

CURSO

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S

WANDERLEY PANOSO

- FATEC TQ
- Swinburne University
- Web Dev desde 2010



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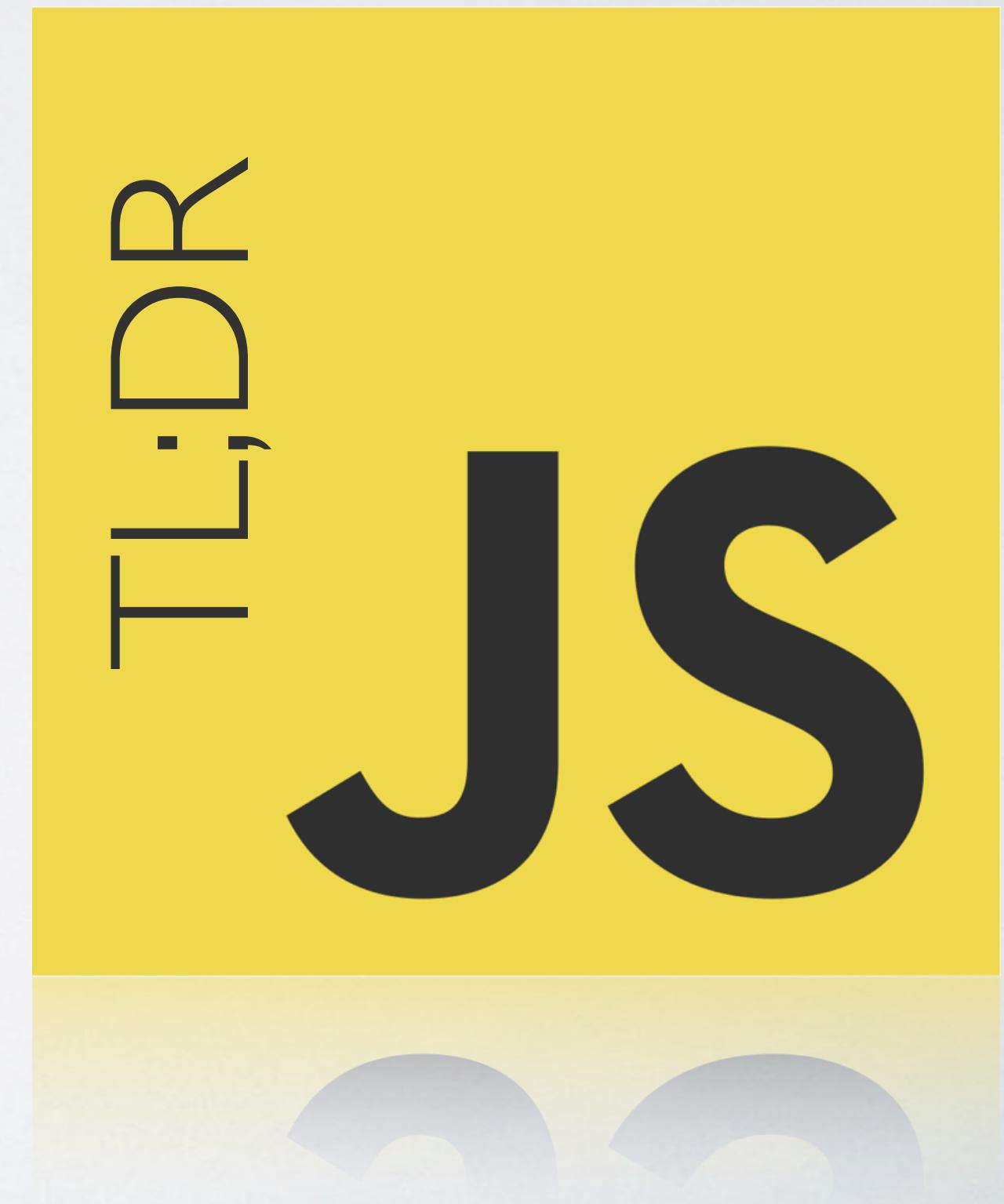
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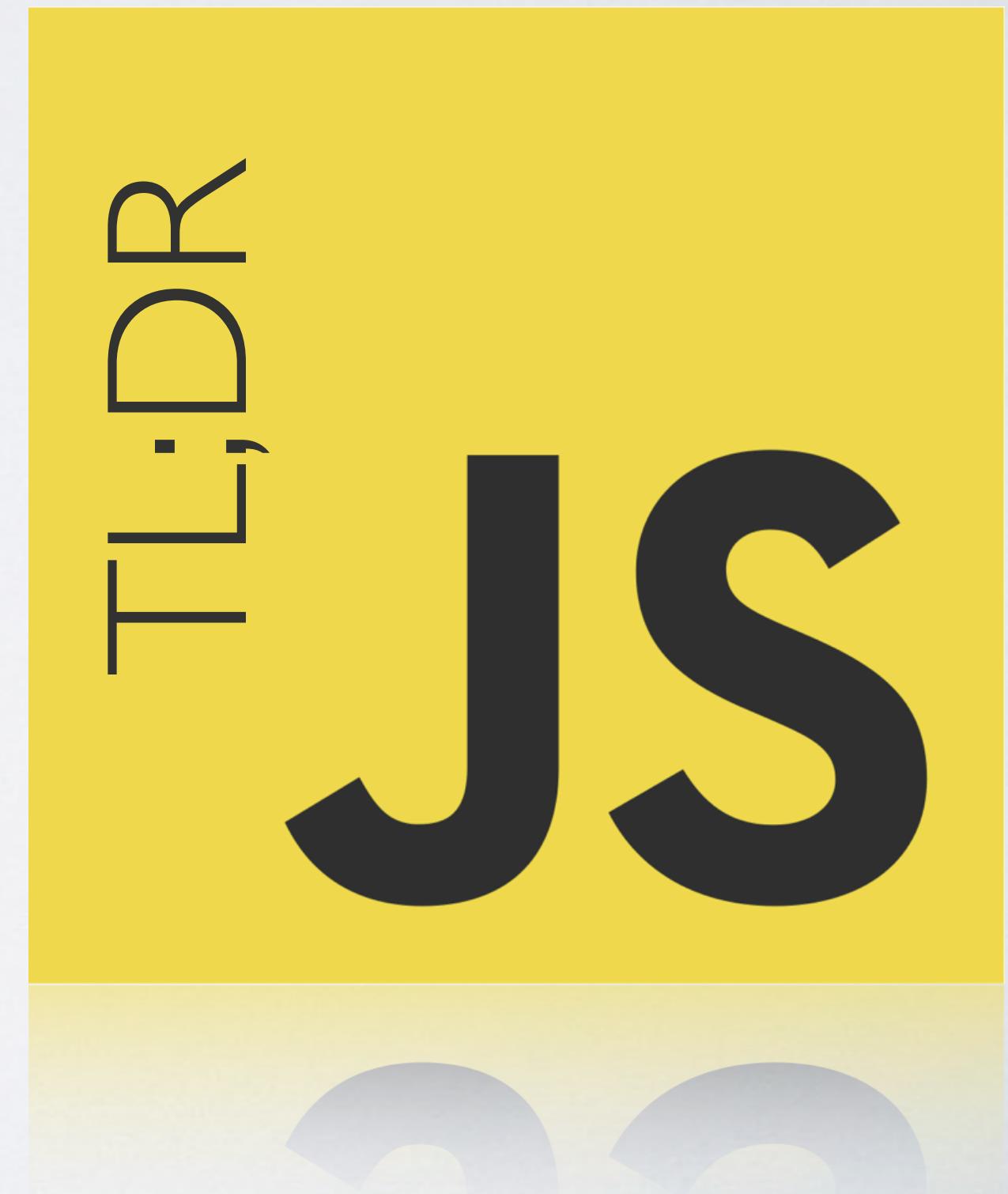
OBJETIVO DO CURSO

