

Amazon interview questions

By [admin](#) | June 16, 2008

1. Given a Binary Search Tree, write a program to print the kth smallest element without using any static/global variable. You can't pass the value k to any function also.
2. What are the 4 basics of OOP?
3. Define Data Abstraction. What is its importance?
4. Given an array of size n. It contains numbers in the range 1 to n. Each number is present at least once except for 2 numbers. Find the missing numbers.
5. Given an array of size n. It contains numbers in the range 1 to n. Find the numbers which aren't present.
6. Given a string, find the first un-repeated character in it? Give some test cases
7. You are given a dictionary of all valid words. You have the following 3 operations permitted on a word: delete a character, insert a character, replace a character. Now given two words - word1 and word2 - find the minimum number of steps required to convert word1 to word2. (one operation counts as 1 step.)
8. Given a cube of size $n \times n \times n$ (i.e made up of n^3 smaller cubes), find the number of smaller cubes on the surface. Extend this to k-dimension.
9. What is a C array and illustrate the how is it different from a list.
10. What is the time and space complexities of merge sort and when is it preferred over quick sort?
11. Write a function which takes as parameters one regular expression (only ? and * are the special characters) and a string and returns whether the string matched the regular expression.
12. Given n red balls and m blue balls and some containers, how would you distribute those balls among the containers such that the probability of picking a red ball is maximized, assuming that the user randomly chooses a container and then randomly picks a ball from that.
13. Find the second largest element in an array with minimum no of comparisons and give the minimum no of comparisons needed on an array of size N to do the same.
14. Given an array of size n, containing every element from 1 to n+1, except one. Find the missing element.
15. How do you convert a decimal number to its hexa-decimal equivalent. Give a C code to do the same
16. Explain polymorphism. Provide an example.
17. Given an array all of whose elements are positive numbers, find the maximum sum of a subsequence with the constraint that no 2 numbers in the sequence should be adjacent in the array. So 3 2 7 10 should return 13 (sum of 3 and 10) or 3 2 5 10 7 should return 15 (sum of 3, 5 and 7)
18. You are given some denominations of coins in an array (int denom[]) and infinite supply of all of them. Given an amount (int amount), find the minimum number of coins required to get the exact amount. What is the method called?
19. Given an array of size n. It contains numbers in the range 1 to n. Each number is present at least once except for 1 number. Find the missing number.

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Design an OO parking lot. What classes and functions will it have. It should say, full, empty and also be able to find spot for Valet parking. The lot has 3 different types of parking: regular, handicapped and compact.

<http://stackoverflow.com/questions/764933/amazon-interview-question-design-an-oo-parking-lot>



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Amazon Interview Questions (part1 - phone screen)

Thursday, 11. September 2008, 16:26

[amazon](#), [interview](#), [amazon interview questions](#), [java](#)

June 2007 was the month when I started my MSCS at [Maharishi University Of Management \(MUM\)](#) in [Fairfield, Iowa](#).

The program consists of 7-8 months of studying on campus and 2 years of Practical Training.

At the end of December 2007 I started my job search. I never applied for a position at Amazon, I didn't think they

would even consider interviewing me, but at the beginning of January I got an email from a HR lady at Amazon asking if I am interested in a Java developer position (SDE) at Amazon (sure as hell I was!). She sent me the description of the job, it was a position at Amazon Fresh team, which would involve Java/RoR/MySQL/Linux knowledge. We set up the first phone interview for a Tuesday morning.

My interviewer was a lady, she was very nice and had a pleasant voice. First, she introduced herself, where she works, what are her duties and what should expect from this interview.

The interview started with a couple of basic questions:

1. Where do I study
2. What major
3. What courses I took
4. Why did I take those courses

And a couple more.

Then she started asking basic Java questions:

1. What is the difference between an object and a class
2. What is the difference between an interface and a virtual class
3. What is the Java collection framework
4. What is a List, what is an ArrayList

A lot of typical questions about collection framework

Then the algorithms round of questions started.

The first "trick question" was how would you reverse a String. I took a couple of seconds to think, sketched a pseudo-java code and started to dictate to her. She was listening and writing down everything I was saying. Then I remembered of the reverse() method of StringUtils class. I told her that and she said that is what she was looking for, nice!

The second algorithm question was: You have a list of random numbers, what is the quickest way to calculate what is the frequency of each number? From what I remember I used a hashtable to memorize the numbers as the key and the value as the frequency rate:

[3] -> 1

[1] -> 4

[6] -> 12

And so on. Then she asked me what is the complexity of this solution.

The parsing of the list is $O(n)$, where n is the size of the list. Placing the number in the hashtable is ideally in a good written hashtable $O(1)$. Then, traversing the hashtable with results is $O(n)$ and the access of each key/value is $O(1)$ again (considering it's a well written hashtable), so the complexity is $O(n) + O(1) + O(n) + O(1) = O(n)$.

Then she asked me a software design question: describe me the UML diagram of a software that manages restaurant reservations.

The interview lasted about 40 minutes. We got interrupted twice because of bad AT&T signal in Fairfield, Iowa. At the end I asked her why is RoR used at Amazon Fresh, I also asked her if they have any performance issues with RoR. She told me that the traffic load on the Amazon Fresh website is small and RoR is a "quick" solution to some of the tasks. For the same reason they use MySQL - not a high load web site.

I had an impression that I did quite well, although the questions seemed very easy. So, I waited for their answer.

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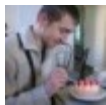
◊ [Zend PHP5 Certified Engineer](#) Pronounce my name correctly, you 'æŋglə,foʊn!◊

Comments



Anonymous # 10. October 2008, 22:14

Adrenalin writes: Omg! O sa ma laud ca stiu pe cineva care lucreaza la Amazon ;D O sa-ni trimeti stickere si o sa le inclei pe frijider ! ;D "Wah wah wee wah!" :)



Luchian Alexandrufreejerk # 11. October 2008, 02:49

Da eu n-am trecut interviul pana la urma
Poti sa te lauzi ca stii pe cineva care o fost la amazon in oficiu si o stat de vorba cu pragramerii de acolo



Anonymous # 29. June 2009, 20:47

Anonymous writes: all your f*ers what language ur posting comments bas*rds talk in english



Anonymous # 15. July 2009, 05:57

Abyot Seid writes: I am very proud that you are from MUM. I am too. So did u got the job or got face interview?



Luchian Alexandrufreejerk # 28. July 2009, 15:30

I got a face2face interview, I will write about it.
But didn't get the job at Amazon.

Good luck.



Anonymous # 22. September 2009, 05:01

Anonymous writes: You never wrote about the face to face interview. Please share with us that experience.



Anonymous # 15. February 2011, 14:18

bag manufacturers writes: Nice blog ! I like your article and i would like to read it again..It is beneficial both for young graduates as well as for freshers.Thank you Emily for the interview question. I'll add it to our list For number one quality bag in which You will get quality as well as fashion. regards: bag manufacturers



Anonymous # 15. February 2011, 14:19

bag manufacturers writes: Nice blog ! I like your article and i would like to read it again..It is beneficial both for young graduates as well as for freshers.Thank you Emily for the interview question. I'll add it to our list For number one quality bag in which You will get quality as well as fashion. regards: <http://www.viaam.com>



Anonymous # 17. May 2011, 17:23

Anonymous writes: Maharishi University Of Management (MUM) in Fairfield, Iowa. Sad to see this type of school in US. :(



Anonymous # 28. May 2011, 19:58

Ahmet writes: What was the result? were you accepted by Amazon?

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Luchian Alexandru



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