



## Callback Function Notes

### ◆ What is a Callback Function?

#### 👉 Definition:

A callback function is a function that is passed as an argument to another function and executed later.

Simple meaning:

“A function inside another function.”

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### ◆ Basic Example (Very Simple)

```
function greet(name) {  
  console.log("Hello " + name);  
}  
  
function processUser(callback) {  
  const name = "Rakkesh";  
  callback(name);  
}  
  
processUser(greet);
```

#### Explanation:

- greet is a function
- We pass greet inside processUser
- processUser calls it

Output:

Hello Rakkesh

*By*

*Rakkesh Kumar*

*Full Stack Developer*



## ◆ Callback with Anonymous Function

```
function calculate(a, b, operation) {  
  return operation(a, b);  
}  
  
const result = calculate(5, 3, function (x, y) {  
  return x + y;  
});  
  
console.log(result);
```

**Output :**

**8**

👉 Here function is passed directly without name.

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## ◆ 4 Real World Example (SetTimeout)

```
console.log("Start");  
  
setTimeout(function () {  
  console.log("Executed after 2 seconds");  
}, 2000);  
  
console.log("End");
```

**Output:**

**Start**

**End**

**Executed after 2 seconds**

👉 setTimeout uses callback.

**By**

**Rakesh Kumar**

**Full Stack Developer**



## ◆ Callback in Array Methods (Very Important for React)

### map()

```
const numbers = [1, 2, 3];  
  
const doubled = numbers.map(function (num) {  
  return num * 2;  
});  
  
console.log(doubled);
```

**Output:**

**[2, 4, 6]**

👉 map takes callback function.

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### filter()

```
const numbers = [10, 20, 30, 40];  
  
const greaterThan20 = numbers.filter(function (num) {  
  return num > 20;  
});  
  
console.log(greaterThan20);
```

**Output:**

**[30, 40]**

**By**

**Rakkesh Kumar**

**Full Stack Developer**



## Why Callback is Important in React?

Tell students:

- ✓ Event handling
- ✓ Array methods (map, filter)
- ✓ API calls
- ✓ Parent → Child communication
- ✓ useEffect
- ✓ Promises

Without callback → React not possible.

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### Bonus: Callback vs Normal Function Difference

Normal function:

```
sayHello();
```

Callback:

```
doSomething(sayHello);
```

**By**

**Rakesh Kumar**

**Full Stack Developer**