- Compreender Conceitos fundamentais do JS
 - JS Engines
 - OOP
 - Functional Programming
 - Async Programming
 - ES6
 - (...)



PARA QUEM É CURSO

- Desenvolvedores JS
 - Front & Back End
- Conhecimento Básico de Programação é necessário



SETUP DO AMBIENTE

- Atom
- Chrome
- Node.js
- Git



MATERIAL DO CURSO

```
~$ git clone https://github.com/wanderleypanosso/  
curso-javascript-tldr.git
```



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JS ENGINES

JS ENGINE

TL;DR

- Um **JavaScript Engine** é uma **Máquina Virtual** que “Interpreta” e Executa JavaScript.

ALGUNS JS ENGINES

- **Chakra** - IE & Edge
- **Carakan** - Opera
- **JavaScriptCore** - Safari
- **Spidermonkey** - Firefox
- **V8** - Chrome - Node.js

SYNTAX PARSER

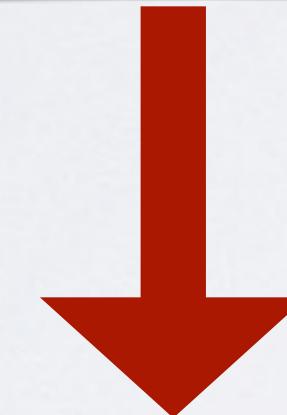
SYNTAX PARSER

TL;DR

- Programa que **verifica** um código e determina se o **código é valido e o que o código faz.**

SYNTAX PARSER

```
3 function helloWorld(){  
4     var hello = 'Hello World!!!';  
5     return hello;  
6 }
```



**SYNTAX
PARSER**



Program

function helloWorld

var hello = “Hello World!!!”

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AULA 02

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GLOBAL OBJECT & GLOBAL EXECUTION CONTEXT

EXECUTION CONTEXT

TL;DR

- **Gerenciador do código em execução.** Todo código que está sendo executado pertence a **Um** Execution Context.

EXECUTION CONTEXT

Global Object
“this”

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EXECUTION CONTEXTS & EXECUTION STACK

EXECUTION STACK

TL;DR

- **Pilha de Execução** responsável por controlar a ordem em que os Execution Contexts são processados. **LIFO**. Processa todos os Execution Contexts de forma Síncrona e em um único Thread.

EXECUTION STACK

```
2 function c(){  
3  
4 }  
5  
6 function b(){  
7   c();  
8 }  
9  
10 function a(){  
11   b();  
12 }  
13  
14 a();
```

Global

EXECUTION STACK

```
2 function c(){  
3  
4 }  
5  
6 function b(){  
7   c();  
8 }  
9  
10 function a(){  
11   b();  
12 }  
13  
14 a();
```

a()

Global

EXECUTION STACK

```
2  function c(){  
3  
4  }  
5  
6  function b(){  
7    c();  
8  }  
9  
10 function a(){  
11   b();  
12 }  
13  
14 a();
```

