

Day 4: Create a Rectangle Object ★

Points: 15/17



10

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Editorial by AllisonP

We can construct the rectangle using the built-in Object constructor:

However, there isn't a lot of sense in doing this, at the very least because the properties of the object we created won't be very obvious to someone else reading this code. Here are some more optimal approaches:

1. Use a Constructor Function

Here are a few approaches:

```
function Rectangle(a, b) {
  return {
    get length() { return a; },
    get width() { return b; },
    get perimeter() { return 2 * (a + b); },
    get area() { return a * b; }
  }
}
```

```
function Rectangle(a, b) {
  // Set the object's properties
  this.length = a;
  this.width = b;
  this.perimeter = 2 * a + 2 * b;
  this.area = a * b;

  // This isn't necessary, but it prevents new properties from being added
  // It also prevents the properties we've already set from being changed
  Object.freeze(this);
}
```

```
function Rectangle(a, b) {
  Object.defineProperty(this, 'length', {
    get: () => {
      return a;
    }
  });

  Object.defineProperty(this, 'width', {
    get: () => {
      return b;
    }
  });

  Object.defineProperty(this, 'perimeter', {
```

STATISTICS

Difficulty: Easy

Time Complexity:

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This is a Practice Challenge

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```

        get: () => {
            return 2 * (a + b);
        }
    });

    Object.defineProperty(this, 'area', {
        get: () => {
            return a * b;
        }
    });
}

```

2. Use an Object Initializer / Object Literal

Probably the easiest way to construct an object on the fly is to use object literals.

For example:

```

let myObject = {
    property1: 1,
    property2: 2
    // ... and so on
}
console.log(myObject)
// This prints:
// { property1: 1, property2: 2 }

```

In the context of this challenge, we construct our rectangle like so:

```

function Rectangle(a, b) {
    const rectangle = {
        length: a,
        width: b,
        perimeter: 2 * (a + b),
        area: a * b
    };

    return rectangle;
}

```



Set by [AvmnuSng](#)

Problem Setter's code:

```

function Rectangle(a, b) {
    const rec = {
        length: a,
        width: b,
        perimeter: 2 * (a + b),
        area: a * b
    };

    return rec;
}

```



Tested by [AllisonP](#)

Problem Tester's code:

```
function Rectangle(a, b) {  
  this.length = a;  
  this.width = b;  
  this.perimeter = 2 * a + 2 * b;  
  this.area = a * b;  
  Object.freeze(this);  
}
```

Feedback

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