

- **Programming Part [1h]**
  - 1. part - **Classic programming questions**
    - What happens when you type google.com in the browser and press ENTER (ELI5)?
    - What is HTTPS and is it vulnerable to MITM attacks?
    - Pros and cons of microservices
    - Is it okay for session numbers in cookies to be generated sequentially?
    - Saving passwords in db? How can you be hacked?
    - Best way to sync micro frontends
    - How would you organize teams to work on micro services/frontends?
    - Questions on stack/single technology you mentioned in CV
  - 2. part - **Data structures**
    - We are checking if we have seen text before? What data structure would you use?
    - We are counting how many times text appears? DS
    - We are doing a todo app. I just want to be able to undo the last added item. DS?
    - What if we need functionality for edit and delete also?
  - 3. part - **Code review**
    - You are given source code written by junior developer (in TypeScript)
    - Your task is to review PR and give him suggestions on how to fix and improve code (including following best practices, naming, code smell...)
    - Find variable and function naming (casing and descriptive names), hoisting (don't use var for variable declaration and init, use let and const instead), get rid of redundant code, focus on simplicity, mention array functions, keep it unit testable
- **System Design Part [1h]**
  - Design **Flight Radar** like system
    - Req: 10 000 DAU, 10 000 active flights every minute, 2h average flight length
    - Just show last location of flight (no need for history)
    - We collect data from providers and can define structure of data and type of communication
    - Define high level, and after that deep dive into each technology
    - Focus on optimizing db