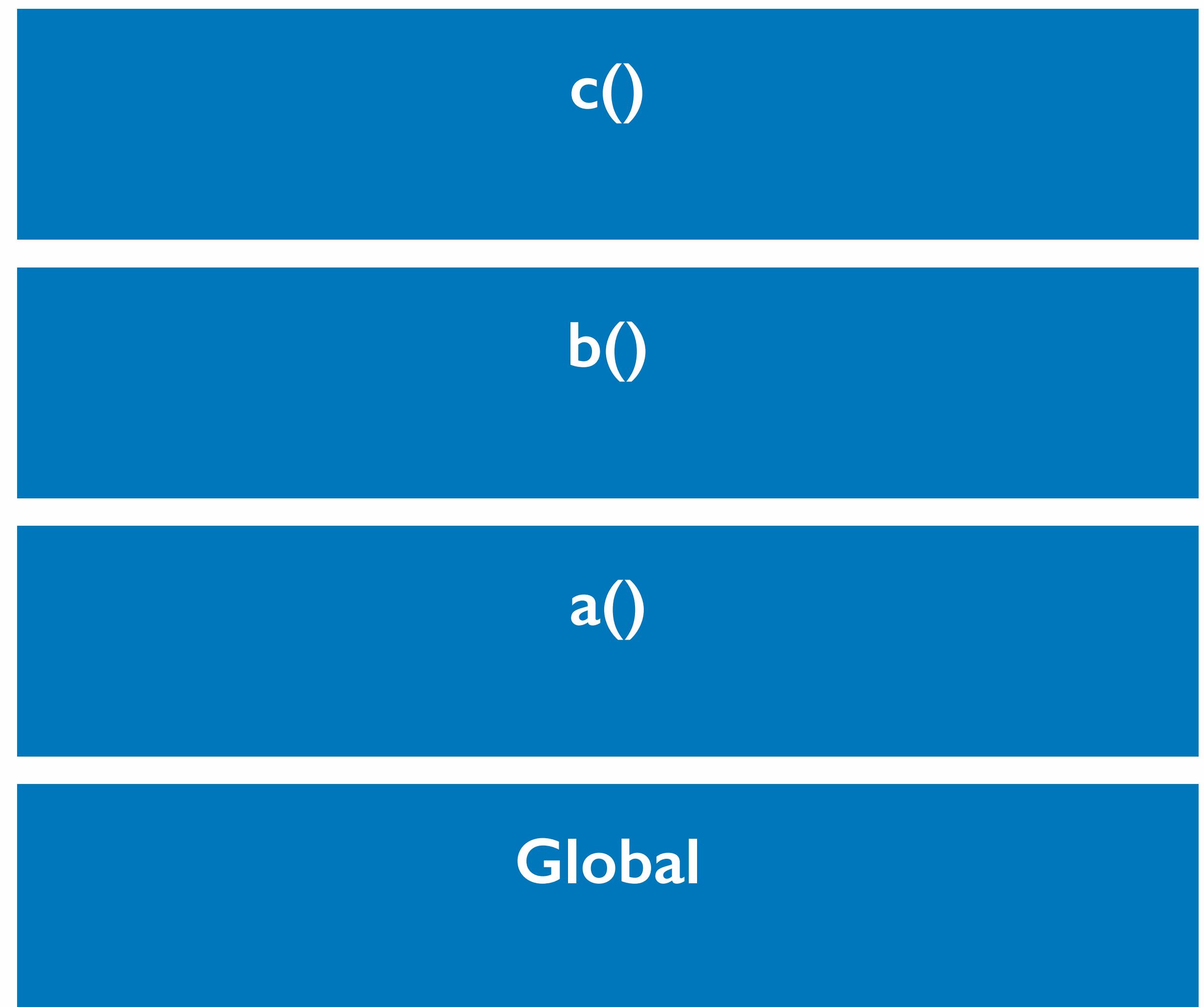
b()

a()

Global

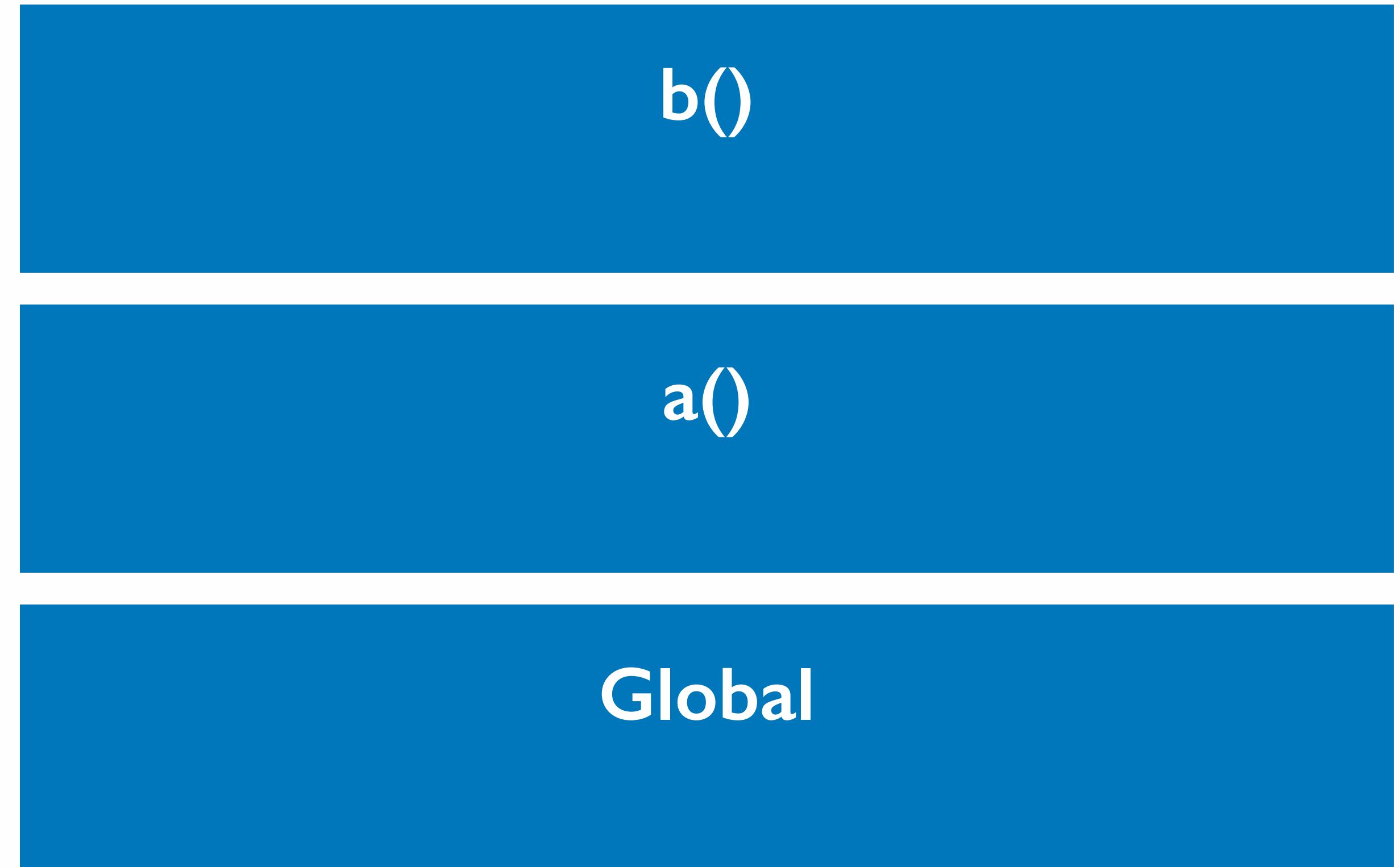
EXECUTION STACK

```
2  function c(){  
3  
4  }  
  
5  
6  function b(){  
7    c();  
8  }  
  
9  
10 function a(){  
11   b();  
12 }  
  
13  
14 a();
```



