## More Functions

### Exercise

- Write a function called `until100` that takes an age as a parameter and pops up a message telling you when you will be 100.

- For example, if you call `until100(18)`, then the message that appears should be:
  
  You will be 100 in 82 years.

### Solution

```javascript
function until100(age) {
    alert("You will be 100 in " + (100 - age) + " years.");
}
```

- To test, call the function with different values:
  
  `until100(18);`
  
  `until100(53);`
  
  `until100(2);`
  
  `until100(0);`

### Exercise

- Write a function called `doubleTalk` that takes a message as a parameter and pops up a box that displays the message twice.

- For example, the following function call:
  
  `doubleTalk("Woohoo!");`
  
  would pop up a box with the message:
  
  Woohoo! Woohoo!

### Solution

```javascript
function doubleTalk(message) {
    alert(message + " " + message);
}
```

### Exercise

- Write a function called `square` that takes a number and returns the square of the number.

- Example function call:
  
  `var x = square(8);`
  
  (x should now have the value 64)
Solution

```javascript
function square(x) {
    return x * x;
}
```

Exercise

- Write a function called `min` that takes two numbers as parameters and returns the smaller value of the two (or either number if they are equal).

  Example function call:
  ```javascript
  var smaller = min(18, 10);
  (smaller should now have the value 10)
  ```

Solution

```javascript
function min(a, b) {
    if (a < b) {
        return a;
    } else {
        return b;
    }
}
```

Exercise

- Write a function called `squaredMin` that takes two numbers as parameters and returns the square of the smaller value of the two (or the square of either number if they are equal).

  Example function call:
  ```javascript
  var answer = squaredMin(18, 10);
  (answer should now have the value 100)
  ```

Solution

```javascript
function min(a, b) {
    if (a < b) {
        return a;
    } else {
        return b;
    }
}
function square(x) {
    return x * x;
}
function squaredMin(a, b) {
    return square(min(a, b));
}
```

Calling Functions

- **passing parameters**: calling a function and specifying values for its parameters

  Example:
  ```javascript
  var smaller = min(9*2, 10);
  (passing `18` and `10` to `min`)
  ```
Passing Parameters

- When a function is called:
  - the values passed to the function are copied into the parameter variables
  - the function’s code executes using those values

Tracing A Function Call

```javascript
function min(a, b) {
    if (a < b) {
        return a;
    } else {
        return b;
    }
}

var first = min(9*2, 10);
var second = min(77, 11+3);
```