

```

1 <!DOCTYPE html>
2 <html>
3 <head>
4   <meta charset="utf-8">
5   <title>Function Demonstrations</title>
6 <!--
7   File:  cssdweb.edu/Student Resources/Website Development I/CodeSamples/FunctionDemonstrations.html
8   Copyright (c) 2022 by Jesse Heines. All rights reserved. May be freely
9   copied or excerpted for educational purposes with credit to the author.
10  updated by JMH on June 4, 2022 at 10:38 AM
11 -->
12 <script type="text/javascript">
13
14   // return the area of a circle given its radius
15   var CircleArea = function( radius ) {
16     var area = Math.PI * radius * radius ;
17     return area.toFixed( 5 ) ;
18   }
19
20   // return the area of a circle given its radius in one of three formats
21   var CircleArea2 = function( radius, format ) {
22     if ( typeof format == "undefined" ) {
23       format = 3 ;
24     }
25     var area = Math.PI * radius * radius ;
26     switch ( format ) {
27       case 1 : return Math.round( area ) ; break ;
28       case 2 : return area.toFixed( 5 ) ; break ;
29       case 3 :
30         return area.toLocaleString( "en-US", { minimumFractionDigits: 5 } ) ;
31       break ;
32     }
33   }
34
35   // return today's date in ISO8601 format (YYYY-MM-DD with leading 0s if necessary)
36   GetTodayISO8601_v1 = function() {
37     var now = new Date() ; // today's date as an object
38     var strNowISO8601 = "" ; // initialize this variable as a string
39
40     // set year
41     if ( now.getFullYear() < 1900 ) {
42       strNowISO8601 += ( now.getFullYear()+1900 ) ;
43     } else {
44       strNowISO8601 += now.getFullYear() ;
45     }
46
47     // set month
48     if ( now.getMonth()+1 < 10 ) {
49       strNowISO8601 += "-0" + ( now.getMonth()+1 ) ;
50     } else {
51       strNowISO8601 += "-" + ( now.getMonth()+1 ) ;
52     }
53
54     // set day
55     if ( now.getDate()+1 < 10 ) {
56       strNowISO8601 += "-0" + ( now.getDate() ) ;
57     } else {
58       strNowISO8601 += "-" + ( now.getDate() ) ;
59     }
60
61     // return fully constructed string
62     return strNowISO8601 ;
63   }
64
65   // return today's date in ISO8601 format
66   GetTodayISO8601_v2 = function() {

```

```

67     var now = new Date() ;           // today's date as an object
68
69     // modified per suggestion by student Nathan Gilbert on January 16, 2009 at 9:52 PM
70     var strNowISO8601 = "" +
71         ( now.getFullYear() < 1900 ? now.getFullYear()+1900 : now.getFullYear() ) ;
72     strNowISO8601 += "-" +
73         ( now.getMonth()+1 < 10 ? "0" + (now.getMonth()+1) : now.getMonth()+1 ) ;
74     strNowISO8601 += "-" +
75         ( now.getDate() < 10 ? "0" + now.getDate() : now.getDate() ) ;
76
77     return strNowISO8601 ;
78 }
79
80 </script>
81
82 <style>
83     table.CircleAreas tr td:nth-child(1) {
84         text-align : center ;
85     }
86     table.CircleAreas tr td:nth-child(2) {
87         text-align : right ;
88     }
89 </style>
90 </head>
91
92 <body>
93     <h3>Calling Function CircleArea( n )</h3>
94     <table class="CircleAreas" cellspacing="0" cellpadding="5" border="1">
95         <tr>
96             <th colspan="2">Circle Areas</th>
97         </tr>
98         <tr>
99             <th>Radius</th>
100            <th>Area</th>
101        </tr>
102        <tr>
103            <td>1</td>
104            <td>
105                <script>
106                    document.writeln( CircleArea( 1 ) ) ;
107                </script>
108            </td>
109        </tr>
110        <tr>
111            <td>2</td>
112            <td>
113                <script>
114                    document.writeln( CircleArea( 2 ) ) ;
115                </script>
116            </td>
117        </tr>
118        <tr>
119            <td>4</td>
120            <td>
121                <script>
122                    document.writeln( CircleArea( 4 ) ) ;
123                </script>
124            </td>
125        </tr>
126        <tr>
127            <td>8</td>
128            <td>
129                <script>
130                    document.writeln( CircleArea( 8 ) ) ;
131                </script>
132            </td>
133        </tr>

```

```

134     <tr>
135         <td>16</td>
136         <td>
137             <script>
138                 document.writeln( CircleArea( 16 ) ) ;
139             </script>
140         </td>
141     </tr>
142     <tr>
143         <td>34</td>
144         <td>
145             <script>
146                 document.writeln( CircleArea( 32 ) ) ;
147             </script>
148         </td>
149     </tr>
150     <tr>
151         <td>64</td>
152         <td>
153             <script>
154                 document.writeln( CircleArea( 64 ) ) ;
155             </script>
156         </td>
157     </tr>
158 </table>
159
160 <br><hr>
161
162 <h3>Using a Loop Within the Table</h3>
163 <table class="CircleAreas" cellspacing="0" cellpadding="5" border="1">
164     <tr>
165         <th colspan="2">Circle Areas</th>
166     </tr>
167     <tr>
168         <th>Radius</th>
169         <th>Area</th>
170     </tr>
171     <script>
172         var radius = 1 ;
173         for ( var k = 1 ; k <= 7 ; k++ ) {
174             document.writeln( "<tr>" ) ;
175             document.writeln( "<td>" + radius + "</td>" ) ;
176             document.writeln( "<td>" + CircleArea2( radius, 2 ) + "</td>" ) ;
177             document.writeln( "</tr>" ) ;
178             radius = radius * 2 ;
179         }
180     </script>
181 </table>
182
183 <br><hr>
184
185 <h3>Functions to Return the Date in ISO8601 Format</h3>
186 <p>Call to function <code><strong>GetTodayISO8601_v1()</strong></code> returns:</p>
187 <blockquote>
188     <script>
189         document.writeln( GetTodayISO8601_v1() ) ;
190     </script>
191 </blockquote>
192 <p>Call to function <code><strong>GetTodayISO8601_v2()</strong></code> returns:</p>
193 <blockquote>
194     <script>
195         document.writeln( GetTodayISO8601_v2() ) ;
196     </script>
197 </blockquote>
198 </body>
199 </html>

```

Calling Function CircleArea(n)

Circle Areas	
Radius	Area
1	3.14159
2	12.56637
4	50.26548
8	201.06193
16	804.24772
34	3216.99088
64	12867.96351

Using a Loop Within the Table

Circle Areas	
Radius	Area
1	3.14159
2	12.56637
4	50.26548
8	201.06193
16	804.24772
32	3216.99088
64	12867.96351

Functions to Return the Date in ISO8601 Format

Call to function `GetTodayISO8601_v1()` returns:

2022-05-18

Call to function `GetTodayISO8601_v2()` returns:

2022-05-18