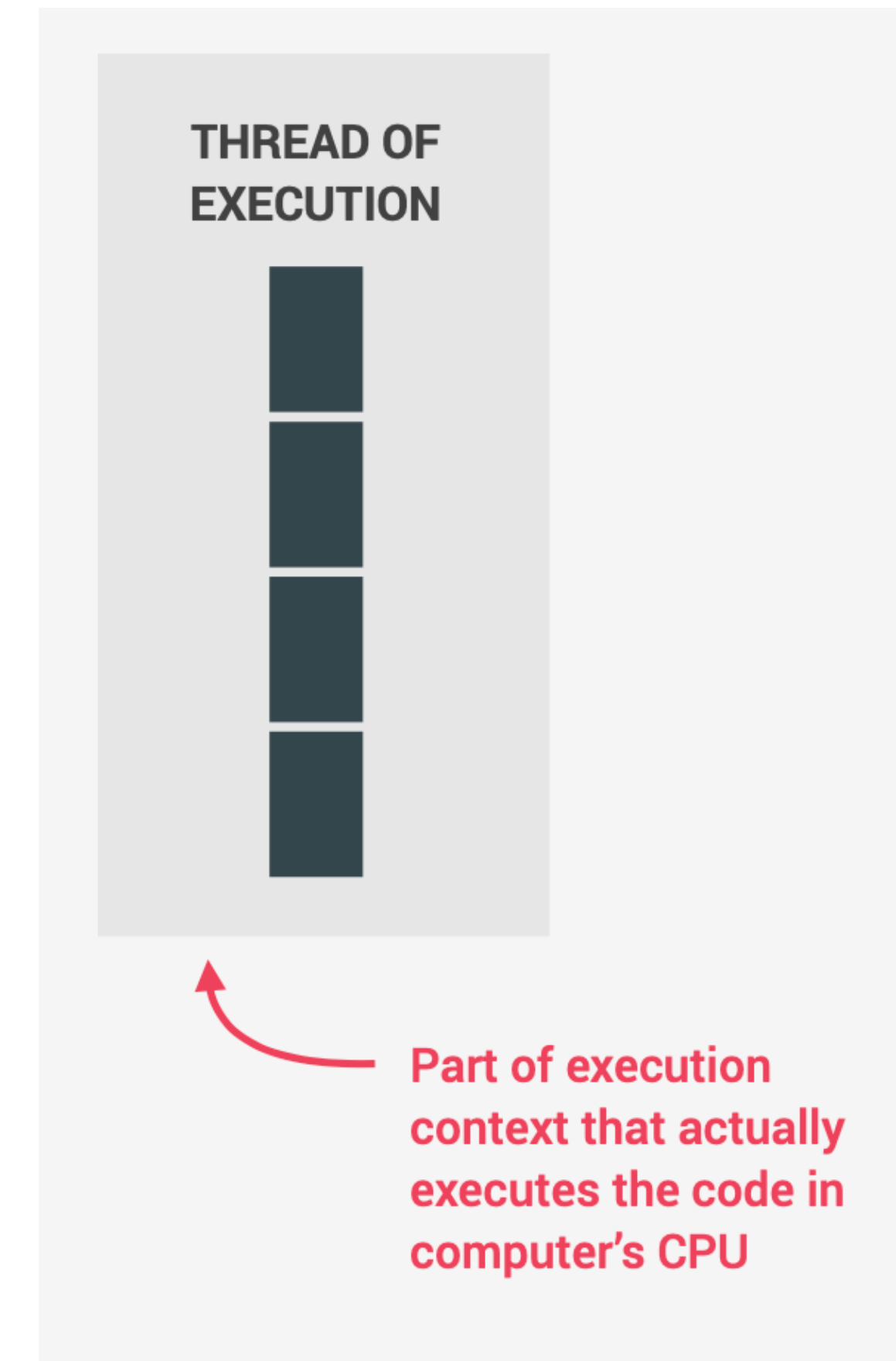

CALLBACKS & EVENTS

AGENDA

- ▶ Callbacks (async)
- ▶ events package

CALLBACKS

- ▶ Mesta koden vi ser är **synkron**



CALLBACKS

- ▶ Men mycket kod som behöver göra saker "senare" är **asynkron**

CALLBACK WILL RUN AFTER TIMER

Asynchronous

```
const p = document.querySelector('.p');
setTimeout(function () {
  p.textContent = 'My name is Jonas!';
}, 5000);
p.style.color = 'red';
```

👉 Example: Timer with callback

- ▶ Kallas även "**non-blocking**"



CALLBACKS

► Annat exempel

Asynchronous

```
const img = document.querySelector('.dog');  
img.src = 'dog.jpg';  
img.addEventListener('load', function () {  
  img.classList.add('fadeIn');  
});  
p.style.width = '300px';
```

CALLBACK WILL RUN AFTER IMAGE LOADS

👉 **Example:** Asynchronous image loading with event and callback

► Dessa exempel tar samtliga en **callback**...



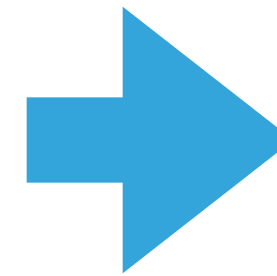
CALLBACKS

► **Callbacks:** *en funktion som ges till en annan funktion att exekvera*

```
function myDisplayer(some) {  
  document.getElementById("demo").innerHTML = some;  
}
```

```
function myCalculator(num1, num2) {  
  let sum = num1 + num2;  
  return sum;  
}
```

```
let result = myCalculator(5, 5);  
myDisplayer(result);
```



```
function myDisplayer(some) {  
  document.getElementById("demo").innerHTML = some;  
}
```

```
function myCalculator(num1, num2, myCallback) {  
  let sum = num1 + num2;  
  myCallback(sum);  
}
```

```
myCalculator(5, 5, myDisplayer);
```

CALLBACKS

- ▶ Ofta pratar vi om callbacks i asynkrona sammanhang men återfinns bland synkrona också

```
// Create an Array
const myNumbers = [4, 1, -20, -7, 5, 9, -6];

// Call removeNeg with a callback
const posNumbers = removeNeg(myNumbers, (x) => x >= 0);

// Display Result
document.getElementById("demo").innerHTML = posNumbers;

// Keep only positive numbers
function removeNeg(numbers, callback) {
  const myArray = [];
  for (const x of numbers) {
    if (callback(x)) {
      myArray.push(x);
    }
  }
  return myArray;
}
```

CALLBACKS

- ▶ Kan ni nämna några funktioner som ni känner till sen tidigare som tar callbacks?

CALLBACKS

- ▶ `[], map, [].forEach, [].filter, [].any, [].some...`
- ▶ Fortsättning...
 - ▶ i Javascript-promises-pdf fram till s 6.
 - ▶ Sedan EventEmitter ("events") paket