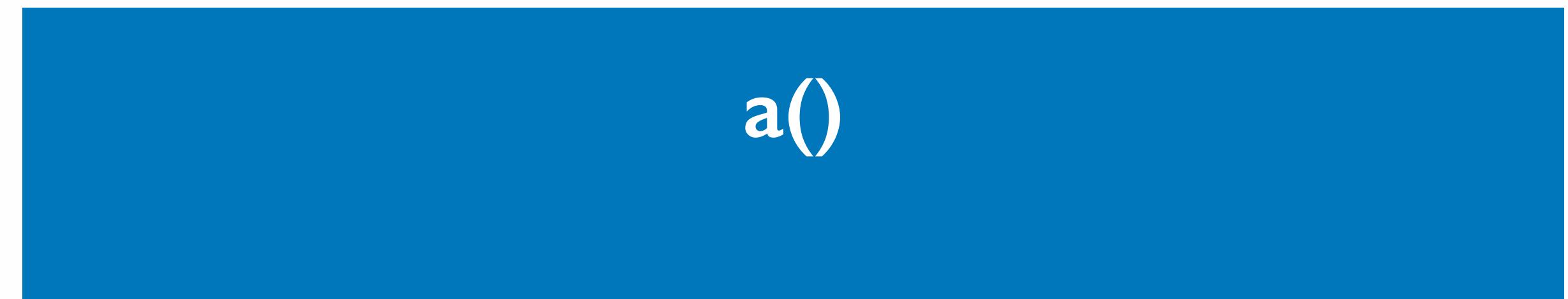
EXECUTION STACK

```
2  function c(){  
3  
4    }   
5  
6  function b(){  
7    c();  
8  }  
9  
10 function a(){  
11   b();  
12 }  
13  
14 a();
```



EXECUTION STACK

```
2  function c(){  
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4  }  
5  
6  function b(){  
7    c();  
8  }  
9  
10 function a(){  
11   b();  
12 }  
13  
14 a();
```



EXECUTION STACK

```
2  function c(){  
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4  }  
5  
6  function b(){  
7    c();  
8  }  
9  
10 function a(){  
11   b();  
12 }  
13  
14 a();
```

Global

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VARIABLE
ENVIRONMENT

VARIABLE ENVIRONMENT

TL;DR

- **Local** onde as variáveis são declaradas e como elas se **relacionam entre si**.

EXECUTION CONTEXT

Global Object
“this”

Variable
Environment

VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
5
6 function a(){
7     var x = 2;
8     b();
9 }
10
11 var x = 1;
12 a();
```

Global

VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
5
6 function a(){
7     var x = 2;
8     b();
9 }
10
11 var x = 1;
12 a();
```

