Venkteshwar Institute of Technology, Indore

Department of Computer Sc & Engineering and Information Technology

Operating System Questions

What is MUTEX ?
What isthe difference between a 'thread' and a 'process'?
What is INODE?
Explain the working of Virtual Memory.
How does Windows NT supports Multitasking?
Explain the Unix Kernel.
What is Concurrency? Expain with example Deadlock and Starvation.
What are your solution strategies for "Dining Philosophers Problem" ?
Explain Memory Partitioning, Paging, Segmentation.
Explain Scheduling.
Operating System Security.
What is Semaphore?
Explain the following file systems : NTFS, Macintosh(HPFS), FAT .
What are the different process states?
What is Marshalling?
Define and explain COM?
What is Marshalling?
Difference - Loading and Linking ?

IT professional - Questions to Ask

1. What port does telnet use?
2. What is SMTP?
3. How would you troubleshoot a printer?
4. How does traceroute work?
5. Walk me through everything that happens in the network from the moment you punch in www.google.com in the address bar to when the browser displays the page?
6. Can you work this weekend?
7. What kind of people are your current users? Do you like them?
8. What role do you think computer support analysts should play in the company?
9. Assuming you have to work for a living and all jobs pay the same, how would you describe the job you want?
10. When conflict arises on your team, how do you handle it?
11. How do you stay current?
12. What operating system do you prefer and why?
13. What part of the project life cycle have you worked on?
14. Describe the project or situation that best demonstrates your coding (or analytical) skills.
15. What is the differece between local, global and universal groups?
16. What is the major difference between FAT and NTFS?
17. Name the FMSO roles and their functions.

18. You've just been asked to create 20 new Users and update 2 GPOs, ASAP! You go to the Administrative Tools, and discover they are all gone. What do you do? What do you suspect happened?
19. What is a Global Catalog?
20. Explain the function of DNS.
21. Explain a "Two-Way Transitive" trust.
22. In speaking about trusts, what does "Non-transitive" mean?
23. Describe the lease process of DHCP.
24. Explain NTP.
25. What is the 568B wiring scheme?
26. What us your highest achievement while working in the IT field?
27. What are your short term goals to achieve?
28. You have a user call for support for the 5th time on the same issue. How would you handle the call and what would you do differently?
29. List as many ways you can think of to move a file from a Windows machine to a Linux machine.
30. Demonstrate recursiveness by implementing a factorial function.

Computer Networks Top Interview Questions

Some of the Top Basic Computer Networks Questions, that must be Answered and known if you even think of attending any Networks/Network Admin Interviews.

1. Virtual meetings on Internet are called………….
2. LAN can be connected by devices called………..
3. The bit pattern …………… is the preamble of 802.3 frame format.
4. Basic SONET frame is a block of ……………. bytes.
5. The amount of thermal noise is measured by ………………..
6. Explain the Frequency Modulation.
7. What is WAN and where it is used? how it is different from LAN and MAN.
8. Explain single error detecting code with example.
9. What is Flow control? Explain.
10. Explain CSMA/CD Protocol.
11. Describe Multitasking.
12. Describe Service Primitives.
13. Explain briefly PCM and its requirements.
14. What is Concession Control describe i) Load shedding ii) Jitter Control. Under it.
15. What is QoS?
16. Token Bucket Algorithm is employed to prevent congestion. The capacity of the bucket is 250k byes Arriving rate of the token is 2MB/sec. if the maximum output rate is 25MB/sec, calculate the burst length in time.
17. Describe principles considered in the design of network layer in the internet.
18. Describe Address format used in Internet. [With figure]

19. A Network on the Internet has a Subnet mask of 255.255.240.0. What is the maximum No. of hosts it can handle?
20. What are basic difference between IPV4 and IPV6?
21. Describe Address Resolution Protocol, use diagram if required.
22. What is the difference between Interior gateway protocol and Exterior gateway protocol.
23. What is the function of ATM adaptation layer.
24. Illustrate the phenomenon of Silly Window Syndrome in TCP.
25. What is delayed duplicate problem?
26. Explain Unicast addresses, Multicast adresses, and broadcast address.

