

# Module 4 – Under the hood

Understanding how JavaScript works  
in the browser



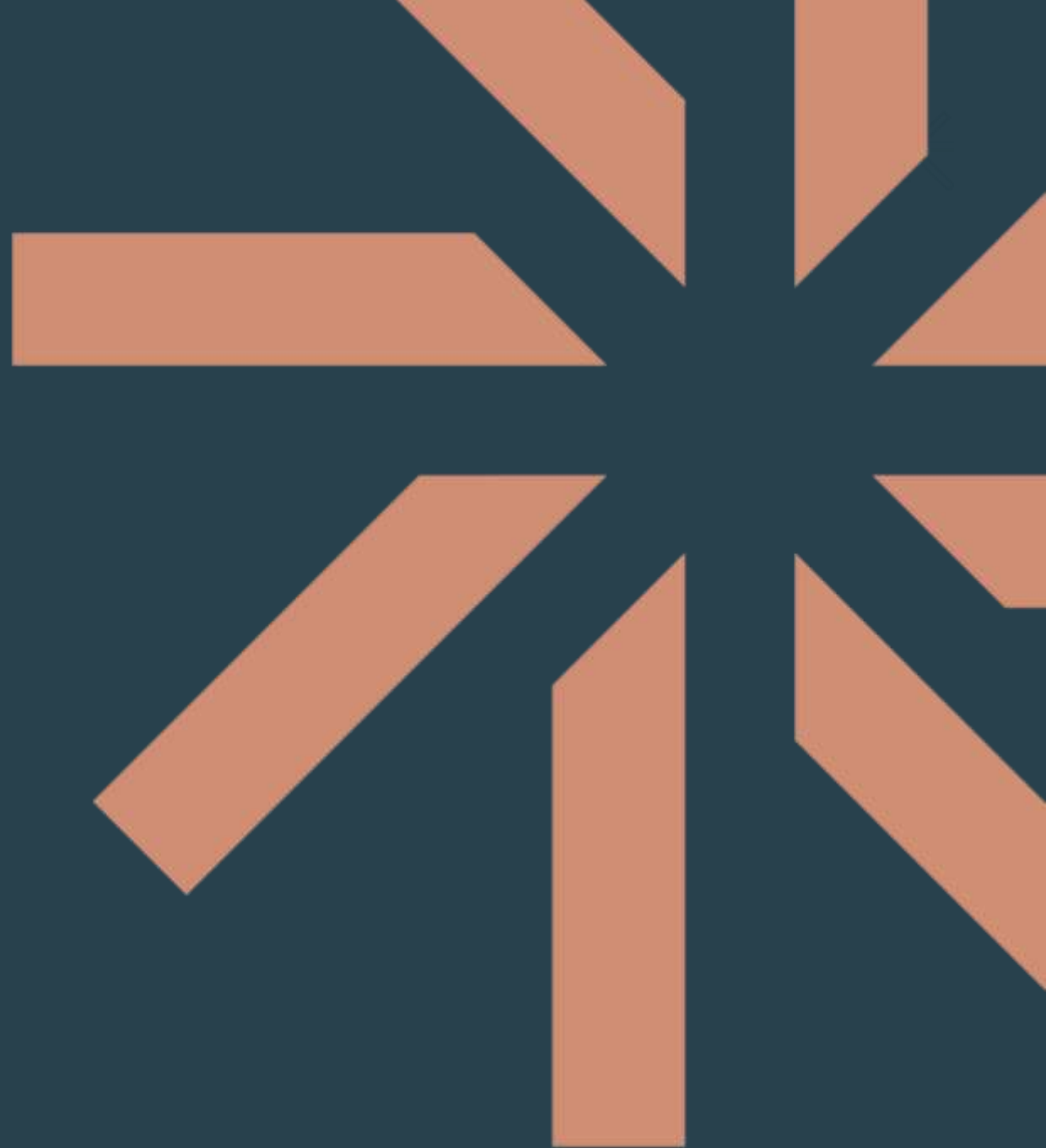
# From last class

- What does it mean: Function is a first-class citizen?
- What can we do with functions in JavaScript?
- What are higher order functions?
- What are the most used higher order functions?



# Class plan

- How is everything parsed in the browser
- When is JavaScript executed
- Where is JavaScript executed
- What are the different features in the browser that help JavaScript out
- What is the event queue, event loop and browser APIs
- What are callback functions?



# How is everything parsed



- Everything is executed line by line
- When the code gets to the script tag it starts executing JavaScript
- The browser engine executes JavaScript code

# The browser



- JavaScript can only be executed in one place (one thread)
- To not block the page, the browser helps JavaScript out
- The browser has APIs for all the waiting functions that are going to block the thread
- There is a special queueing system for tasks so that everything executes in a certain order
- The event loop manages everything, from deciding when to put some JavaScript code on to the thread, to painting the screen on the display



Questions?