

Hughes Interview questions

1. What are the 7 layers in ISO-OSI layer, describe each layer
2. Can I remove Session Layer from ISO_OSI model..?
3. Can I remove Session Layer from ISO_OSI model..?
Hem: I said yes., because there is no session layer in TCP/IP still it satisfies our requirements
4. why data link layer protocol, what are main functions of it..?
5. I am sending data from machine A to machine C, in between there is an intermediate machine B, then how
machine B will know that it is not intended for it...
 - a) In which layer of machine B determines that the data is not for it..?
 - b)The sending data is divided into packets, does machine B tests all the packets of that data
 - c) then what about of other layers...?Even data link layer will process both data frames and acknowledge frames, so there is also data checking ..?
In networks layer every packet has its routing information and destination address so is it necessary by machine B to process it..?
6. Machine A is using both Telnet and Ftp protocols in its application layer and is sending information to machine B's application layer, then how machine B determines which bits are related to which protocol...? There is only one single communication channel and both protocols are used simultaneously
Q) I am using Internet Protocol version 4 (IPv4), but I am receiving data from a machine which is using IPv6, then
how will the data transformation will takes place and where will it takes place. Does machine B discards the packet
as it doesn't know about IPv6
7. What do u mean by switched virtual circuit and permanent virtual circuit
8. Do u know about circuit switching...? What r the basic elements
Q. What switches will do in communication..?Hem: this will establish path for data transmission
Q) In which layer switches will come..?Hem: in network layer
Q) If switches will establish path for data transmission what is the necessity of routers. Do they are similar
9. I am sending data from one data link layer to another data link layer, how will u come to know whether there is error in data transmission..? explain some methods to find that..?
10. Tell about 1's and 2's complement..Both will perform bitwise operations then what is the difference between them..?When will you go for 1's complement, when will you go for 2's complement..? Give one real time example for those two..?

11. Give some real time example for TCP and UDP protocols...
12. What is difference between #include in C++ and import statement in Java..?
13. What is difference between #include in C++ and import statement in Java..?
14. What is the difference between the following two statements..
15. What are register variables in C, why those are needed..?
16. I declared 10 register variables, but I have only 6 registers what will happen..?
17. What is virtual function, why we need it..?
18. What is virtual destructor.. Where will you use..?
19. What is a process..?
Q. At any time only one process is in execution, so do u mean that there is no multi programmed operating systems..? if the program under execution is the process, then why there are scheduling algorithms... Scheduling algorithms are there in OS, so there may be more than one process in memory, does it mean CPU will execute more than one process at a time.
20. Explain about memory management functions performed by OS
21. Can I have a OS without secondary memory
22. Does it allocate, memory to a process where there is free memory..?
23. Will OS always follow one of these algorithms..?
24. How OS comes to know which locations are free and which are allocated..?
25. What is meant by fragmentation..?
26. How will you remove fragments..?
27. What is meant by compaction..?
28. Is there any relation between compaction and paging...?
29. What is paged segmentation and segmented paging..? Differentiate between them..?
30. VX works is selling under the name of real time OS, but windows is not selling under name of real time OS, where is the difference..?
31. There are three OS's namely Unix, VXworks and some X. They will execute one job in 10ms, 8 ms and 1ms respectively. Can u say the OS X is real time OS, if yes why..?, if no why..?

32. Which scheduling algorithm is used for real time operating system..?
33. What is meant by deadlock..?
34. How will u avoid deadlocks..? what r those four conditions to test..?
35. How will u avoid deadlocks..? what r those four conditions to test..?
36. A lower process is allocated 2 resources, higher process came for execution and it needs totally 4 resources and presently 2 are allocated.. what will happen..?
37. What will happen when context switch takes place... what are the OS activities in context switch.
38. When a low priority process executes its instructions, high priority process comes what will happen..?
Hem: low priority process is preempted and high priority gets the CPU. After completion of execution of higher priority process low priority process will get the cpu.
Q. How OS will know where to start the execution
39. When Page fault occurs, what are actions taken by cpu at that time, if there is no memory for page swapping what will happen, is it need to remove the page from memory..?The page to be removed from memory now, is bring from hard disk initially, so is it needed to put back into hard disk once again. If yes why..?