Important Unix Shell Questions

Some Important Unix Shell Questions

1. There can be multiple Kernels and shells running on your system. True or False?
2. Why shell is called Command Interpreter?
3. Two UNIX systems may or may not use the same system calls. True or False?
4. To obtain help on any feature of the system, what are the possible help sources available?
5. Why are the directories /bin and /usr/bin usually found first in the output of echo $PATH?
6. If two commands with the same filename exist in two directories in PATH, how can they be executed.
7. How is the Current directory is indicated in the value of the PATH?
8. Use the **type** command with the following arguments—**cd, date, pwd** and **ls**. Which are the internal commands in the list?
9. What is the difference between an argument and an option?
10. if the command ls –all works on your system, which flavor of UNIX could you be using?
11. What does the secondary prompt look like and when does it appear?
12. You located the string **crontab** in a man page by searching with **/crontab** [Enter]. How do you find out the other occurrences of this string in the page?
13. What is a pager? Name the two standard pagers used by **man**.
14. If a command doesn't seem to complete, which key will you press to interrupt it?
15. Do you need to wait for a command to finish before entering the next one?
16. What do the | and the three dots in the SYNOPSIS section of these man pages indicate as shown below?
    ```
    /usr/xpg4/bin/tail [ -f | -r ]
    /usr/bin/ls [ -aAbcCdfFgilLmnopqrRstux1 ] [file .. ]
    ```
17. How do you direct man to use a specific pager, say less?
18. What is a whitespace? Explain the treatment the shell metes out to a command that contains a lot of whitespace.

19. A Program file named foo exists in the current directory, but when we try to execute it by entering foo, we see the message foo: command not found. Explain how that can happen?
20. What do multiprogramming, multiuser and multitasking mean?
21. Why are many UNIX commands designed to perform simple rather than complex tasks?

Best 59 Hardware Interview Questions

Some of the Best Hardware Questions Put together by FreshersHome.com. With the Help of Sharpened.net.

1. Is it possible to increase the number of available PCI slots on my computer?
2. How can I print to a printer connected to an Airport Base Station?
3. What is the difference between the DVD-R and DVD+R formats?
4. What is the difference between Firewire 1394a and 1394b?
5. Can I put my computer (tower) on its side, or does it need to stand up?
6. Why is my mouse jumpy?
7. What is a lost cluster?
8. Why is my monitor's screen smaller than advertised?
9. Why does a 20″ flat screen display have a larger screen than a 20″ CRT monitor?
10. Can I hook up two computers to one display or monitor?
11. If I hook up two monitors to my computer, can two people work on the system at the same time?
12. What does it mean to defragment a hard disk?
13. Are Zip disks more reliable than 3.5″ diskettes (floppy disks)?
14. Why does my hard drive make a lot of noise?
15. Why does my hard drive spit and shutter so much even after I defragmented it?
16. What would I want to partition my hard drive?
17. What does it mean to reformat a hard drive?
18. What is the difference between AGP and PCI graphics cards?
19. Why won't my scanner work?
20. Why do videos run slow on my computer?
21. How do find out how much RAM my computer has and how much it is using?
22. How can I upgrade my computer to USB 2.0?
23. Can I use a generic v.92 modem from Wal-Mart in my Dell computer?
24. What is the difference between the AMD Athlon and Intel Pentium processors?
25. What does scalable mean, in reference to a computer?
26. Can I still start my computer if my hard drive fails?
27. Why won't my computer boot up after I installed new memory?
28. What does it mean to "power cycle" a device?
29. How can I tell if my CD/DVD drive burns CDs or DVDs?
30. How can I make sure everything is deleted off my hard drive before I sell my computer?

31. How do I know if the blank CDs & DVDs I buy are rewritable?
32. Is it possible to recover files off a disk that has been reformatted or initialized?
33. What do I need in order to burn my own CDs?
34. What is the difference between an AGP and a PCI graphics card?
35. How can I tell if a memory module is ECC parity RAM or non-ECC non-parity RAM?
36. Can I replace non-ECC memory with ECC memory?
37. How do I open files from a USB flash drive?
38. Why won't my new IDE hard drive work after I just installed it?
39. What is the difference between a double density (DD) diskette, and a high density (HD) diskette?
40. Why is monitor's screen blank when I start up my computer?
41. I changed my monitor's color settings and can't see anything now. What should I do?
42. How can I connect my computer to a TV or television screen?
43. What are some examples of computer peripheral devices?
44. Why is the picture on my monitor fuzzy?
45. How many monitors can I hook up to my desktop computer?
46. Why does my monitor display a "Sync. Out of Range" error message?
47. Can I fax a document without a fax machine?
48. What does it mean when a computer is "low on resources?"
49. What is the difference between physical memory and available memory?
50. What is the difference between memory and hard disk space?
51. What is the difference between burning and ripping?
52. Will a USB 1.0 or 1.1 device work with my computer that only has USB 2.0 ports?
53. What are the Alt (Option) and Control (Ctrl) keys for?
54. What is the difference between "recover" and "restore?"
55. Can I use my internal hard drive as an external hard drive?
56. Will adding more RAM give my computer more free space?
57. Can I transfer a program like Print Shop that is on many CDs to a single DVD?
58. What is the difference between a USB hard drive and a USB flash drive?
59. How can I free up space on my hard disk?

