

Key for Gold Exam

1. An array is a variable that has been:

- A. Counted
- B. Indexed**
- C. Initialized
- D. Started

2. Consider the following code:

```
var yell="Yee-Haw";  
  
while (yell != "Yee-Hawwwwwwww")  
{  
    yell = yell + "w";  
}  
yell = yell + "!";  
  
document.write(yell);
```

A. How many times, if any, will the loop run? Explain why for full credit.

8 It runs until "Yee-Hawwwwwwww" is in yell. Since a "w" is concatenated each time, it takes 8 loops to get to "Yee-Hawwwwwwww"

B. What prints at the end of the code shown?

Yee-Hawwwwwwww!

3. _____ correspond to parameters _____.

Choose and circle the best answer pair from below.

- A. Parameters :: in value and in amount
- B. Functions :: in number and in order
- C. Variables :: in assignment

D. Arguments :: in number and in order

4. [5] Using the selections given, place the letter under the code next to the term that correctly identifies what it is. Not all answers will be used.

```
<html>
<head><title>Conversion Tables</title>
<script type = "text/javascript">

    function convertC2F(tempInC)
        {
            //convert to farenheit
            var tempInF;
            tempInF = (9/5)*tempInC +32;
            return tempInF;
        }

document.bgColor = "pink";

//this break is only here to make room for the box
```

- H** argument
- B** parameter
- E** value
- G** attribute
- D** property
- J** method
- F** object
- I** function call
- A** function name
- C** function declaration
- function definition
- send result to point of call

```
document.write("<H2>Table of Celsius – Fahrenheit Equivalentents </H2>");
```

```
document.write("<table border=1><th>C </th> <th> H </th>");
```

```
document.write("<tr><td>-10 </td> <td>" + convertC2F(-10) + "</td> </tr>");
```

```
document.write("<tr><td>20 </td> <td>" + convertC2F(20) + "</td> </tr>");
```

```
document.write("</table>");
```

```
</script>
```

[6 points]

Read the following paragraph. Imagine that you are thinking of writing a program for the situation listed below. Identify the programming concepts found in the story. DO NOT WRITE CODE!!!

5. The Movie Ticket Seller

A person sits in the movie ticket booth. There are over 100 people waiting, of all different ages. Seeing a movie costs \$9 for patrons 18 and over and \$6 dollars for patrons under 18 (but any patron also under the age of 2 gets in free). The person selling tickets keep selling tickets as long as seats in the theatre are still available for that show. Of course, if they don't have the right amount, the ticket seller will skip them and go on to the next person. At the end of the day, the ticket seller writes down on a piece of paper the amount of money collected from tickets sold that day. The amount of money should be the equivalent of all the tickets of the 18 and over patrons plus the fares of the under 18 patrons (those under 2 aren't counted).

1. Identify what in the story could be an example of an **array** and explain why:

-collection of people waiting for movie tickets. They can all be referenced under a single name and id'd by index.

-seats (same reason)

2. Identify what in the story could be an example of a **conditional** and explain why:

-Paying certain fare depending on age of the movie goer. If they are 18 and above, the ticket price becomes \$9, but if they are under 18 and older than 2 the ticket price is \$6, otherwise the ticket price is 0

3. Identify what in the story could be an example of **assignment** and explain why:

-ticket price OR piece of paper since both change values

4. Identify what in the story could be an example of **iteration** and explain why:

-Sell tickets while seats are still available is a repeated action. Stop when seats are no longer available

5. Identify what in the story could be an example of a **variable** and explain why:

-ticket price or

-piece of paper with total collected

6. Identify what in the story could be an example of an **expression** and explain why:

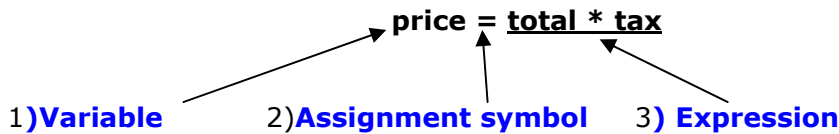
-calculating the totals at the end of the day

6. What is the difference between a value and a variable?

variables are locations/containers and values are the data/stuff actually stored in those locations/containers

[3 points]

7. Name the 3 components of an assignment statement. Circle the example of each and place an arrow to the term. Be exact! Vague circles and arrows will be marked off.



