OBJECT PROTOTYPES

EXAMPLE: EXTENDING A BUILT-IN CLASS

```
"hello".length; // 5
"hello".length2; // undefined

String.prototype.length2 = 1000;
"hello".length2; // 1000

String.prototype.twiceLength = function() {
    return this.length * 2;
}
"hello".twiceLength(); // 10
```

EXAMPLE: EXTENDING YOUR OWN CLASS

```
function Point(x, y) {
    this.x = x;
    this.y = y;
}

Point.prototype.distanceFrom = function(point) {
    var xSquared = (this.x - point.x) * (this.x - point.x);
    var ySquared = (this.y - point.y) * (this.y - point.y);
    return Math.sqrt(xSquared + ySquared);
}
```

EXAMPLE 2 CONTINUED

- WHAT IS THE VALUE OF `distance`?

```
var aPoint = new Point(3,4);
var bPoint = new Point(0,0);

var distance = aPoint.distanceFrom(bPoint));
```

EXERCISE

- CREATE A 'RECTANGLE' CLASS
- THE CONSTRUCTOR SHOULD TAKE IN FOUR PARAMETERS: X, Y, WIDTH, AND HEIGHT, WHERE X AND Y ARE THE TOP LEFT CORNER
- MODIFY THIS CLASS'S PROTOTYPE TO CONTAIN A "COMPUTEAREA" FUNCTION, WHICH RETURNS THE AREA OF THE RECTANGLE

EXERCISE

- MODIFY THE "RECTANGLE" CLASS'S PROTOTYPE TO CONTAIN A "CONTAINSPOINT" FUNCTION. WHICH DETECTS WHETHER A POINT IS WITHIN THE RECTANGLE