# **M-N project**

**Въпроси**

## **Module 1**

* What is a “closure” in JavaScript?
* What is the difference between const, let and var?
* What is scope in JavaScript?
* What is the difference between function expression, fat arrows and function declaration
* What are the benefits of including 'use strict' at the beginning of a JavaScript source file?
* What is NaN? What is its type?
* What are the benefits of using array methods (forEach, map, etc.) over loops?
* What is data-structure?
* What is a linear data structure?
* What operations can we perform on data structures?
* Explain what is a linked-list?
* Explain what is a stack?
* Explain what is a queue?
* What is algorithm analysis?
* Why do we need to do algorithm analysis?
* What are asymptotic notations?
* What is a recursive function?
* What is linear searching?
* What is binary searching?
* Describe how quicksort work.
* Implement bubble sort?
* Describe how merge sort work.
* Implement insertion sort?
* Describe how heaps work. Write some pseudo code
* What is a tree?
* What is postorder, preorder, inorder traversal?
* What is a binary tree?
* What is a binary search tree?
* What is the value of in-order in binary search tree?
* What is a graph?
* Provide practical examples of graphs. Explain them.
* List some graph algorithms and their usage. How does depth-first traversal work?
* Provide a practical example of DFS. Explain it.
* How does breadth-first traversal work?
* Provide a practical example of BFS. Explain it.
* What is memoization?
* Provide practical example of memoization. Explain it.
* Describe how hash tables work. Provide some pseudo code.
* When to use Map, Set or plain JavaScript objects? What are the values of each?

## **Module 2**

* What is DOM?
* What is HTML?
* What is CSS?
* Where to use IDs and where Classes?
* What is closure?
* What is scope? Provide an example.
* What is lexical scope? Provide an example.
* What is this keyword in JavaScript? Provide an example.
* How arrow functions are different from ordinary functions?
* What is an immediately-invoked function expression? Why use it? Provide an example
* What is module and why to use it? Pros and cons.
* What is object in JavaScript?
* What is Babel? Why we use it?
* What is Webpack? Why we use it?
* How many ways of using modules you are aware of?
* What is jQuery?
* Why we use jQuery? Pros and Cons.
* What is the value of this in event handlers?
* How to attach dynamic events on the DOM with jQuery?
* What is AJAX?
* Why to use AJAX? Pros and Cons.
* Provide a practical example of AJAX call.
* What is Promise and how it helps us?
* What are async/await keywords?
* How does HTTP works?
* What HTTP Headers are?
* What are HTTP status codes?
* What is function generator?
* What is fetch API?
* What is TypeScript?
* TypeScript vs JavaScript. Pros and cons.
* What is “any” type in TypeScript?
* What is a class?
* What is an object?
* What is an interface?
* What is abstract class or method?
* What is polymorphism?
* What is void type function?
* What is never type function?
* Which are the access modifiers in TypeScript?
* What is read only and where it could be used?
* List advantages of TypeScript over JavaScript
* List advantages of JavaScript over TypeScript
* Difference between overloading and overriding?
* What is the purpose of unit tests?
* What other types of testing do you know?
* What makes a unit test high-quality?
* What is mocking?
* Why we use mocking?
* What is SOLID?
* What Is union type?
* What is intersection type?
* What is generic type?
* How do dependency injection containers work under the hood?