

INC281
2020



INC281-Lec-Lab-03

JavaScript Programming

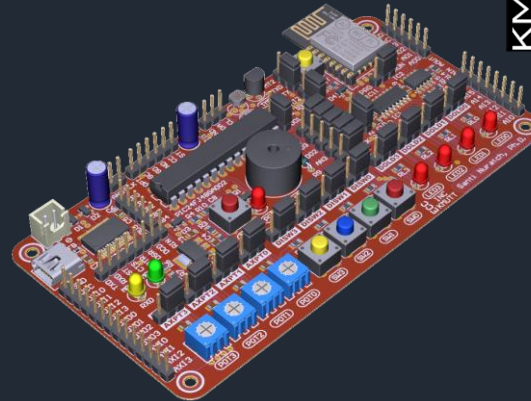
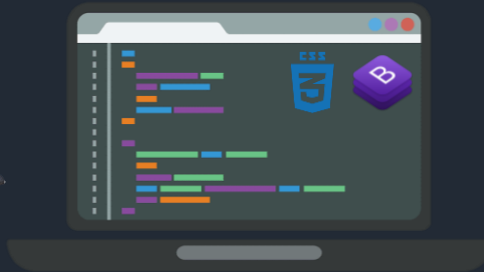
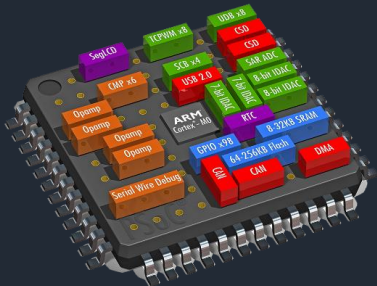


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We Make Computers do More



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JavaScript was initially created to “make web pages alive”

JavaScript can be written right in a web page’s HTML and run automatically

Today, JavaScript can execute not only in the browser, but also on the server, or actually on any device that has a special program called the JavaScript engine.

In-browser JavaScript can do everything related to webpage manipulation, interaction with the user, and the webserver. For instance, in-browser JavaScript is able to:

