

Scripting Languages G22.3033-002 Summer 2008

Example solutions for hw06

Assigned Th 6/26/2008, due Fr 7/4 at 9pm. 50 points.

<http://www.cs.nyu.edu/courses/summer08/G22.3033-002/>

Instructions for example solutions

These are example solutions. Please keep in mind that often, there is not just one correct solution to a question. If you come up with different answers, then it may be that both your answers and these answers here are correct. Of course, these answers here may also contain mistakes. If you spot a mistake, please let me know so I can correct it.

Example solutions for Homework 6

solutions-hw06-1 Closures

- 6, 10
- The function is the anonymous inner function nested in `curry`. The environment is a call object for `curry`, with `f=add` and `x=1`.
- The function is the anonymous inner function nested in `curry`. The environment is a call object for `curry`, with `f` bound to the anonymous function `function(x,y){x/y}` and `x=2`.
-

```
var square = curry(  
  function(n,x){ for(var z=1;n>0;n--,z*=x); return z; },  
  2);
```

solutions-hw06-2 Prototypes

- Cf, Dg, Ch
Cf, Dg, Eh
- D.prototype, C.prototype, Object.prototype
- E.prototype, D.prototype, C.prototype, Object.prototype

solutions-hw06-3 Temperature conversions (JavaScript)

```
<html><head>  
  <meta http-equiv="Content-Script-Type" content="text/javascript" />  
  <script>  
    function c2f() {  
      var c = document.converter.celsius.value;  
      var f = c * 9 / 5 + 32;  
      document.converter.fahrenheit.value = f;  
    }  
    function f2c() {  
      var f = document.converter.fahrenheit.value;
```

```

        var c = (f - 32) * 5 / 9;
        document.converter.celsius.value = c;
    }
</script>
</head><body>
    <form name="converter">
        <table border=0>
            <tr>
                <td>Celsius:
                <td><input type="text" name="celsius">
                <td><input type="button" value="To Fahrenheit" onclick="c2f();">
            <tr>
                <td>Fahrenheit:
                <td><input type="text" name="fahrenheit">
                <td><input type="button" value="To Celsius" onclick="f2c();">
            </tr>
        </table>
    </form>
</body></html>

```

solutions-hw06-4 Priority queue (JavaScript)

```

function PriorityQueue() {
    this.data = [];
}
PriorityQueue.prototype.push = function(x) {
    this.data.push(x);
}
PriorityQueue.prototype.minIndex = function() {
    var result;
    for (var i in this.data)
        if (undefined == result || this.data[i] < this.data[result])
            result = i;
    return result;
}
PriorityQueue.prototype.peek = function() {
    return this.data[this.minIndex()];
}
PriorityQueue.prototype.pop = function() {
    var i = this.minIndex();
    var result = this.data[i];
    delete this.data[i];
    return result;
}

```