Exercise (Instructions): Understanding Node Modules

Objectives and Outcomes

In this exercise, you will learn about writing Node applications using JavaScript and also learn about the basics of Node modules. At the end of this exercise, you will be able to:

- Write a simple Node application in JavaScript.

- Understand the basics of Node modules and write simple file-based Node modules

Starting a Node Application

- Create a folder named *node-examples* at a convenient location on your computer, and move to that folder.

- Create a file named *simplerect.js* and add the following code to this file:

```
1   var rect = {
2     perimeter: function (x, y) {
3             return (2*(x+y));
4     },
5     area: function (x, y) {
6             return (x*y);
7     }
8   };
9
10  function solveRect(l,b) {
11      console.log("Solving for rectangle with l = " + l + " and b = " + b);
12
13      if (l < 0 || b < 0) {
14          console.log("Rectangle dimensions should be greater than zero:  l = "
15                  + l + ",  and b = " + b);
16      }
17      else {
18    console.log("The area of a rectangle of dimensions length = "
19                  + l + " and breadth = " + b + " is " + rect.area(l,b));
20    console.log("The perimeter of a rectangle of dimensions length = "
21                  + l + " and breadth = " + b + " is " + rect.perimeter(l,b));
22      }
23  }
24
25  solveRect(2,4);
26  solveRect(3,5);
27  solveRect(-3,5);
```

- To run the Node application, type the following at the prompt:

```
1        node simplerect
```

A Simple Node Module

- Now, create a file named *rectangle-1.js*, and add the following code to it:

```
1  exports.perimeter = function (x, y) {
2        return (2*(x+y));
3  }
4
5  exports.area = function (x, y) {
6        return (x*y);
7  }
```

- Then, create another file named *solve-1.js* and add the following code to it:

```
1   var rect = require('./rectangle-1');
2
3   function solveRect(l,b) {
4       console.log("Solving for rectangle with l = " + l + " and b = " + b);
5
6       if (l < 0 || b < 0) {
7           console.log("Rectangle dimensions should be greater than zero:  l = "
8                   + l + ",  and b = " + b);
9       }
10      else {
11    console.log("The area of a rectangle of dimensions length = "
12                + l + " and breadth = " + b + " is " + rect.area(l,b));
13    console.log("The perimeter of a rectangle of dimensions length = "
14                + l + " and breadth = " + b + " is " + rect.perimeter(l,b));
15      }
16  }
17
18  solveRect(2,4);
19  solveRect(3,5);
20  solveRect(-3,5);
```

- To run the Node application, type the following at the prompt:

```
1        node solve-1
```

Conclusions

In this exercise, you learnt about writing simple Node applications in JavaScript. Thereafter you learnt about writing a basic Node module and use it within your Node application.

✓ Complete