Test Cases Questions

Write test cases?
Write test cases for Windows Vista.
Write the Load test cases on Microsoft Office 2007.
How do you know the Test case is correct one?
Why do we need test cases?
Why do we need to compare between test cases and use cases?
What are the different ways to find out user requirements?

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Manual Testing questions

Why most of the software company preferred manual testing even though many automation testing tools are present in the market.
What is Test Coverage?
What are the Type of CMM Levels, Explain Each Level.
How do you go about testing a project? in Manual testing?
what is build? what is build configuration?
What is Entry Criteria & Exit Criteria.
What type of metrics we prepare in testing?
What is Independent Testing?
what is the difference between system integrated testing and integrated system testing and Manual Testing?
Please explain test matrices?
What is Gap Analysis?. Is there any template for it.Describe briefly about Gap Analysis Please?
Do the test cases differ for Functional,Integration,System and User Acceptance Testing?
What is the clear meaning of test case, levels in test case ? contents of test case.
Could any body tell me about 'Deferred test'?,please. when will we use 'Deferred test'? Who will use it?
What is Risk Analysis? Types of risks?

Php and MySQL Important Questions

1. Which will be faster out of these two queries - one with OR or one with IN?
2. Where does MyISAM cache table records?
3. Which will be faster out of queries with explicit INNER JOIN and implicit one?
4. Is InnoDB faster/better than MyISAM?
5. Is CHAR faster than VARCHAR?
6. Is VARCHAR(80) faster than VARCHAR(255)?
7. Are there performance issues when joining tables from different storage engines?
8. If I see Using temporary; Using filesort" in the Extra column of EXPLAIN output, does that mean a temporary table is created on disk?
9. Is it possible to do a FULL OUTER JOIN in MySQL?
10. How do you show the currently running queries? - SHOW FULL PROCESSLIST;
11. How do you kill a MySQL query? - See the ID of it from the question above, then KILL id. You can separate multiple IDs by space.
12. I need to find out how many client connections were aborted by MySQL server. - It's displayed in SHOW STATUS query, alternatively accessible via mysqladmin extended-status.
13. What does SET SQL_AUTO_IS_NULL =1 do? - you can find the last inserted row for a table that contains an AUTO_INCREMENT column by issuing WHERE auto_increment_column IS NULL

14. Would I use print "$a dollars" or "{$a} dollars" to print out the amount of dollars in this example? - In this example it wouldn't matter, since the variable is all by itself, but if you were to print something like "{$a},000,000 mln dollars", then you definitely need to use the braces.
15. How do you define a constant? - Via define() directive, like define (''MYCONSTANT'', 100);
16. How do you pass a variable by value? - Just like in C++, put an ampersand in front of it, like $a = &$b
17. Will comparison of string "10″ and integer 11 work in PHP? - Yes, internally PHP will cast everything to the integer type, so numbers 10 and 11 will be compared.
18. When are you supposed to use endif to end the conditional statement? - When the original if was followed by : and then the code block without braces.
19. Explain the ternary conditional operator in PHP? - Expression preceding the ? is evaluated, if it's true, then the expression preceding the : is executed, otherwise, the expression following : is executed.
20. How do I find out the number of parameters passed into function? - func_num_args() function returns the number of parameters passed in.
21. If the variable $a is equal to 5 and variable $b is equal to character a, what's the value of $$b? - 100, it's a reference to existing variable.
22. What's the difference between accessing a class method via -> and via ::? - :: is allowed to access methods that can perform static operations, i.e. those, which do not require object initialization.
23. Are objects passed by value or by reference? - Everything is passed by value.
24. How do you call a constructor for a parent class? - parent::constructor($value)
25. What's the special meaning of __sleep and __wakeup? - __sleep returns the array of all the variables than need to be saved, while __wakeup retrieves them.
26. Why doesn't the following code print the newline properly?
```
    < ?php
$str = 'Hello, there.\nHow are you?\nThanks for visiting';
print $str;
?>
```
27. Because inside the single quotes the \n character is not interpreted as newline, just as a sequence of two characters - \ and n.
28. Would you initialize your strings with single quotes or double quotes? - Since the data inside the single-quoted string is not parsed for variable substitution, it's always a better idea speed-wise to initialize a string with single quotes, unless you specifically need variable substitution.
29. How come the code <?php print "Contents: $arr[1]"; ?> works, but <?php print "Contents: $arr[1][2]"; ?> doesn't for two-dimensional array of mine? - Any time you have an array with more than one dimension, complex parsing syntax is required. print "Contents: {$arr[1][2]}" would've worked.
30. What is the difference between characters \023 and \x23? - The first one is octal 23, the second is hex 23.
31. With a heredoc syntax, do I get variable substitution inside the heredoc contents? - Yes.

