

Thoughtworks Interview Questions

Round 1

It was for about 2 hours. Questions were on OS, DBMS, Networks, DS and OOPS. I could remember only 70%.

There was no introduce yourself question in both the rounds. I was asked to tell about my experience in college in short.

The first question was on Segmentation and the difference between paging and segmentation. They asked the feature of OS that I liked most. I said multitasking. I was asked to explain it. The next one was on context-switching interrupts etc.,. A lot of questions were asked on this. They asked the feature in windows that is not in linux and vice versa. Then some questions on linux.

They asked me to tell some other database other than RDBMS. I replied Bigtable keyvalue pair and ORDBMS. I was asked the place where Bigtable is used (Google). Then I was asked to explain ORDBMS and hadoop key value pair map reduce. I explained all these for around 10 minutes until I was asked to stop.

The best datastructure for implementing the dictionary was asked. I started with BST then switched to AVL and ended with hash table(now they were satisfied). They asked the advantage of hash table(constant retrieval time). Then questions on sorting and their pseudo codes were asked. I was asked to design a Class diagram for a hotel management. A lot of questions were asked on my design. Why this? That?? They jumped to over riding and abstraction. Real time examples for these. The difference between abstract class and an interface. The need for all these.

They asked me to tell the various scheduling algorithms(FIFO, Priority queue, SJF, Round robin) the data structure to be used and pseudo code for each. A scenario was given on library management assuming myself to be a library admin, they asked me to write a code for easy retrieval of book by using its type. I implemented this using a java class on booktype and a hash key between typename and its object.

Considering a person viewing a google and gmail in two separate browsers. They asked to explain the complete process that takes place behind this. Starting from DNS resolution till the port to port communication had to be explained. They asked the type of network used in the lab and asked to design a network with some constraint and asked the data structure to be used for it(graph).

I was asked to write code for round robin with some constraints. They needed the complete pseudo code.

Then I was asked about my contribution towards open source community. I explained some of my open source projects and the technologies used.

They asked to give at least 2 solutions for finding the mid element of a linked list. Given a linked list and a pointer to a random mid element this random element has to be deleted. This was the most interesting question. First I thought there will be no solution. Then they gave a hint that only data has to be deleted. This helped to find the solution. Copy the data from next node to the current one and delete the next node(simple ?!!).

The interview was too informal and they wanted me to reply “Dont know “ when i dint know the answer . I committed this mistake once . The solutions they needed were optimisd one .

Round 2: (i couldnt remember much from this round).

This round started with DBMS . I was asked to write a query to select find the avg sem mark of all students and select the maximum . The next one was to select the student with the second maximum mark without using rownum . Since i had no clue they asked to solve it in coding point of view . I said that i would eliminate the maximum from the list and find maximum among the rest . This was not accepted since it could not implemented in DBMS . I gave up and they said find the one that is less than maximum and greater than the rest . I couldnt understand it !!

I was asked the difference between a complex query and an inner query .When to go for what How a complex query works etc..I was asked to explain my 7th sem project and i took this opportunity and spoke for around 10 minutes .

Then they switched to OS and asked lot of questions starting from fragmentation , Paging its advantages and disadvantages . Virtual memory , preemption etc., The scheduler used in Operating system
They asked me to design an algorithm for a multitasking OS (single processor) .

The difference between a process and thread (You have to answer it in terms of address space not just thread is a light weight process) The spanning of threads in java was asked . Is multi threading possible in java in a machine with a single processor ?

A series of questions were asked on memory hierarchy ,paging ,page table thrashing . The reason for having a limited swap size etc.,

Given a linked list and a pointer to a random mid element this random element has to be deleted.This question was asked again here .

Some puzzles were given and the Data structure for them were asked.

I was able to answer many questions because of my friends . The best way to prepare for placement is to prepare in groups .

All the best !!