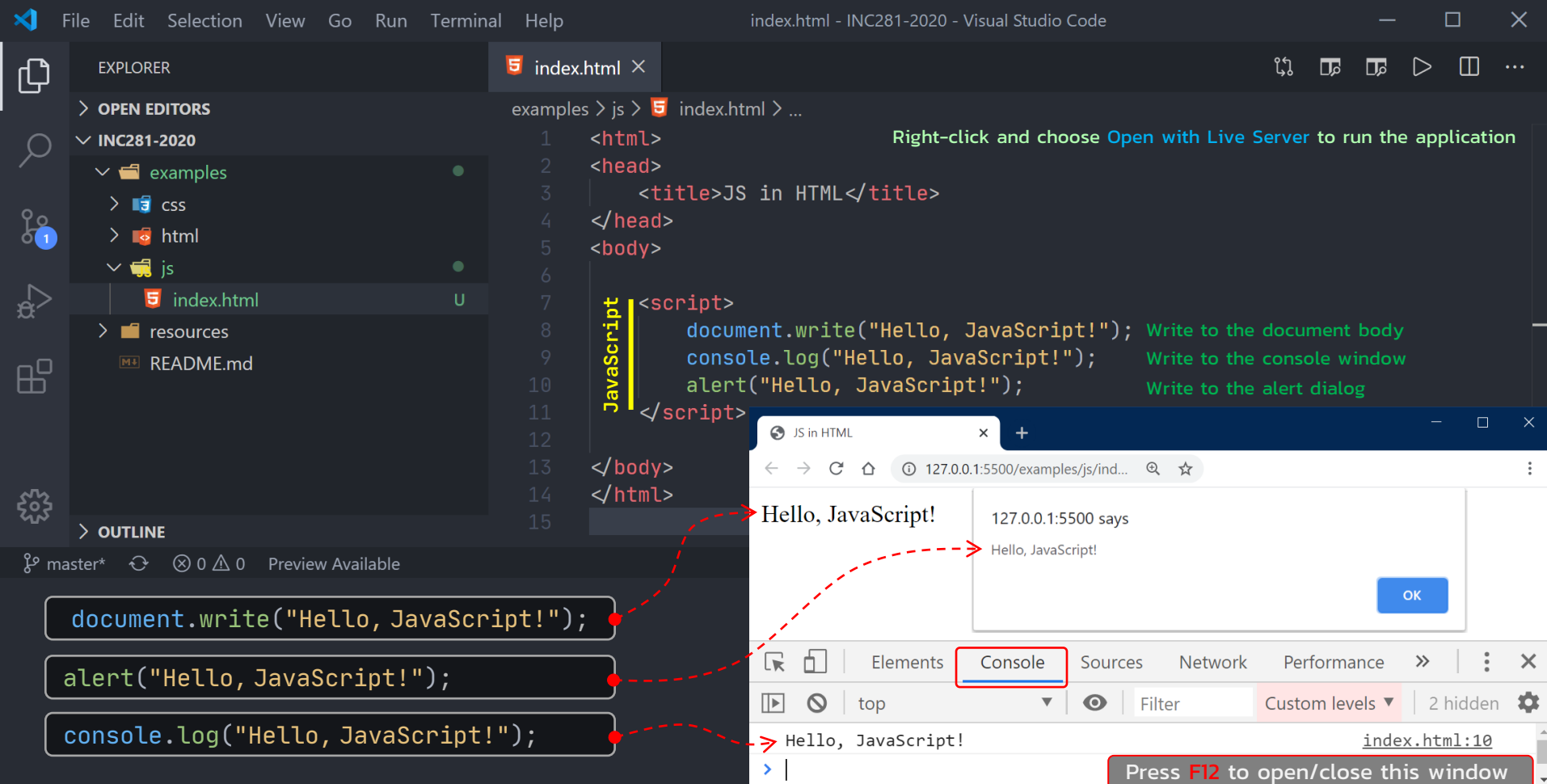
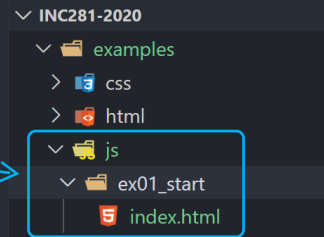
- Add new HTML to the page, change the existing content, modify styles.
- React to user actions, run on mouse clicks, pointer movements, key presses.
- Send requests over the network to remote servers, download and upload files (so-called AJAX and COMET technologies).
- Get and set cookies, ask questions to the visitor, show messages.
- Remember the data on the client-side (“local storage”).

JavaScript programs can be inserted into any part of an HTML document with the help of the `<script>` tag. (Check the next page for example).

<https://javascript.info/js>

Getting Started with JavaScript

- 1) Create a web page, `index.html` and save it in the `js/ex01_start` directory
- 2) Edit the `index.html` as shown below
- 3) Save and run `index.html`, then check the result in the web browser



index.html - INC281-2020 - Visual Studio Code

EXPLORER

- INC281-2020
 - examples
 - css
 - html
 - js
 - ex01_start
 - index.html

index.html

```
1 <html>
2 <head>
3   <title>JS in HTML</title>
4 </head>
5 <body>
6
7   <script>
8     document.write("Hello, JavaScript!");
9     console.log("Hello, JavaScript!");
10    alert("Hello, JavaScript!");
11  </script>
12
13 </body>
14 </html>
15
```

Right-click and choose **Open with Live Server** to run the application

Write to the document body
Write to the console window
Write to the alert dialog

JS in HTML

127.0.0.1:5500/examples/js/ind...

Hello, JavaScript!

127.0.0.1:5500 says
Hello, JavaScript!

OK

Elements Console Sources Network Performance

top Filter Custom levels 2 hidden

Hello, JavaScript!

index.html:10

Press **F12** to open/close this window

document.write("Hello, JavaScript!");