32. I want to combine two variables together:
```
$var1 = 'Welcome to ';
$var2 = '.com';
```
33. What will work faster? Code sample 1:
```
$var 3 = $var1.$var2;
Or code sample 2:
$var3 = "$var1$var2";
```
34. Both examples would provide the same result - $var3 equal to "Welcome to.com". However, Code Sample 1 will work significantly faster. Try it out with large sets of data (or via concatenating small sets a million times or so), and you will see that concatenation works significantly faster than variable substitution.
35. For printing out strings, there are echo, print and printf. Explain the differences. - echo is the most primitive of them, and just outputs the contents following the construct to the screen. print is also a construct (so parentheses are optional when calling it), but it returns TRUE on successful output and FALSE if it was unable to print out the string. However, you can pass multiple parameters to echo, like:
36. <?php echo 'Welcome ', 'to', ' ', '!'; ?>
37. and it will output the string "Welcome to!" print does not take multiple parameters. It is also generally argued that echo is faster, but usually the speed advantage is negligible, and might not be there for future versions of PHP. printf is a function, not a construct, and allows such advantages as formatted output, but it's the slowest way to print out data out of echo, print and printf.
38. I am writing an application in PHP that outputs a printable version of driving directions. It contains some long sentences, and I am a neat freak, and would like to make sure that no line exceeds 50 characters. How do I accomplish that with PHP? - On large strings that need to be formatted according to some length specifications, use wordwrap() or chunk_split().
39. What's the output of the ucwords function in this example?
40. $formatted = ucwords(" IS COLLECTION OF INTERVIEW QUESTIONS");
41. print $formatted;
42. What will be printed is IS COLLECTION OF INTERVIEW QUESTIONS.
43. ucwords() makes every first letter of every word capital, but it does not lower-case anything else. To avoid this, and get a properly formatted string, it's worth using strtolower() first.
44. What's the difference between htmlentities() and htmlspecialchars()? - htmlspecialchars only takes care of <, >, single quote ', double quote " and ampersand. htmlentities translates all occurrences of character sequences that have different meaning in HTML.
45. What's the difference between md5(), crc32() and sha1() crypto on PHP? - The major difference is the length of the hash generated. CRC32 is, evidently, 32 bits, while sha1() returns a 128 bit value, and md5() returns a 160 bit value. This is important when avoiding collisions.
46. So if md5() generates the most secure hash, why would you ever use the less secure crc32() and sha1()? - Crypto usage in PHP is simple, but that doesn't mean it's free. First off, depending on the data that you're encrypting, you might have reasons to store a 32-bit value in the database instead of the 160-bit value to save on space.

Second, the more secure the crypto is, the longer is the computation time to deliver the hash value. A high volume site might be significantly slowed down, if frequent md5() generation is required.

47. How do you match the character ^ at the beginning of the string? - ^\^

Aptitude Questions

1. While traveling in a road, the road diverges left and right. one way goes to the heaven and other one goes to hell i want to go to heaven. In that village only two inhabitants are living one is knight and other one is knave. knight will always speak truth and knave will always speak lie. In that road one inhabitant is standing but we don't know who is he. He might be an knight or knave i want to ask a question to that inhabitant to go to heaven. how can i identify that inhabitant is knight or knave

2. These words follow a logical progression: CODIFY LAMINA STOVE RESET JOKUL QUIRES Which one of these comes next? REST, GRAIL, STOIC, ORDEAL

3. There is a whole number n for which the following holds: if you put a 4 at the end of n, and multiply the number you get in that way by 4, the result is equal to the number you get if you put a 4 in front of n. In other words, we are looking for the number you can put on the dots in the following equation: 4… = 4 × …4 Which number must be put on the dots to get a correct equation?

4. 361 -> 22 121 -> 14 81 -> 12 25 -> X What is the value of X?

5. there are 4 cars . they all are coming from different directions. they have to cross through one square. they all arrive at the same time. nobody stops . still there is no clash . note : they all are driving at a speed if 100 km/hr. options are: 1) all cars take left 2) all cars turn right 3) two cars turn left and two turn right. tell me the answer with reason.

6. The legendary king Midas possessed a huge amount of gold. He hid this treasure carefully: in a building consisting of a number of rooms. In each room there were a number of boxes; this number was equal to the number of rooms in the building. Each box contained a number of golden coins that equaled the number of boxes per room. When the king died, one box was given to the royal barber. The remainder of the coins had to be divided fairly between his six sons. Is a fair division possible in all situations?

7. This is a most unusual paragraph. How quickly can you find out what is so unusual about it? It looks so ordinary that you would think that nothing is wrong with it at all, and, in fact, nothing is. But it is unusual. Why? If you study it and think about it, you may find out, but I am not going to assist you in any way. You must do it without any hints or coaching. No doubt, if you work at it for a bit, it will dawn on you. Who knows? Go to work and try your skill. Good luck! What is unusual about the above paragraph?