8. Look at the code below (assume it sits in the correct location in an HTML document):

```
<script type="text/javascript">  
  
function Suess (fish2, fish1) {  
    var fishes;  
    fishes = "One fish, two fish " + fish2 + " fish, " + fish1 + "fish!"  
    return fishes;  
}  
  
</script>  
    <!--somewhere in the HTML Document -->  
  
..... document.write (Suess("pink", "green"));  
.....
```

What is written to the document at this point?

One fish, two fish pink fish, green fish!

9. Which of the following are legal assignment statements in JavaScript. Circle all that apply.

- A. one + num = 1;
- B. one = "one";**
- C. one = 1;**
- D. "one" = one;
- E. 2 = num + 1;

10. Why are **true**, **false** and **return** not good names for functions or parameters?

Reserved words in JavaScript with preset meanings not to be changed.

11. Local variables (circle all that apply):

A. Only exist inside a function

B. Can have their values changed from anywhere in the program

C. Are declared outside of functions

D. Can only be changed inside functions ????

12. Expressions consist of operators and operands. Give an example of each of the following types of operators and say what it does:

Only need one of each kind for answer

Logical Operator

$a < b$ **&&** $b < c$ True if a is less than b
AND b is less than c

$a < b$ **||** $b < c$ True if either a is less
than b OR b is less
than c

Relational/Comparison Operator

$a < b$ a less than b is true
 $a > b$ a greater than b is true
 $a <= b$ a less than or equal to b is true
 $a >= b$ a greater than or equal to b is true
 $a = b$ a matches b is true
 $a != b$ a doesn't match b is true

13. Using the **for** loop iteration, create a loop that will print from 500 down to 0 by 5s
Example: 500,495,490....etc.

```
for (i=500; i>=0; i=i-5)  
{  
document.write(i);  
}
```

14. In this JavaScript statement:

```
if (num1 == num2){  
  account = "balanced"  
}
```

How is this part:

```
num1 == num2
```

best described? Pick one→

- A. A function
- B. A declaration
- C. An equation
- D. An assignment
- E. A condition**

15. 600 students have signed up for CSE 142 next quarter. The professor has a list on the computer which is sorted by student last name. He wants to write a program find out if the student with the last name "Dotzen" is registered.

a) Using Linear Search what is the most students the program checks? **599 or 600**

b) Using Binary Search, what is the most students the program checks? **9 or 10**

Space for calculations (show your work!)[In both cases, the answer can be approximate: off by 1 is OK.]

(dividing 600 by 2 until the remainder is ~1)

[3 points]

16. You are helping to write out the code for the George Bush electronic voting program. Your job is to write the function that tallies votes for each party. This function will be integrated into a larger program and called when needed. Give your function a name that describes what it does.

Assume that there are 2 global variables, DemoTally and RepubTally. There is a text box named "party" on a form named "vote" where a voter enters in their part affiliation.

They have three choices: "Democrat", "Republican" or "Independent".

Write a function that will add 2 to the RepubTally if the text box shows "Republican", add 1 to DemoTally if the text box holds "Democrat" and add 0 to DemoTally if the box shows "Independent".

```
function AddVotes()
{
    if (document.vote.party.value== "Republican")
        {
            RepubTally = RepubTally +2;
        }
    else if (document.vote.party.value== "Democrat")
        {
            DemoTally = DemoTally +1;
        }
    else if (document.vote.party.value== "Independent")
        {
            DemoTally = DemoTally + 0 (or just DemoTally = DemoTally)
        }
}
```

17. Look at the following code for calculating a person's Body Mass Index in metric units. What index is printed to the page? SHOW YOUR WORK for full credit

```
<HTML><HEAD>
<script type="text/javascript">
<!--
  function bmiM ( heightM, weightKg )
    {
      return weightKg / (heightM * heightM);
    }
  //-->
</script>
</HEAD>
<BODY>
<script type="text/javascript">
<!--
  document.write(bmiM(2, 80))
  //-->
</script></BODY></HTML>
```

2 maps to heightM and 80 maps to weightKg and so what is returned is the result of:
80 / 2*2

<u>Answer</u> 20

EXTRA CREDIT: (2 points each, total of 4 points)

1. Declare an array called **beers** with 3 elements. Initialize the array with these values:

```
"Guinness"
"Coors"
"Black Label"
```

```
var beers = new Array(3);
beers [0] = "Guinness";
beers [1] = "Coors";
beers [2] = "Black Label";
```

2. In the context of Value Sensitive Design research, what does "informed consent" actually mean?

That information is disclosed, that they can understand its meaning, that they are not coerced and consent is voluntary

(Need at least 2 for one point, 3 for 2 points)