- process creation in OS, how fork works, how to separate controls in parent/child process
- how to split a task (say processing an array) into number of processes
- diff b/w process and thread
- what is synchronization, how it works, mutex, semaphore, why we need it
- what are deadlocks, create an example scenario, how to avoid them
- what is binary search, implement it
- how to find the first non-repeating char from the string in an efficient way, write code
- a little discussion on data structures, particularly, hash tables
- what is pass by value and pass by reference, and which one is best
- diff b/w pointers and references
- diff b/w post and pre increment operators and which one is best
- what is interface, why we need them,
- OOP discussion: constructors, overloading vs overriding, operator overloading, polymorphism,
- what is garbage collector
- what is heap and how it's related to stack memory
- can stack overflow, how, why, how to avoid it
- how pointer arithmetic works, means what would happen if i increment a pointer

Careem

Their hiring process is follows:
1. A test on hackerrank. Not just pass it, but perform well on it. Questions are available online before attempting so easy to prepare.
2. Then a 3 on-site interviews.
   a. One about design patterns. They make you write code in a copy. They ask you to come up with new design patterns as per requirements and code them.
   b. I don't remember the second one. Something about reversing a singly linked list or some database queries. Khurram (their DB guy) said he checks 1) Spark 2) Basic concepts.
   c. They give you an online IDE, and ask you to write code in it. They will give a problem which requires knowledge of data structures, algorithms, networks, scalable systems. Lamak usually takes this. He can at what you're typing and erasing on his screen, as the screen will be shared. He will be giving hints. But minimally. WIll also be asking questions.
3. Then an online interview, don't remember who took it. It's mostly tech leader type guy, his interview is about architecture decisions. Why SQL? Why NoSql? Why ES? Questions are open ended, so a good opportunity to show off the breadth and depth of your knowledge. Don't give short answers, but give, but correct answers.

4. Then an HR interview. They try to judge whether you will be a good ~~bitch~~ hungry tiger.

Securiti.ai again

- His interview lasted for 35 to 40 mins only
- Break two numbers in two linked lists and then add two linked lists
- Adapter pattern (used for APIs versioning) - Question wasn't asked directly, he was given a scenario and asked for a solution.
  Scenario: how would you manage different versions of third party libraries (APIs)
- REST APIs (Session maintenance) - How do you manage sessions
- optimization for read intensive database

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- Threading
- Deadlock
- Hashing
- Binary search in python