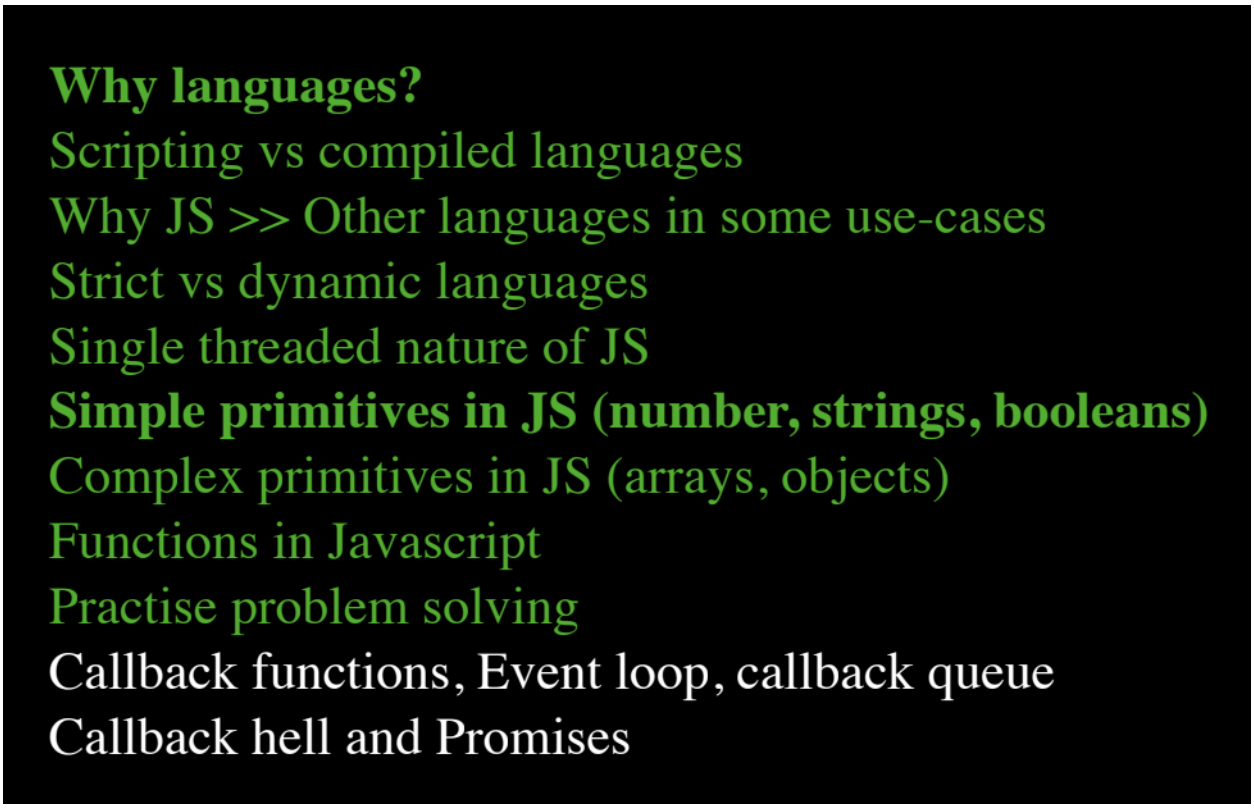
Day 1.2 - Javascript Basics

Focus for today:



1. Compilers - High level code into 0&1 so that RAM can understand it.
2. g++ is a famous compiler of C++
3. C++ : writing the code> compiling the code > running the code
4. Hence C++ is a compiled language.
   Ex: Golang, C++, Java etc.

5. But Javascript is a interpreted language, so no COMPILATION!
   It converts the code line by line.
   Ex: Python, Javascript, etc.
6. For most Browsers they can only understand- HTML, CSS and JS.
   Thanks to Node.js JS can also be used for Backend Development.
7. **Strics vs Dynamic Languages**
   C++ = more strict code, the declaration can't be changed
   JS = can be changed, hence loosely typed - Dynamic
8. **Single Threaded nature of JavaScript**
   This means that JS only requires one core at a time.
   A core is used to focus on a single task at a time and that's why having multiple cores on your system is great.
   Now what if you're using multiple tasks at the same time on your machine?
   Then there is something known as **'CONTEXT SWITCHING'.**
   But this makes JS a bad language for **scalable systems.**
   Scalable Systems:
   When you get a high spec machine from cloud, ex: 20 cores. But JS being the primary coding lang uses only one core at a time.
   Never can it split the role b/w two cores.
   Therefore the rest of the cores are wasted.
9. '*const*' was added in JS to add safety to the program.
10. Code and Syntax:

```
let answer = 0
for (i=0; i<=1000; i++){
answer = answer + i;
}

console.log(answer);
```

11. **Callback**
    Passing a function as an argument.
12. Whereas recursion is a function calling itself.
    Callback doesn't call itself.
13.