Global

x = 1

VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
5
6 function a(){
7     var x = 2;
8     b();
9 }
10
11 var x = 1;
12 a();
```

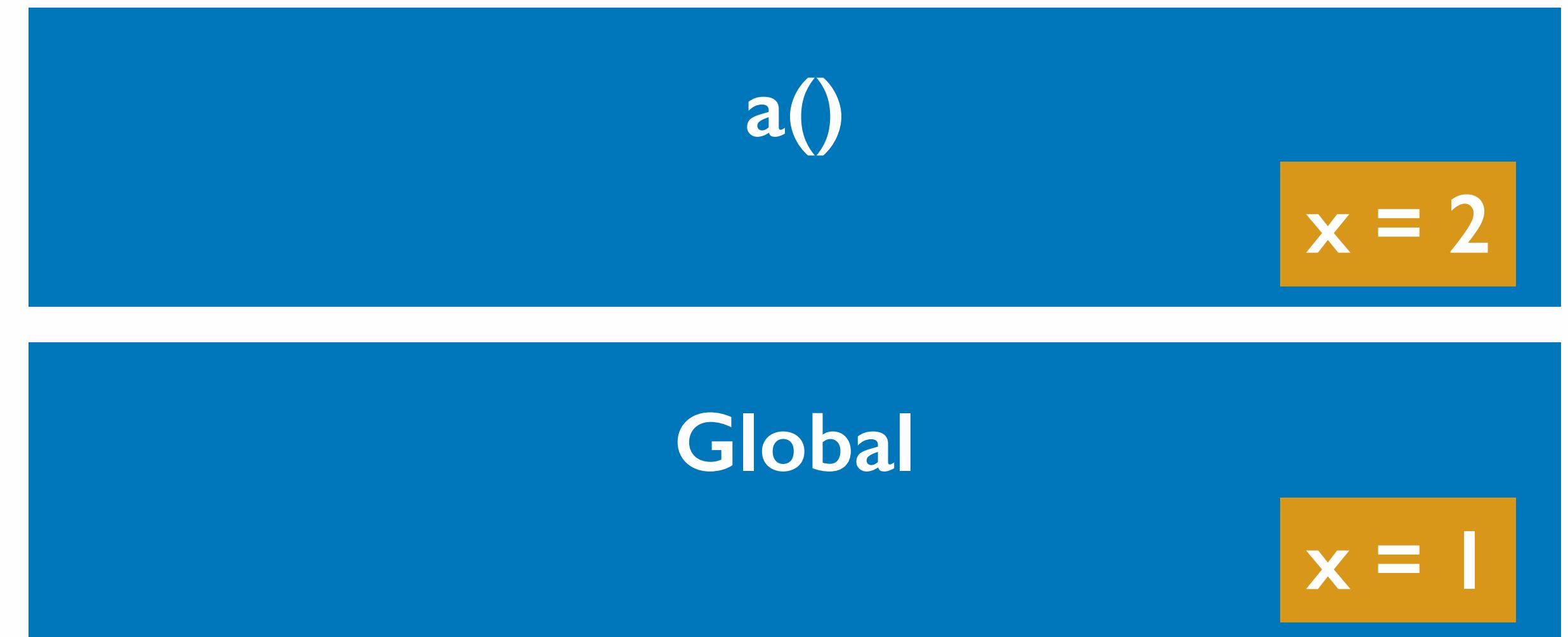
a()

Global

x = 1

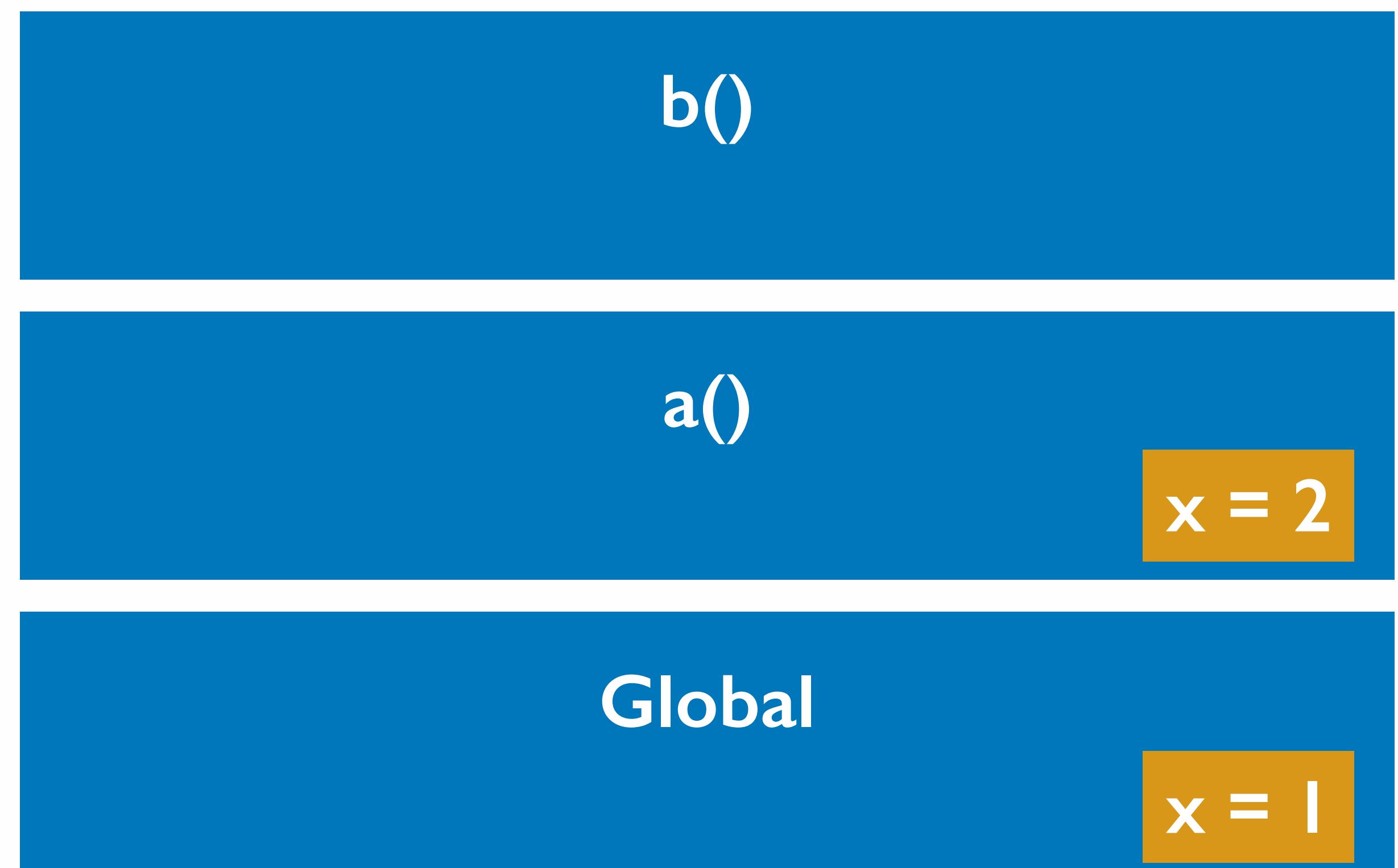
VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
5
6 function a(){
7     var x = 2;
8     b();
9 }
10
11 var x = 1;
12 a();
```



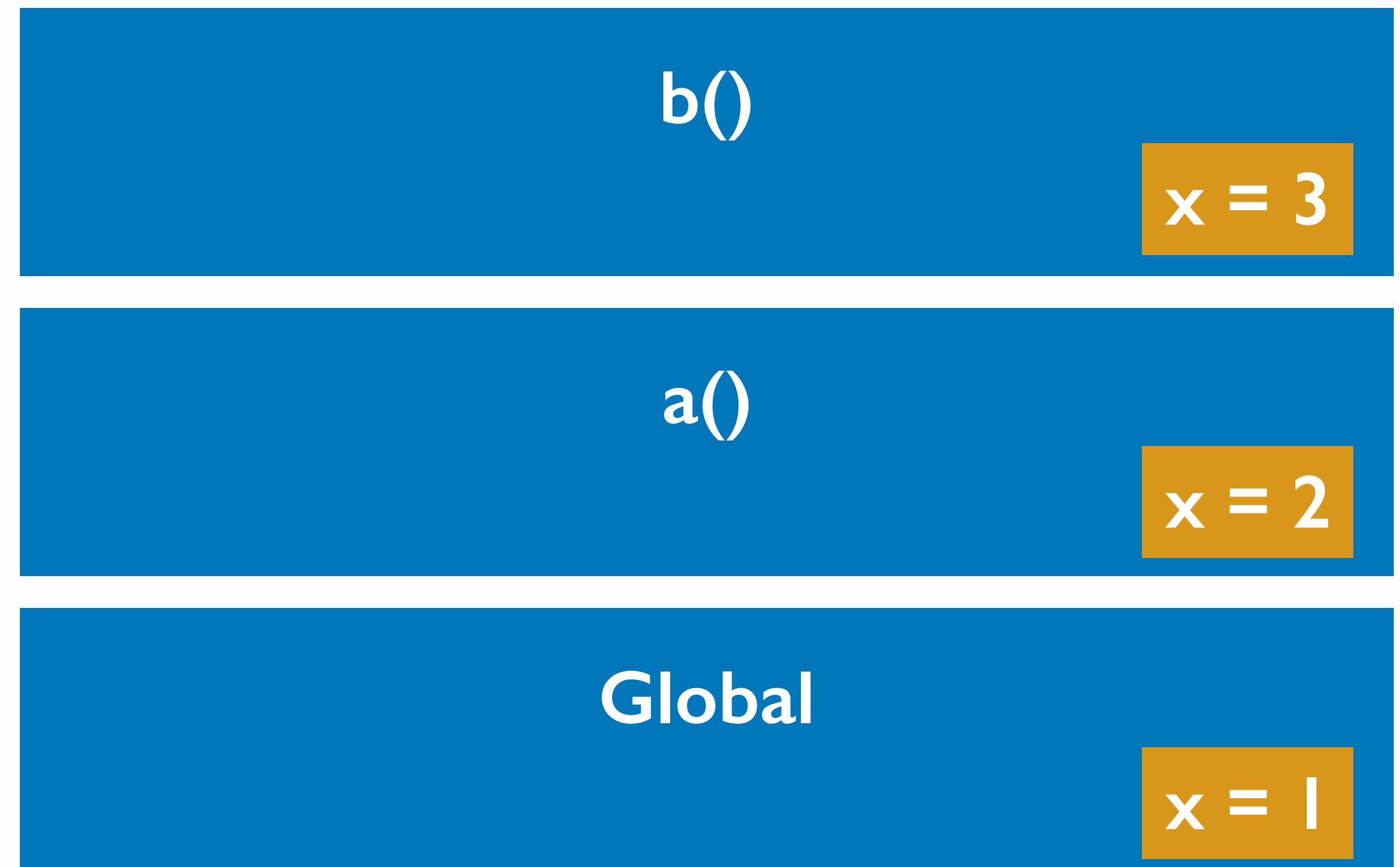
VARIABLE ENVIRONMENT

```
2 function b(){  
3     var x = 3;  
4 }  
5  
6 function a(){  
7     var x = 2;  
8     b();  
9 }  
10  
11 var x = 1;  
12 a();
```



