**✅ What Are Props in React?**

**Props (short for Properties) are a way to pass data from one component to another in React — usually from a parent to a child component.**

**They are read-only, meaning the child cannot modify the props it receives.**

**📦 Think of it like:**

**You're giving a gift (prop) to a friend (component). They can use it, but they can't change it.**

**🧠 Key Concepts**

| **Feature** | **Description** |
| --- | --- |
| **🔁 One-way Data Flow** | **Props flow from parent ➡️ child (not both ways)** |
| **🔒 Immutable** | **Props cannot be changed by the receiving component** |
| **⚙️ Customizable** | **Components become dynamic using props** |
| **💡 Pure Functions** | **Components use props to return UI based on input** |

**🧪 Example**

**🧩 Parent Component**

**import React from 'react';**

**import Greet from './Greet';**

**function App() {**

**return (**

**<div>**

**<Greet name="Kiran" age={24} />**

**<Greet name="Asha" age={21} />**

**</div>**

**);}**

**🧩 Child Component**

**function Greet({ name, age }) {**

**return (**

**<h2>Hello {name}, you are {age} years old!</h2>**

**);**

**}**

**export default Greet;**

**🖥️ Output:**

**Hello Kiran, you are 24 years old!**

**Hello Asha, you are 21 years old!**

**🔐 Props Are Read-Only**

**props.name = "Rahul"; // ❌ This will give an error**

**✅ Why Use Props?**

* **🔁 Reusability: Same component, different data**
* **⚙️ Dynamic UI: Change output based on input**
* **📤 Communication: Parent → Child data flow**

**🧠 Advanced Props (Optional)**

* **Pass functions as props**
* **Props with arrays/objects**
* **Props.children (for nested components)**

**✅ Summary**

| **Concept** | **Explanation** |
| --- | --- |
| **Props** | **Data passed from parent to child** |
| **Direction** | **One-way (top-down)** |
| **Mutability** | **Read-only** |
| **Usage** | **Makes components reusable & dynamic** |

**If you want a cheat sheet, MCQs, or mini project using props, I can make those for you too.**