Execution Context and Call Stack

Execution Context

- An execution context is an environment
- Inside the execution context a piece of JavaScript code gets executed.
- Variables, parameters and other information related to the piece of code get stored in the execution context

Execution Context

There are two kinds of Execution Context in JavaScript:

- Global Execution Context (GEC)
- Function Execution Context (FEC)

Global Execution Context

Whenever the JavaScript engine receives a script file, it first creates a default Execution Context known as the Global Execution Context (GEC).

- GEC is the base/default Execution Context
- all JavaScript code that is **not inside of a function** gets executed.
- For every JavaScript file, there can only be **one** GEC

Function Execution Context

Whenever a function is called, the JavaScript engine creates a different type of Execution Context known as a Function Execution Context (FEC)

- Every time a function is called, a new execution context is created for that function.
- Each function has its own execution context.
- Since every function call gets its own FEC, there can be more than one FEC in the rur

  script.

Phases

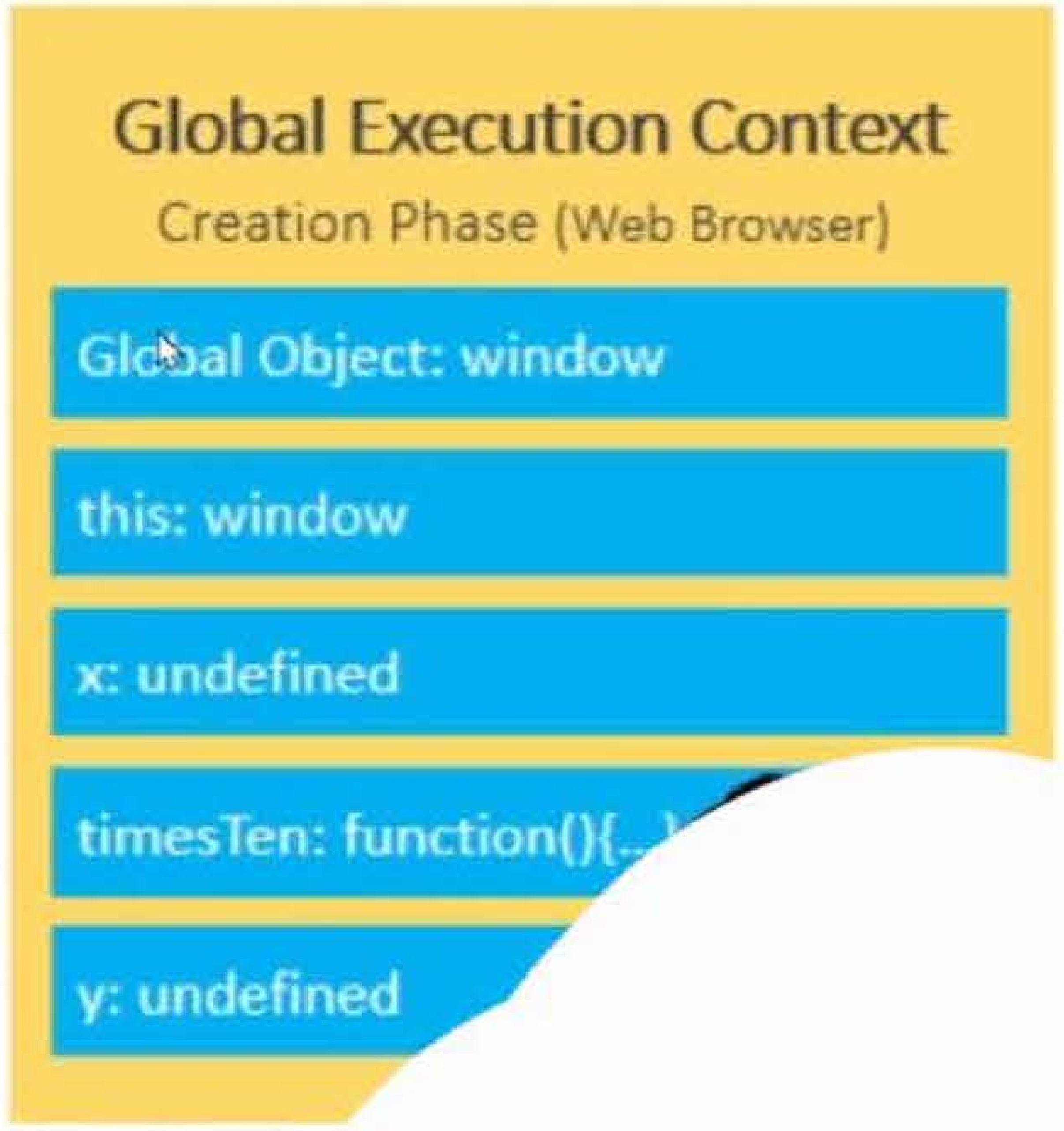
The execution context is created in two phases:

- Creation Phase
- Execution Phase

Creation Phase

Creation phase is the phase in which the JS engine has called a function but its execution has not started.

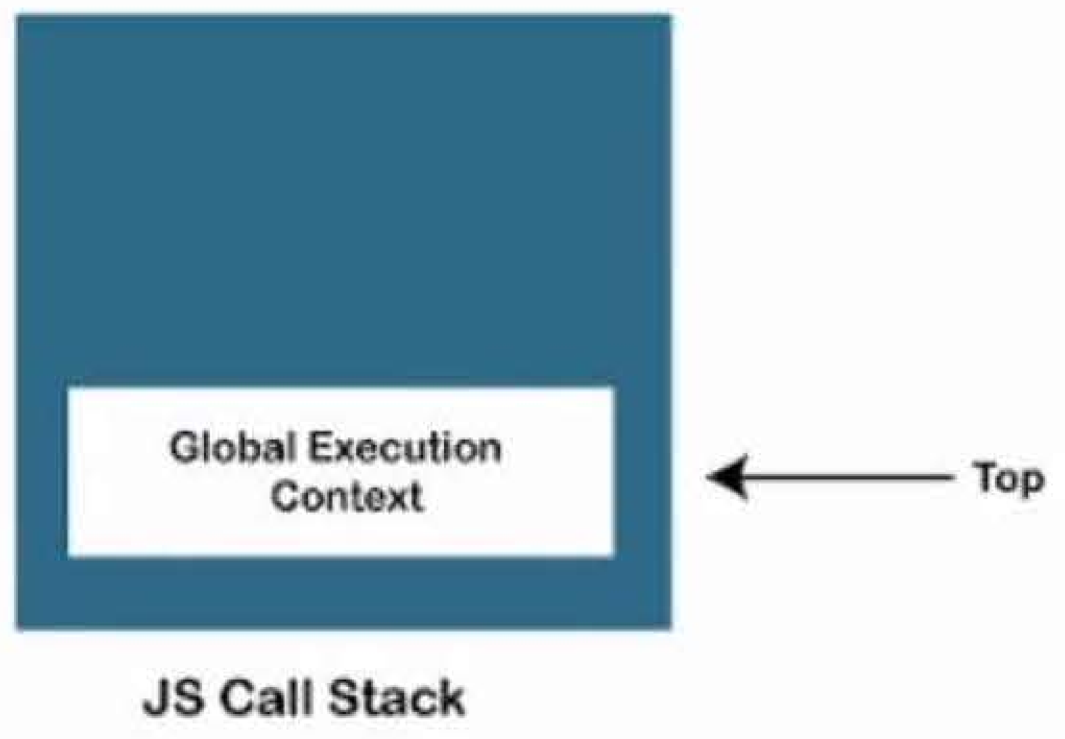
- JS engine is in the compilation phase
- it just scans over the function code to compile the code
- it doesn't execute any code.