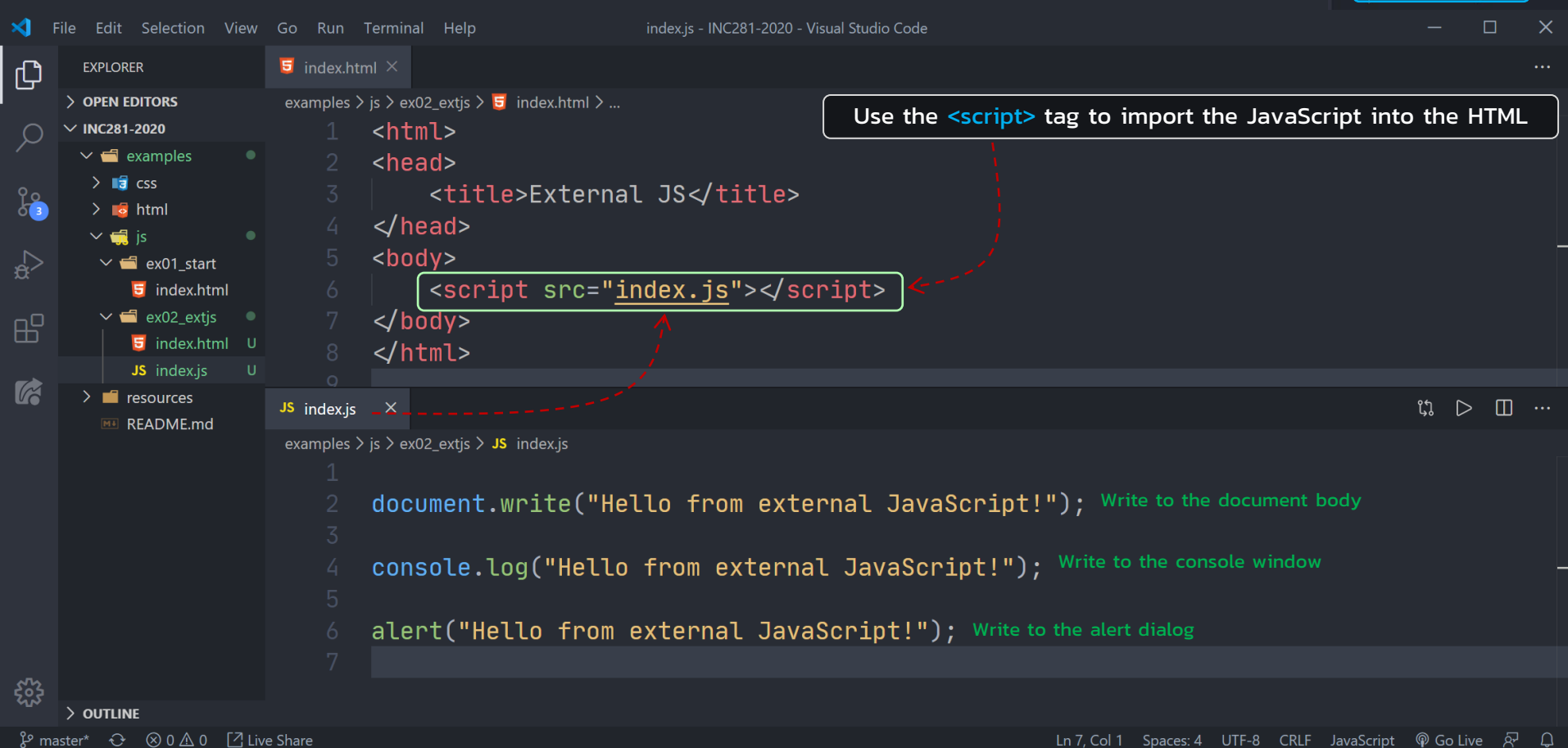
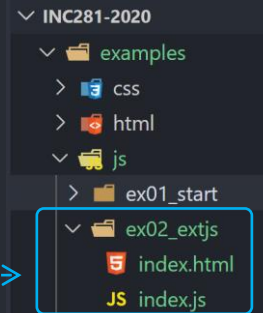
alert("Hello, JavaScript!");

console.log("Hello, JavaScript!");

Getting Started with JavaScript

Let using an external JavaScript (import a JavaScript into the index.html)

- 1) Create a web page, `index.html` and save it in the `js/ex02_extjs` directory
- 2) Create a web page, `index.js` and save it in the `js/ex02_extjs` directory
- 3) Edit the `index.html` and the `index.js` shown below



Visual Studio Code interface showing the code for `index.html` and `index.js`.