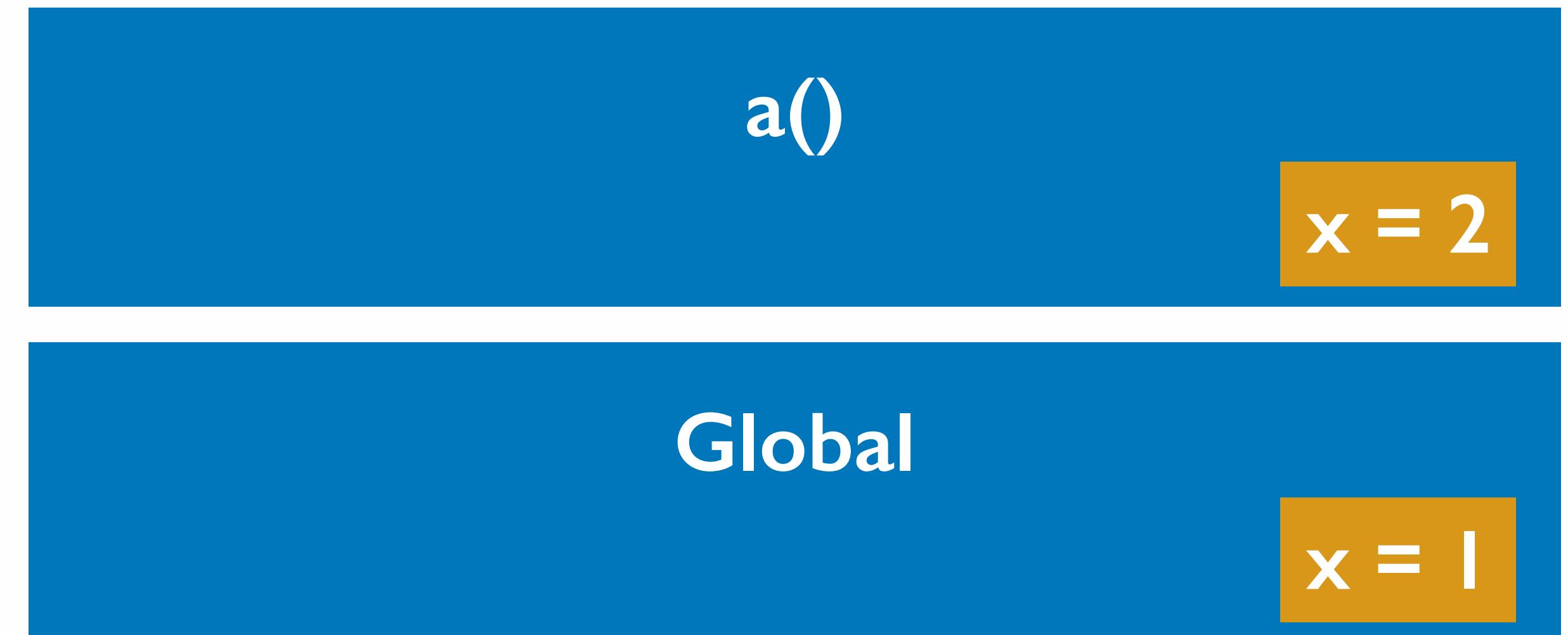
VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
5
6 function a(){
7     var x = 2;
8     b();
9 }
10
11 var x = 1;
12 a();
```



VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
5
6 function a(){
7     var x = 2;
8     b();
9 }
10
11 var x = 1;
12 a();
```



VARIABLE ENVIRONMENT

```
2 function b(){
3     var x = 3;
4 }
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6 function a(){
7     var x = 2;
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10
11 var x = 1;
12 a();
```

Global

x = 1

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EXECUTION CONTEXT & HOISTING

HOISTING

TL;DR

- Em **JavaScript** uma **variável pode ser declarada depois de ter sido utilizada**. Em outras palavras, uma variável pode ser utilizada antes de ter sido declarada.

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STRICT MODE

STRICT MODE

TL;DR

- **Strict Mode** proíbe a utilização de variáveis não declaradas através do literal “**use strict**”; Deve ser **utilizado com atenção em browsers**.

