
```

## Putting an array together into a string

```
var words = 'oh hey how is it going'.split(' ');  
for (var i=0; i<words.length; i++) {  
    console.log(words[i]);  
}
```

```
console.log(words.join(' '));  
// 'oh hey how is it going'
```

# Objects

## JS Objects: like a python dictionary, only different

```
var characterSheet = {  
  name: 'tim berners-lee',  
  title: 'sir',  
  powers: 'invent the web'  
};
```

## Adding a property to an object

```
var characterSheet = {};  
characterSheet['name'] = 'tim berners-lee';  
characterSheet['title'] = 'sir';  
characterSheet['powers'] = 'invent the web';
```

## Deleting properties from an object

```
var characterSheet = {};  
characterSheet['name'] = 'tim berners-lee';  
characterSheet['title'] = 'sir';  
characterSheet['powers'] = 'invent the web';
```

```
delete characterSheet['title'];
```

## Dyanmic key names

```
var characterSheet = {  
  name: 'tim berners-lee',  
  title: 'sir',  
  powers: 'invent the web'  
};
```

```
var key = 'name';  
console.log(characterSheet[key]);
```

## Dynamic key names in an array

```
var characterSheet = {  
  name: 'tim berners-lee',  
  title: 'sir',  
  powers: 'invent the web'  
};
```

```
var keys = ['name', 'title', 'powers'];  
for (var i=0; i<keys.length; i++) {  
  var keyName = keys[i];  
  console.log(characterSheet[keyName]);  
}
```



## Dynamic key names in an array, alternative

```
var characterSheet = {  
  name: 'tim berners-lee',  
  title: 'sir',  
  powers: 'invent the web'  
};
```

```
var keys = ['name', 'title', 'powers'];  
for (var i=0; i<keys.length; i++) {  
  // var keyName = keys[i];  
  // console.log(characterSheet[keyName]);  
  console.log(characterSheet[keys[i]]);  
}
```

## Obtaining the keys programmatically

```
var characterSheet = {  
  name: 'tim berners-lee',  
  title: 'sir',  
  powers: 'invent the web'  
};
```

```
var keyNameList = Object.keys(characterSheet);  
for (var i=0; i<keyNameList.length; i++) {  
  console.log(characterSheet[keyNameList[i]]);  
}
```

finito!