

Answers

Cut and paste items from last semester test on JS

JavaScript

J1) 2p JavaScript executes script via a(n)

- A) compiler
- ☒ B) interpreter

J2) All of the following could be used as a variable name (identifier) EXCEPT for:

- ☒ A) 8Previous_bal
- B) p_bal
- C) previousBalance
- D) preBal

J4) If

x = 5;

y = 5;

z = 8;

T or F = T
5 == 5 8 < 5

evaluate the expression (x == y) || (z < y) (Note: Do == and <, before ||)

The answer is true or false? T

mult + div, from left to right

J5) Evaluate: $3 + 5/2 * 8 = 3 + 2.5 * 8 = 3 + 20.0 = 23$

PEMDAS

2.5
20.0

J6) 4p Evaluate:

- a) Math.sqrt(16); 4
- b) Math.floor(18.7); 18
- c) Math.round(58.3); 58

closest integer below

J9) 2p What is the value of y = num1.toFixed(3) if num1 = 4.7253; = 4.725

rounds 3 places

J10) In JavaScript, 8/3 evaluates to what answer? (circle one)

- A) 0
- B) 0.375
- C) 2
- ☒ D) 2.6666

2.666
3 | 8.000
6
20
18
20

(regular division result)
(unlike C++)

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J11) With regards to the code of lines 1 and 2 below:

```
i = 7;           // line 1
document.write(++i); // line 2
```

i
7

output = 7

Which statement is correct? (circle A or B)

- A) Line 2 executes in 2 ways. First it outputs 7 to the page. Afterward i is incremented and i = 8;
B) Line 2 executes in 2 ways. First i is incremented to i = 8. Afterward it outputs 8 to the page.

J12) 2p The three data types in JavaScript are:

1. booleans (true/false)
2. numbers
3. text or strings

J13) Trace the following code. What is the output displayed in the web page?

```
document.write("The man said, 'Goodnight, darling'");
```

The man said, 'goodnight, darling'

J14) 4p Trace the following code. What is the output displayed in the web page?

// recall $x\%5$ means to find the remainder of x divided by 5.

```
x = 10;
if (x%5 == 0) document.write("AAA");
document.write("<br />");
document.write(x*7);
document.write("<br />");
if (x != 10) document.write("Hello");
```

x in memory 10

$x * 7 = 10 * 7 = 70$

$10 \neq 10$ False. (Since False "Hello" is NOT written.)

$50 \div 5 = 0$ True

$x \% 5 = 0$

$10 \% 5 = 0$

$5 \overline{) 10}$
 10
 0
 $R = 0$

output

AAA
70

(Note: 70 is on a new line due to the statement preceding it: "document.write("
");")

J15) 3p Trace the following code. What is the output displayed in the web page? Assume 5 and 8 are inputted for num1 and num2, respectively.

```
num1 = prompt("Enter the first number: ");
num2 = prompt("Enter the second number: ");
result = num1*num2;
document.write(result);
```

output ⇒ 40

J16) 3p Trace the following code. What is the output displayed in the web page? Use the "trace table" below if helpful.

```
for (i=1; i <= 3; i++) {
    document.write("loop # " + i)
    document.write(" ---");
    document.write (i*i);
    document.write("<br />");
}
```

Use this "Trace table" if helpful:

i	i <= 3 (test condition)	output:	i++
1	1 <= 3 true	loop # 1 --- 1	2
2	2 <= 3 true	loop # 2 --- 4	3
3	3 <= 3 true	loop # 3 --- 9	4
4	4 <= 3 False		

Assume the code you are tracing and writing is between the script tags of the xhtml page. That is, it not necessary to show script tags in your answers.

1. if and for-loop

a) Describe the exact output of the following JavaScript code. (Assume the user enters 5 and 7.)

```
var x = prompt("Enter number 1 of 2: ");
var y = prompt("Enter number 1 of 2: ");
document.write("x = " + x + " y = " + y);
document.write("<br />");
var z = parseInt(x) + parseInt(y);
document.write("their sum is " + z);
```

output ⇒

x = 5 y = 7
their sum is 12

b) Describe the exact output of the following JavaScript code. Show a trace in a table or other work if helpful.

[5p]

```
for (i=1; i <=3; i++) {
    document.write(i + " I will behave in class<br /> ");
}
document.write("hello");
```

1 I will behave in class
 2 I will behave in class
 3 I will behave in class
 hello

c) Write a short program:

(1) Write a program that prompts the user for a number, takes the square root of it and displays it.

Sample output if the user enters 2:

1.4142135623730951

```
var x = prompt("Enter a number: ");
var y = Math.sqrt(x);
document.write(y);
```

2. Functions

- a) Change the following program into a function. Name the function **Interest(p, r, t)**.
[7p]

```
function Interest(p, r, t) {
  i = p*r*t;
  document.write(i);
  document.write("<br />");
}
```

- b) Give the statement to call the function above with arguments 1000 for p, .07 for r, and 1 for t:
[8p]

Interest(1000, .07, 1);

3. Arrays

- a) [5p] Declare an array named **animals** and assign it the strings: dog, cat, bird.

var animals = new Array("dog", "cat", "bird");

- b) [5p] For the array **animals** in part a), what is the value of **animals.length**? 3

- d) [3p] Suppose an array called **animals** is already declared and contains: [**dog, cat, bird**]. What is the output of:

animals.sort() ? [bird, cat, dog] (alphabetical sort)

- e) If **fruits** is [**mango, apple, pear, orange**]

then fruits.pop() results in [**mango, apple, pear**]

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4. Events. [6pts] The code of the pictured webpage (below) has an event handler in it. Refer to the code and describe what the user does and what happens. Be specific.

what does the user do? He mouses over the picture

what happens as a result? fcn3() runs. That is it prompts user for a fav. color and then alerts w/ popup that his color is a nice color ex "Red is a nice color!"

<head>

<script language="javascript">

function fcn3() {

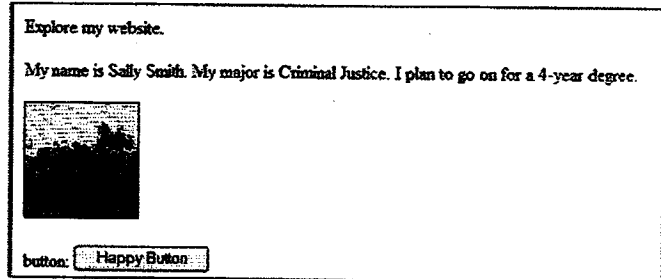
 x = prompt("enter your favorite color: ");

 alert (x + " is a nice color!");

}

</script>

</head>



<body>

<h2 align="center">sally's Website</h2>

<p> Explore my website.</p>

<p>My name is Sally Smith. My major is Criminal Justice. I plan to go on for a 4-year degree.</p>

<p></p>

<form name="happyform">

 button: <input type="button" name="happy" value="Happy Button" />

</form>

</body>