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LEXICAL ENVIRONMENT & SCOPE CHAIN

LEXICAL ENVIRONMENT

TL;DR

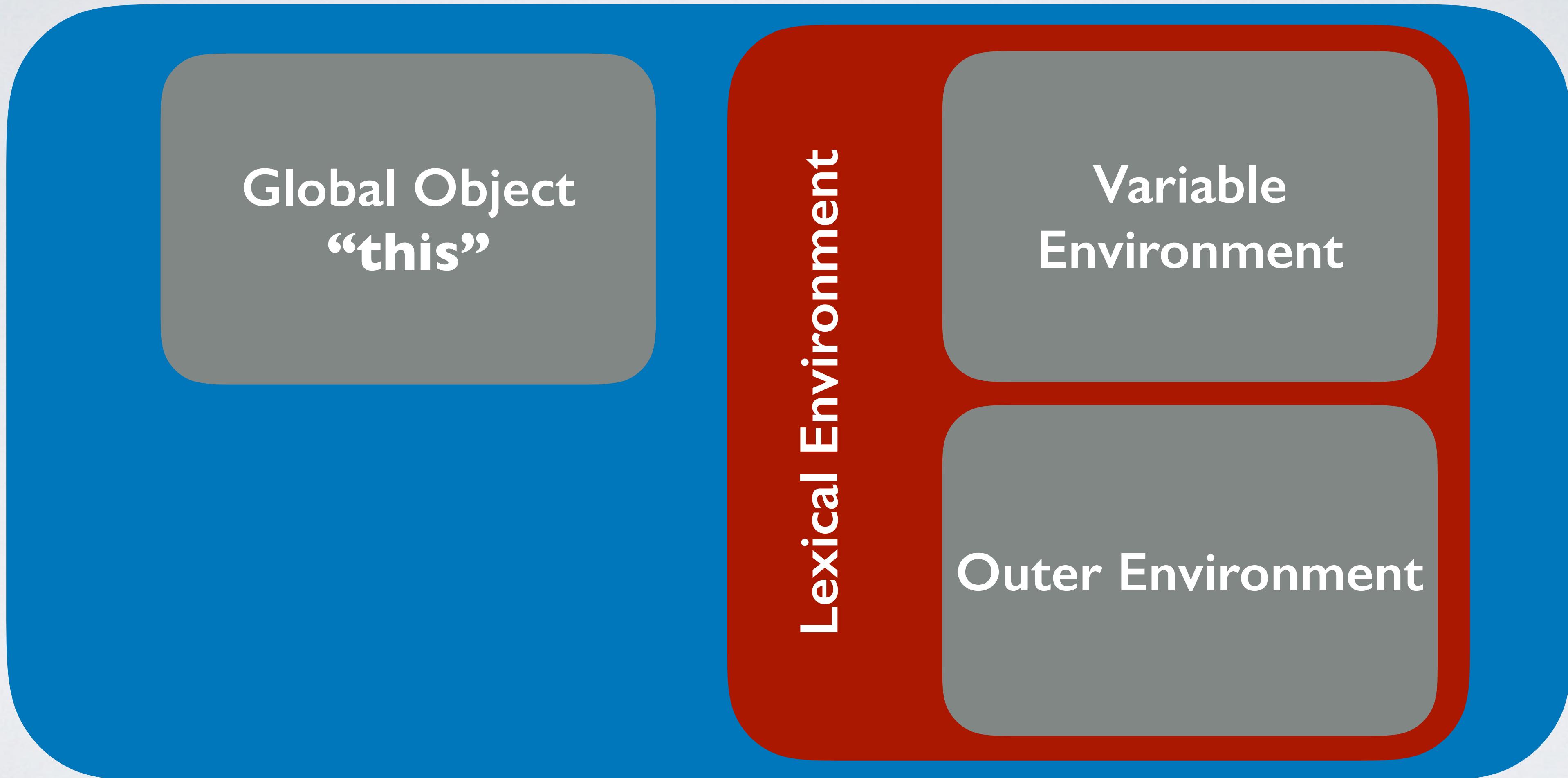
- O **Lexical Environment** determina a associação entre **identificadores e valores** de variáveis e funções baseado no **aninhamento Léxico** do código.

SCOPE CHAIN

TL;DR

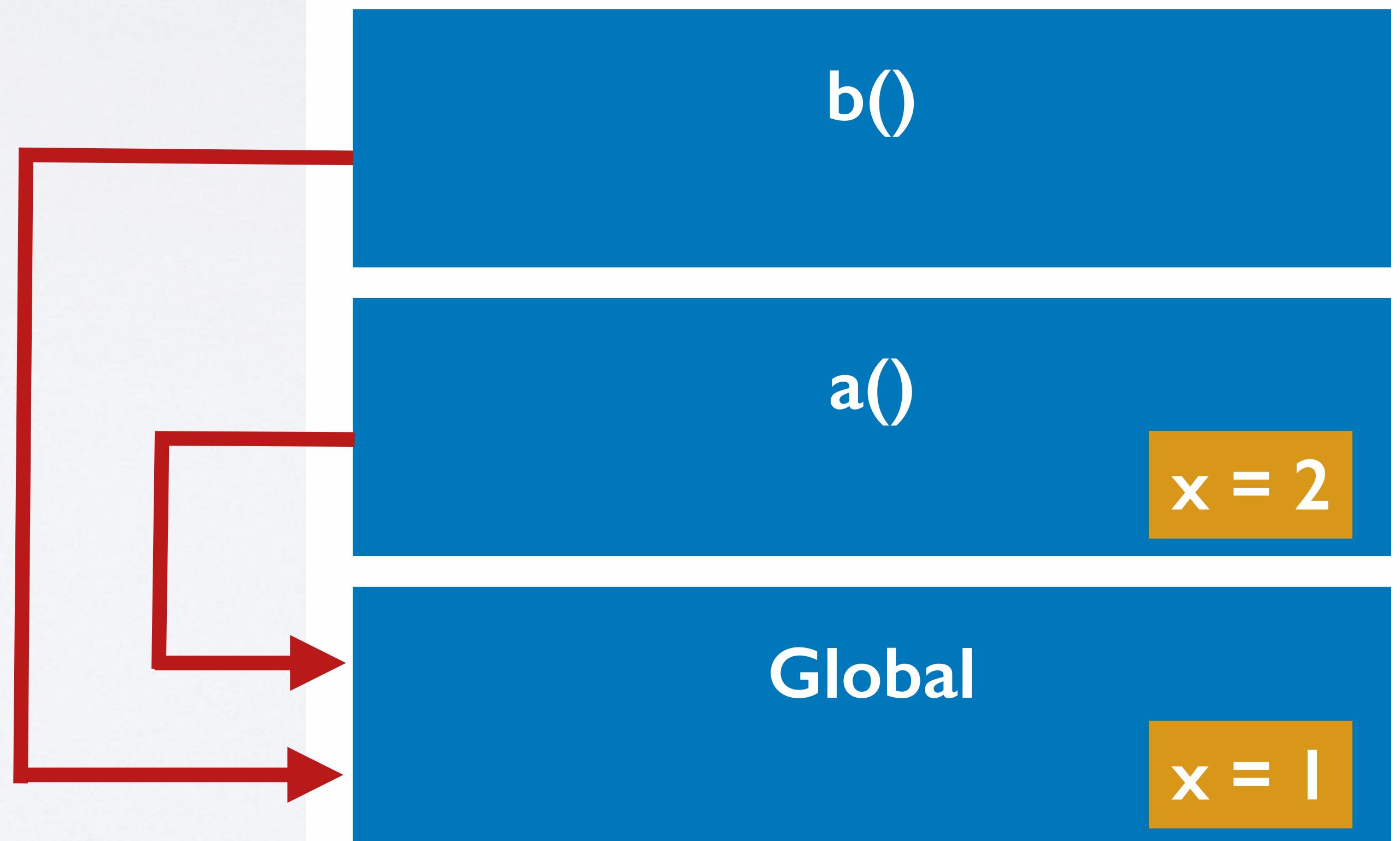
- Determina a rota da procura de identificadores e valores baseando-se no **Lexical Environment** e no **Outer Environment**.

