

At-Home/Open-Book Computer Science Quiz

1. Convert the binary number 1101 to both decimal and hexadecimal. Show your work.
2. True or False: JavaScript is interpreted in your web browser.
3. Which data type can consist only of true or false (without quotes)?
 - a. number
 - b. string
 - c. boolean
 - d. null
 - e. undefined
4. Which release of JavaScript are you learning in the book?
 - a. ES4
 - b. ES5
 - c. ES6
 - d. ESNext
5. In JavaScript, logical OR looks like
 - a. &&
 - b. ||
 - c. !
 - d. ++
 - e. --
6. True or False: Data of the string data type needs quotes around it.
7. True or False: Variable names can contain spaces.

8. Create a variable containing an object data type describing your favorite video game or movie.

9. Which of these would you use for an exact comparison?

- a. =
- b. ==
- c. ===

10. What is NOT true about machine language?

- a. It doesn't need to be compiled.
- b. It doesn't need to be assembled.
- c. It is the computer's native language.
- d. It is a binary language.
- e. It is the same for all machines.

11. Conditionals and loops are...

- a. control structures
- b. data structures
- c. queues

12. What gets logged to the console with this statement?

```
console.log(Math.floor(5.5));
```

13. What is the three letter word that means binary digit?

14. What will be logged to the console?

```
var num = 21;  
console.log(21%6);
```

15. What will log to the console with this code?

```
var myString = "WOW!";  
console.log(myString.slice(1));
```

16. Define syntax.

17. What method changes lowercase letters in a string to uppercase letters?

18. True or False: JavaScript and Java are the same programming language. (Please get this right.)

19. True or False: You can correctly concatenate strings together or arrays together the same way using the + operator.

20. What is the best data type for storing a list of items? (number, string, boolean, null, undefined, array, or object)

21. Give an example of one of JavaScript's unary operators.

22. What is an infinite loop?

23. Does the following code contain an infinite loop? (Hint: Don't run this code.)

```
var i = 10;  
  
while (i <= 10) {  
  console.log("What's wrong?");  
  i--;  
}
```

24. Describe what Math.random() returns.

25. How do I access the value “Aunt Debbie” in the following object?

```
var myStudent = {  
  age: 17,  
  "emergency contacts": ["Uncle Tom", "Mrs. Berry", "Aunt Debbie"],  
  "favorite sport": "basketball"  
}
```

26. What is the output for the following code?

```
var vehicles = ["Teslas", "Corvettes", "homeschool passenger vans"];  
console.log(vehicles.join(" accelerate faster than ") + ".");
```

27. I want to set up a link to YouTube in my html document. The path to YouTube needs to be an absolute path. Which <a> (anchor) tag would be correct?

- a. <a href="<https://www.youtube.com/>">Click here to go to YouTube
- b. Click here to go to YouTube

28. Name the seven data types we’ve learned about.

29. Which method removes the element of an array at index [0]?

- a. .join()
- b. .shift()
- c. .pop()
- d. .reduce()

30. What property do you use to find the number of elements in an array or the number of characters in a string?

31. What will log to the console with this code?

```
var testString = "acceptable"; //this is misspelled and a trick question
testString[6] = "a";
console.log(testString);
```

32. What is a commonly used name for the moral dilemma pertaining to how an autonomous vehicle (like a Google car) chooses who dies in an accident?

- a. the trolley problem
- b. the road kill dilemma
- c. AI reckless driving
- d. AI decides

33. If you want to save your file as an html document, which file extension(s) would work?

- a. .html
- b. .js
- c. .txt
- d. .htm
- e. both a and d are true

34. Which type of loop sets up a variable, a condition, and an increment before the loop body executes?

35. What gets logged to the console with this statement?

```
console.log(!true || false);
```

36. What gets logged to the console with this statement?

```
console.log(2**3);
```

37. What do the acronyms FIFO and LIFO stand for?

38. What was JavaScript's original name when Brendan Eich wrote it in 1995?

39. What should be the very first line in an html file? (best answer)

- a. <html>
- b. <head>
- c. <!DOCTYPE html>
- d. <!DOCTYPE html5>

40. Blocks of code used in conditionals and loops are denoted with...

- a. parentheses ()
- b. square brackets []
- c. curly brackets {}
- d. pipes ||
- e. single quotes "

41. What will be logged to the console with this code?

```
var originalNumber = 75;
var num = originalNumber;
var remainder;
var answerArray = [];

while (num >= 1) {
  remainder = num % 2;
  answerArray.unshift(remainder);
  num = Math.floor(num/2);
}
```

```
console.log(originalNumber + ' in binary is ' + answerArray.join("") + '.');
```

42. What is the order of operations for the boolean operators?

- a. && (AND) evaluates before || (OR) which evaluates before ! (NOT)
- b. || evaluates before && which evaluates before !
- c. ! evaluates before || evaluates before &&
- d. ! evaluates before && which evaluates before ||

43. You put your laundry in the laundry basket first, but your sister's laundry gets washed first because she "stacked" her laundry on top of yours. Is this an example of FIFO or LIFO?

44. True or False: A chain of *if...else* statements must end with an *else* and not an *else if* statement.

45. This is a four part question. For each statement, what is...

false && false;

false && true;

true && false;

true && true;

46. This is a four part question. For each statement what is...

false || false;

false || true;

true || false;

true || true;

47. This is a two part question. For each statement what is...

!false;

!true;

48. Name 3 points that made you think in the assigned video.

https://www.ted.com/talks/janelle_shane_the_danger_of_ai_is_weirder_than_you_think

49. Name 3 points that made you think in the assigned short story "Evidence" by Isaac Asimov.

50. An arcade game notifies users how many tickets they've won based on how high their score is. Set up a chain of *if..else* statements that will accomplish the following. Users that score greater than or equal to 1000 points win 10 tickets. Users that score greater than or equal to 500 points win 5 tickets. All other players win 2 tickets. Utilize the *console.log* statement to notify users of what they won. (We obviously aren't actually issuing the tickets with our program.) Write the correct code below.