# Testing and Debugging

## Testing

**# Source**: **Chatgpt (GPT-5-Standard) at [8/12/2025]**

* **Meaning:** The process of **executing a program** to find defects or verify that it meets requirements.
* **Goal:** *Identify* problems.
* **Who does it:** Usually **testers** or **QA engineers** (though developers can test too).
* **When:** Throughout the development and before release.
* **Example:** Running the app and finding that the “Login” button doesn’t work.
* **Output:** A report or bug ticket describing the issue.

## Debugging

**# Source**: **Chatgpt (GPT-5-Standard) at [8/12/2025]**

* **Meaning:** The process of **finding and fixing the cause** of a defect in the code.
* **Goal:** *Resolve* problems.
* **Who does it:** **Developers** (programmers).
* **When:** After a defect is found (often during or after testing).
* **Example:** Looking into the login function’s code, discovering a missing database call, and correcting it.
* **Output:** Fixed code that is then re-tested.

## Key Difference in One Line

**# Source**: **Chatgpt (GPT-5-Standard) at [8/12/2025]**

* **Testing** asks: “Is there a problem?”
* **Debugging** asks: “Why is there a problem, and how do we fix it?”

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