EXECUTION CONTEXT



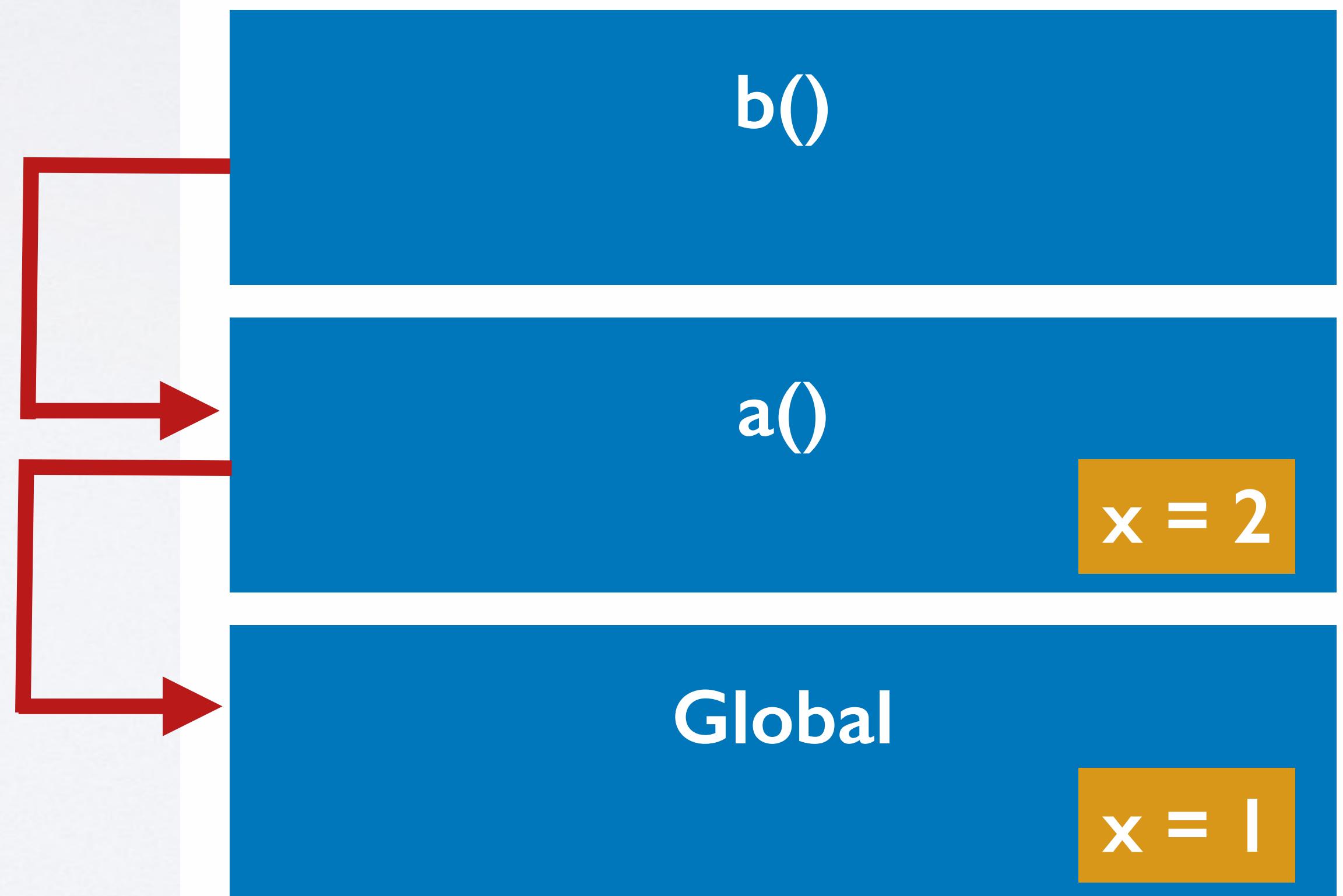
SCOPE CHAIN

```
2  function b(){
3      console.log(x); // 1
4  }
5
6  function a(){
7      var x = 2;
8      b();
9  }
10
11 var x = 1;
12 a();
```



SCOPE CHAIN

```
2  function a(){
3    function b(){
4      console.log(x); // 2
5    }
6
7    var x = 2;
8    b();
9  }
10
11 var x = 1;
12 a();
```



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