index.html

```
1 <html>
2 <head>
3   <title>External JS</title>
4 </head>
5 <body>
6   <script src="index.js"></script>
7 </body>
8 </html>
```

index.js

```
1
2 document.write("Hello from external JavaScript!"); Write to the document body
3
4 console.log("Hello from external JavaScript!"); Write to the console window
5
6 alert("Hello from external JavaScript!"); Write to the alert dialog
7
```

Use the `<script>` tag to import the JavaScript into the HTML

JavaScript Tutorial

JavaScript Tutorial

JS Tutorial

JS HOME

JS Introduction

JS Where To

JS Output

JS Statements

JS Syntax

JS Comments

JS Variables

JS Operators

JS Arithmetic

JS Assignment

JS Data Types

JS Functions

JS Objects

JS Events

JS Strings

JS String Methods

JS Numbers

JS Number Methods

JS Arrays

JS Array Methods

JS Array Sort

JS Array Iteration

JS Dates

JS Date Formats

JS Date Get Methods

JS Date Set Methods

JS Math

JS Random

JS Booleans

JavaScript Tutorial

< Home

Next >

JavaScript is the programming language of HTML and the Web.

JavaScript is easy to learn.

This tutorial will teach you JavaScript from basic to advanced.

Examples in Each Chapter

With our "Try it Yourself" editor, you can edit the source code and view the result.

Example

My First JavaScript

Click me to display Date and Time

Try it Yourself »

We recommend reading this tutorial, in the sequence listed in the left menu.

The more you read, the more you acquire

Self Learning is the best weapon

The Modern JavaScript Tutorial

https://javascript.info/

javascript.info

PART 1

The JavaScript language

Here we learn JavaScript, starting from scratch and go on to advanced concepts like OOP.

We concentrate on the language itself here, with the minimum of environment-specific notes.

An introduction

1.1

An Introduction to JavaScript

1.2

Manuals and specifications

1.3

Code editors

1.4

Developer console

JavaScript Fundamentals

2.1

Hello, world!

2.2

Code structure

2.3

The modern mode, "use strict"

2.4

Variables

2.5

Data types

2.6

Type Conversions

2.7

Operators

2.8

Comparisons

2.9

Interaction: alert, prompt, confirm

2.10

Conditional operators: if, '?'

2.11

Logical operators

2.12

Loops: while and for

2.13

The "switch" statement

2.14

Functions

2.15

Function expressions

2.16

Arrow functions, the basics

2.17

JavaScript specials

Code quality

3.1

Debugging in Chrome

3.2

Coding Style

3.3

Comments

3.4

Ninja code

3.5

Automated testing with Mocha

3.6

Polyfills

Objects: the basics

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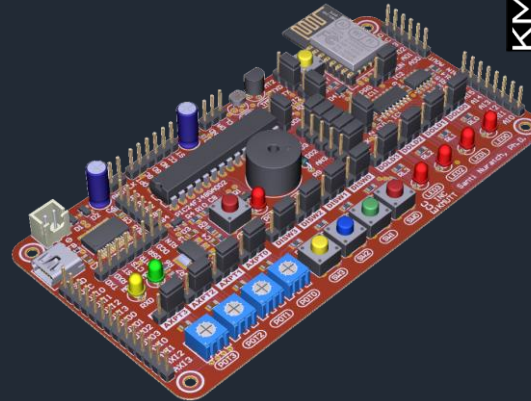
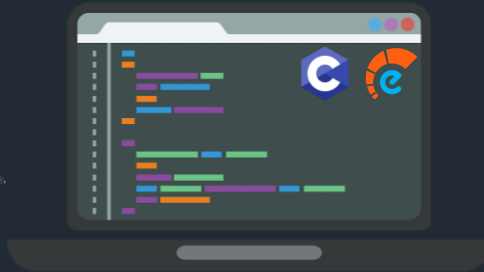
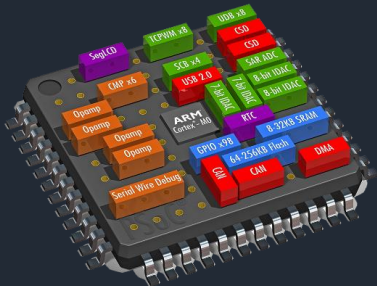
24 March 2020

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THANK YOU!



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