Tracer Examples
<script type="text/javascript">
   <!--
   var a = 2;
   var b = 10;
   var c = 20;
   var e = 40;
   var i = 1
   var j = 1;

   if (e - b <= c || a * b != c) {
       document.write("Great!! b = "+b);
   }
   else if (i < j) {
       document.write("Wonderful!! e = "+e);
   }
   else {
       document.write("Darn!! a = "+a);
   }
   // -->

</script>
Darn!! a = 2
<script type="text/javascript">
<!--
var a = 2;
var b = 10;
var c = 20;
var e = 40;
var i = 0;
var j = 1;

var counter=1;
document.write("<br>the value of j is: "+j);
while (counter <=3){
document.write("<br>the value of i is: "+i);
if (e - (2*b) == c | | a * b >= c) {
document.write("<br>Great!! b = "+b);
}
else if (i == j) {
document.write("<br>Wonderful!! e = "+e);
}
else {
document.write("<br>Darn!! a = "+a);
}
b=b/2;
i++;

counter++;
}
document.write("<br>Loop ran "+counter+" times");
// -->

</script>
the value of j is: 1
the value of i is: 0
Great!! b = 10
the value of i is: 1
Wonderful!! e = 40
the value of i is: 2
Darn!! a = 2
Loop ran 4 times
<script type="text/javascript">
    var a = 2;
    var b = 10;
    var c = 20;
    var e = [8,6,4,2,0];
    var j = 1;
    var i=0;
    var counter=1;
    while (i<e[i]){
        document.write("<br>This is excitement X"+counter);
        counter=counter+1;
        i++;
    }
    document.write("<br>Loop ran "+(counter-1)+" times");
    // -->
</script>
This is excitement X1
This is excitement X2
This is excitement X3
Loop ran 3 times
<script type="text/javascript">
    var d = ((4 + (2 * 2) * 4 / 2) - 3 * 2);
    var e = 4 / (2 * 2 * 2) * 3 - 3 * 2;
    var i=8, x, y, sum1, count = 0;
    document.write(d + "<br/>");
    document.write(e + "<br/>");
    while (i <= 15) {
        x = 8 - i;
        y = 2 * i;
        sum1 = x + y;
        document.write("the sum of ", x, " and ", y, " is ", sum1, "<br/>");
        count = count + 1;
        i = i + 2;
    }
    document.write("The number of times through the loop is ", count)
</script>
<table>
<thead>
<tr>
<th>Display #</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>-4.5</td>
</tr>
<tr>
<td>3</td>
<td>the sum of 0 and 16 is 16</td>
</tr>
<tr>
<td>4</td>
<td>the sum of -2 and 20 is 18</td>
</tr>
<tr>
<td>5</td>
<td>the sum of -4 and 24 is 20</td>
</tr>
<tr>
<td>6</td>
<td>the sum of -6 and 28 is 22</td>
</tr>
<tr>
<td>7</td>
<td>The number of times through the loop is 4</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>
```javascript
var a = 5, b = 3;
if (a == b || b > 7) {
    document.write("This is condition 1");
}
else if (a > b && b == 4) {
    document.write("This is condition 2");
}
else if (a != 2 && b != 7) {
    document.write("This is condition 3");
}
else if (a != 2 || b < a) {
    document.write("This is condition 4");
}
else {
    document.write("This is condition 5");
}
```

<table>
<thead>
<tr>
<th>Value of constants</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>a = 5, b = 3</td>
<td></td>
</tr>
<tr>
<td>a = 5, b = 7</td>
<td></td>
</tr>
<tr>
<td>a = 7, b = 2</td>
<td></td>
</tr>
<tr>
<td>a = 5, b = 8</td>
<td></td>
</tr>
<tr>
<td>a = 5, b = 4</td>
<td></td>
</tr>
<tr>
<td>a = 2, b = 7</td>
<td></td>
</tr>
<tr>
<td>Value of constants</td>
<td>Display</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>a = 5, b = 3</td>
<td>This is condition 3</td>
</tr>
<tr>
<td>a = 5, b = 7</td>
<td>This is condition 4</td>
</tr>
<tr>
<td>a = 7, b = 2</td>
<td>This is condition 3</td>
</tr>
<tr>
<td>a = 5, b = 8</td>
<td>This is condition 1</td>
</tr>
<tr>
<td>a = 5, b = 4</td>
<td>This is condition 2</td>
</tr>
<tr>
<td>a = 2, b = 7</td>
<td>This is condition 5</td>
</tr>
</tbody>
</table>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title>Untitled Page</title>
</head>
<body>
  <script type="text/javascript">
    <!--
    var counter = 1, looptimes;
    var x = 1;
    while (counter < 4) {
      x = x * (counter + 2) - 4;
      document.write("<br>The current value of <i>x</i> is " + x);
      counter = counter + 1;
      document.write("The current value of <i>counter</i> is " + counter);
      if (counter <= 3) {
        document.write('<br>Still Going');
      }
    }
    looptimes = counter - 1;
    document.write("<br>This loop ran a total of " + looptimes + " times.");
    // -->

  </script>
</body>
</html>
<table>
<thead>
<tr>
<th>Display #</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(blank line)</td>
</tr>
<tr>
<td>2</td>
<td>The current value of $x$ is -1 The current value of $counter$ is 2</td>
</tr>
<tr>
<td>3</td>
<td>Still Going</td>
</tr>
<tr>
<td>4</td>
<td>The current value of $x$ is -8 The current value of $counter$ is 3</td>
</tr>
<tr>
<td>5</td>
<td>Still Going</td>
</tr>
<tr>
<td>6</td>
<td>The current value of $x$ is -44 The current value of $counter$ is 4</td>
</tr>
<tr>
<td>7</td>
<td>This loop ran a total of 3 times.</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
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<td>12</td>
<td></td>
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</tbody>
</table>