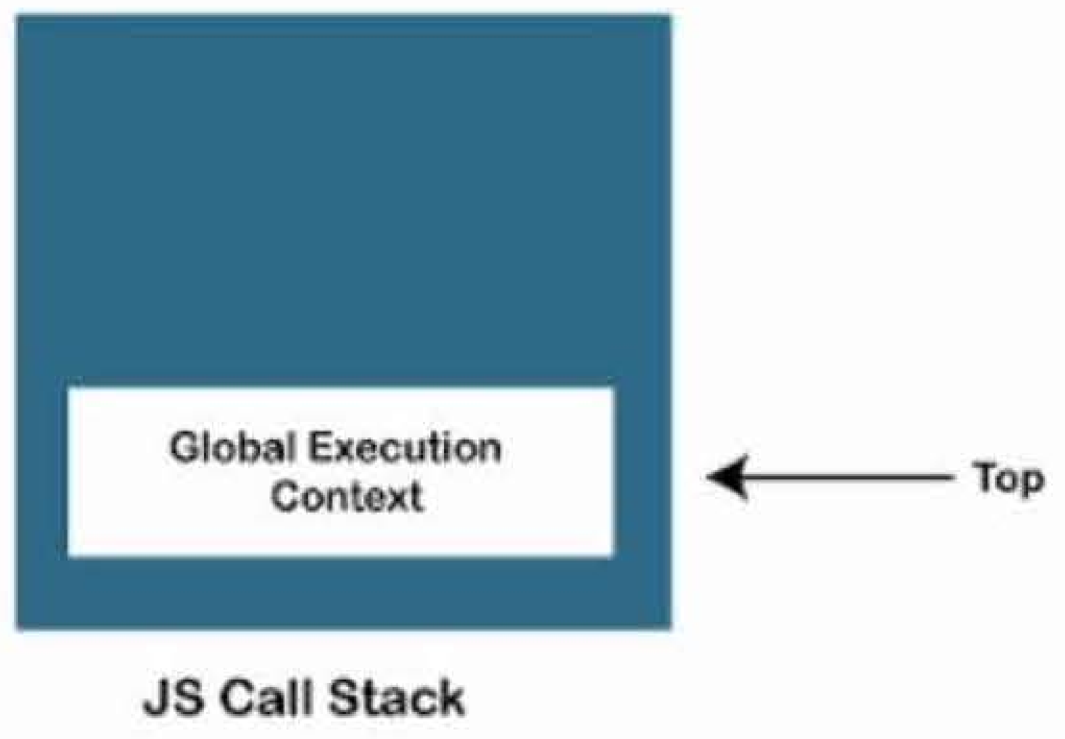
Call Stack

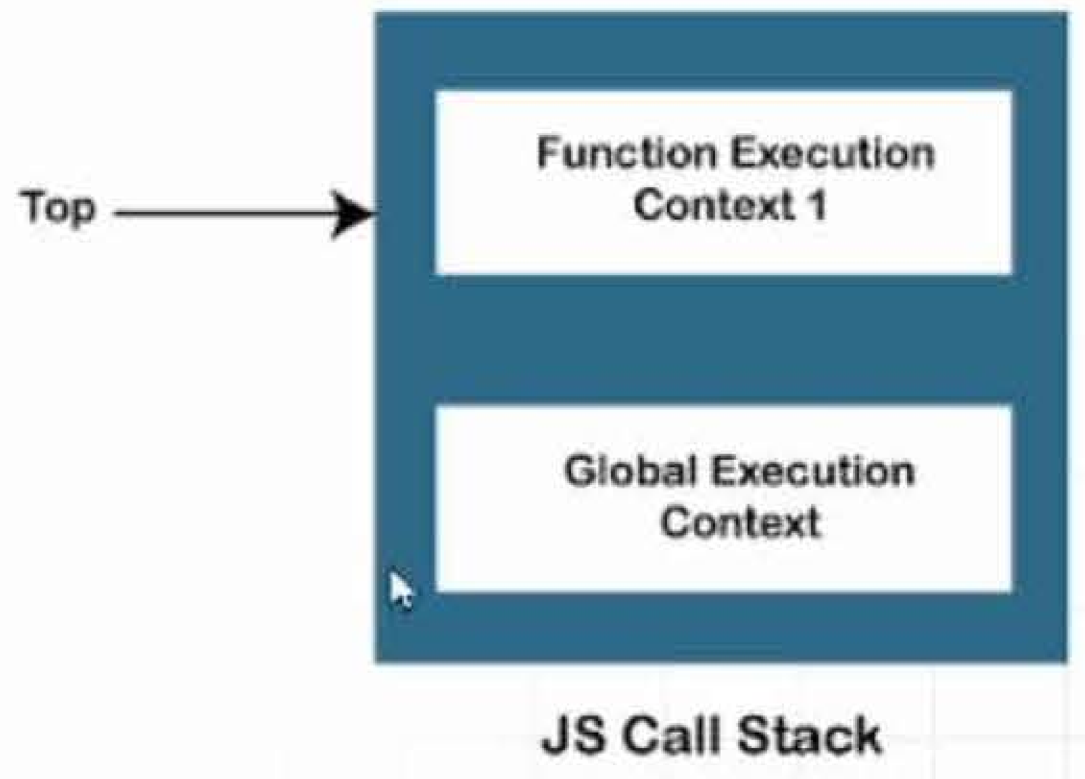
- The **call stack** is used bv JavaScript to keep track of multiple function calls
- In order to manage the execution contexts, the JavaScript engine uses a call stack.

