

Tutorial 4b

JavaScript: Expressions, Selections, Loops

Objective

This tutorial will help you in understanding:

- Operators and expressions
- Selections and loops

Operators and Expressions

1. Write down the variables of **a**, **b**, and **c** after each line of command executed from 1-12 for below program:

```
<script type="text/javascript">  
0: var a=5, b=1, c;  
  
1: c = a%3;  
2: a = b+4*c;  
3: a = (b+4)*c;  
4: c++;  
5: b *= a+1;  
6: c = 1 + b++;  
7: a = ++c - 5;  
8: c = (a>b)? 1 : 2;  
9: a = (a>b)? b : a;  
10: b += (b>c)? 1 : 0;  
11: c = a + "5";  
12: c = 5 + a + "5";  
</script>
```

Line	a	b	c
0	5	1	undefined
1	5	1	2
2	9	1	2
3	9	1	2
4	9	1	3
5	9	11	3
6	9	11	12
7	8	11	13
8	8	11	2
9	8	11	2
10	8	12	2
11	8	12	"75"
12	8	12	"125"

Selections and Loops

2. Given initial values of **x**, and **y** are 0 and 1 respectively, what is the final value of the variables after the execution of the JavaScript codes segments as below: *(Notes: The questions below are separated from each other)*

(a)	<pre>if(x == 3) y = 5; x = 6;</pre>	X = 0, y = 1
(b)	<pre>if(y = 5) x = 1; else x = 2;</pre>	x = 1, y = 5
(c)	<pre>while (x <= y) { x = x + 2; y++; }</pre>	x = 2, y = 2
(d)	<pre>switch (x) { case 0: x = 7; case 1: y = 8; break; default: x = 3; y = 5; }</pre>	x = 3, y = 8

3. Write the output that will be displayed when the JavaScript program is running on the web browser:

(a)

```
<script type="text/javascript">
  for (var i=1;i<=5;i++)
  {
    for (var j=1;j<=i;j++)
      document.writeln(j);
    document.writeln("<br>");
  }
</script>
```

output for (a):

```
1
12
123
1234
12345
```

(b)

```
<script type="text/javascript">
  var i=0;

  while (i<10)
  {
    i = i+1;
    if (i%2==0) continue;
    if (i==7) break;
    document.writeln(i,"<br>");
  }
</script>
```

output for (b):

```
1<br>
3<br>
5<br>
```