**Lab2 - Modern Web Browsers and the JavaScript Engine**

Modern web browsers are prepared by using few tools such us, HTML, CSS and JavaScript, JavaScript this day does not only run-on web browsers but also on node js, react native and up to space, The JavaScript engine parses the source code and turns it into an Abstract Syntax Tree (AST). Based on that AST, the interpreter can start to do its thing and produce bytecode. Great! At that point the engine is actually running the JavaScript code. To make it run faster, the bytecode can be sent to the optimizing compiler along with profiling data. The optimizing compiler makes certain assumptions based on the profiling data it has, and then produces highly optimized machine code. [V8](https://v8.dev/) is Google’s engine for compiling our JavaScript. Firefox has it’s own engine called Spider Monkey. There’s a pipeline containing an interpreter and an optimizing compiler. The interpreter generates unoptimized bytecode quickly, and the optimizing compiler takes a little longer but eventually produces highly optimized machine code.