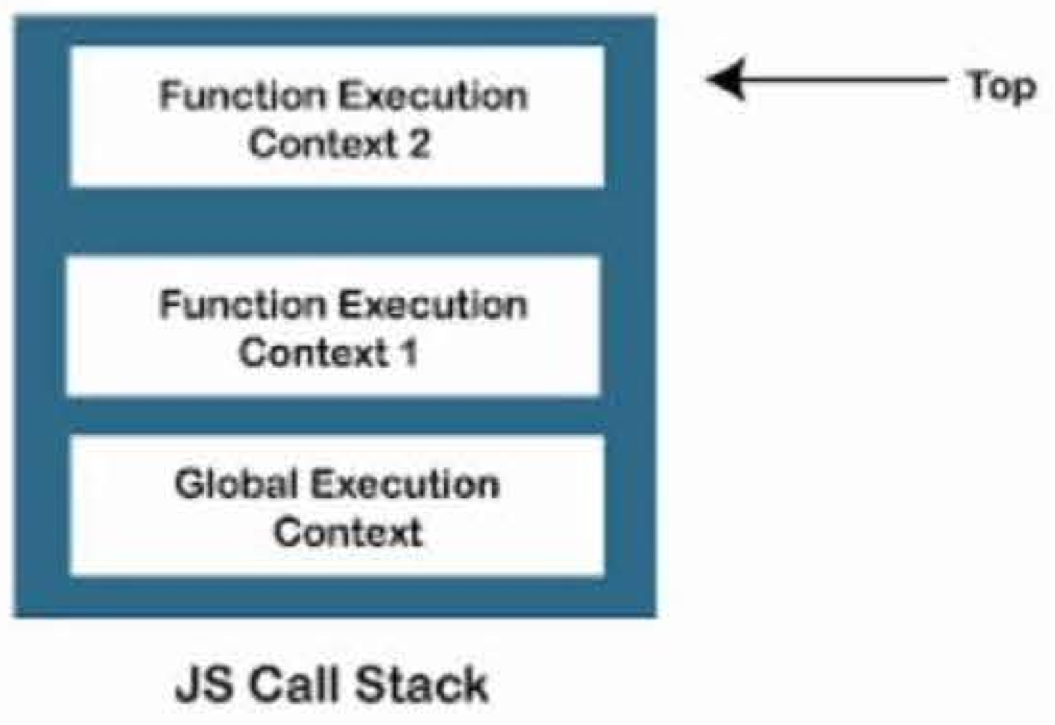
Call Stack

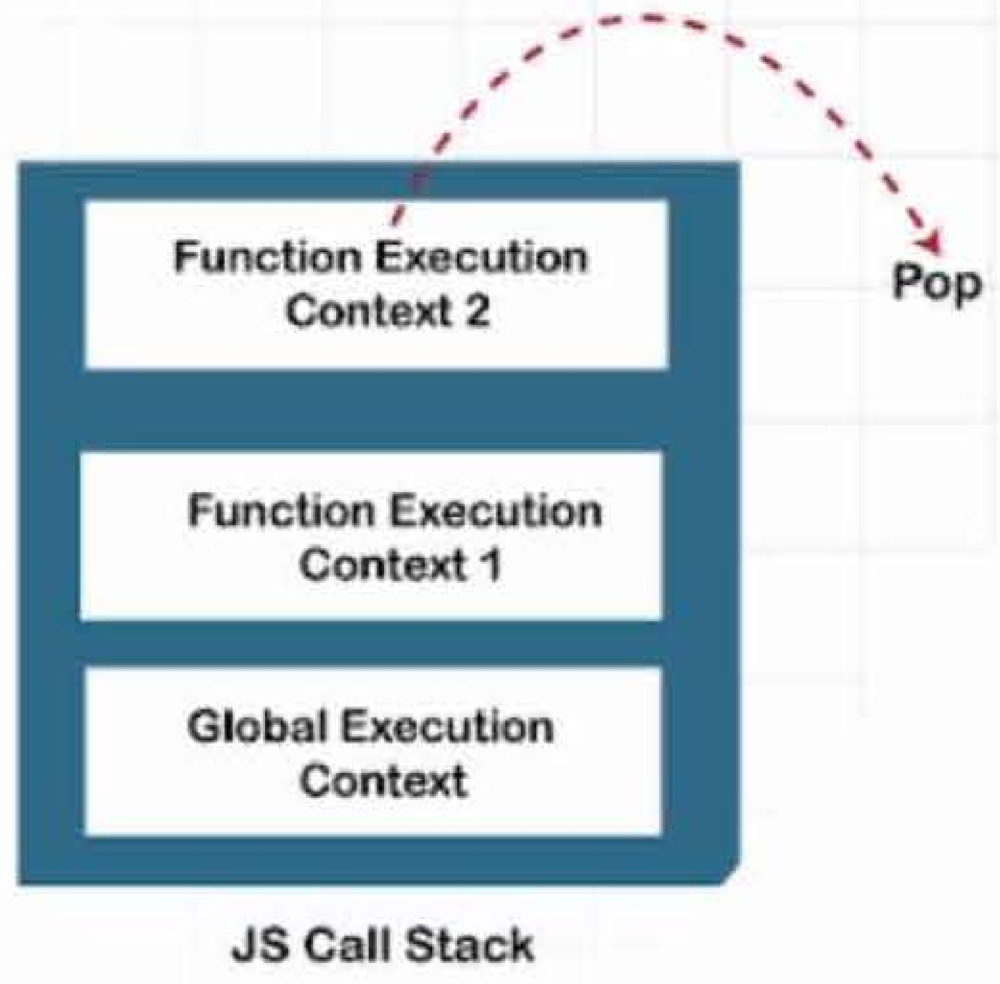


Call Stack


Global Execution Context
Top
JS Call Stack


Top
Function Execution Context 1
Global Execution Context
JS Call Stack


Function Execution Context 2
Top
Function Execution Context 1
Global Execution Context
JS Call Stack


Function Execution Context 2
Pop
Function Execution Context 1
Global Execution Context
JS Call Stack

We will learn more about JS on our next videos