Chapter 6 - JavaScript in the browser

JavaScript was initially created to make web pages alive. JS can be written right in a web page's HTML to make it interactive.
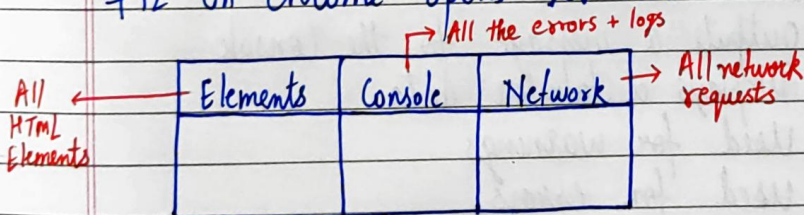
The browser has an embedded engine called the JavaScript engine or the Javascript runtime.

JavaScript's ability in the browser is very limited to protect the user's safety. For example a webpage on http:// goofk·com cannot access http:// codeswear·com and steal information from there.

Developer tools
Every browser has some developer tools which makes a developer's life a lot easier.

F12 on chrome opens Dev tools

→ All the errors + logs

Elements	Console	Network

All ← Elements
HTML
Elements

→ All network requests

We can also write JavaScript commands in the Console

The script tag
The script tag is used to insert JavaScript into an HTML page

The script tag can be used to insert external or internal scripts

```
<script>
  alert ("Hello")
</script>
// or ...
<script src="/Js/thisone.js"> </script>
```

The benefit of a separate javascript file is that the browser will download it and store it in its cache

Console object methods
The console object has several methods, log being one of them. Some of them are as follows:

```
assert () → used to assert a condition
clear () → clears the console
log () → outputs a message to the console
table () → Displays a tabular data
warn () → used for warnings
error () → used for errors
info() → used for special information
```

You will naturally remember some or all of these with time
Comprehensive list can be looked up on MDN

Interaction : alert, prompt and confirm

alert : Used to invoke a mini window with a msg.

alert ("hello")

prompt : Used to take user input as string
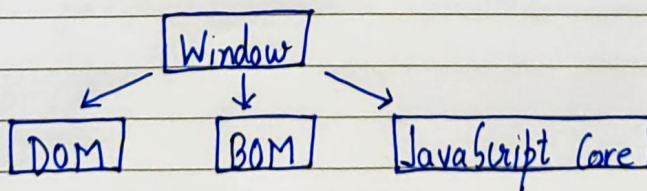
inp = prompt ("Hi", "No")
          ↳ optional default
            value

Confirm : shows a message and waits for the user to press ok or cancel. Returns true for ok and false for cancel.

The exact location & look is determined by the browser which is a limitation

Window object, BOM & DOM
We have the following when JavaScript runs in a browser

```
              ┌────────┐
              │ Window │
              └────────┘
           ↙      ↓       ↘
  ┌─────┐   ┌─────┐   ┌─────────────────┐
  │ DOM │   │ BOM │   │ JavaScript Core │
  └─────┘   └─────┘   └─────────────────┘
```

Window object represents browser window and provides methods to control it. It is a global object

Document Object Model (DOM)

Dom represents the page content as HTML

document . body $\rightarrow$ Page body as Js object

document . body . style . background = "green"
↳ changes page background to green

Browser Object Model (BOM)

The Browser Object Model (BOM) represents additional objects provided by the browser (host environment) for working with everything except the document.

The functions alert/confirm/prompt are also a part of the BOM

location . href = "https://codewithharry.com"
↳ Redirect to another URL