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LESSON 1: What is JavaScript? JS powers the web. One of the only languages that is pre-installin in 99% of computers in even every OS.

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    Compiled VS Interpretted languages:
    Compiled (C++, C, Rust...):
        -Code => compiler => machine code => 'Hello World'
        -we must compile the code first in order for us to run it(
            like using g++ in C++ then a. out)
    Interpreted (Python...):
        -Code => Interpreter
        -the code is ran line by line and does not need to compile

    Compile allows us to skip redundant steps in our code such as
    (Following code written in python but python is interpreted: imagine it was
c++)
    for i in range(1000000000000):
        sum += 1
    return sum
        *Compiler would see that in every runtime, this is always the same
reguardless of
        input, so it would optimize it and preinstall sum as 100000000000,
skipping the calculations at runtime

JavaScript is considered to be BOTH:
    -it will run line by line, but when it comes to something complex such as a
while loop, it will
    send the code to a compiler to optimize the problem. It does this via the JS
engine (v8)
JS is a high level multiparadigm, dynamically typed, single threaed, garbage
collcted and event driven scripting language
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LESSON 2: JS fuctions are first class objects we can do the following to define functions in our programs - let mySum = function sum(a,b){ return a + b } - const square = (x) => { return x * x } - functions myCube(y){ return y * y * y } Data types: -Number -String -Boolean -Undefined -Null -Big int -Symbol Spread operator (using ...): we can use SO to concatanate arrays together such as: arr = [1,2,3,4] newArr = [...arr,5,6,7] (newArr = [1,2,3,4,5,6,7])