# Verification and Validation

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

**Verification** and **Validation** are two core concepts in software testing, but they answer **different questions**:

## Verification – *“Are we building the product right?”*

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

* **Goal:** Ensure the software **meets the specified requirements** and design before or during development.
* **Focus:** *Process-oriented* — checking documents, designs, and code without running the program.
* **When:** Early in the development life cycle.
* **Methods:**
  + Reviews
  + Walkthroughs
  + Inspections
  + Static analysis
* **Example:** The requirements say “the login screen must have email and password fields.”  
   In verification, you check the design document or code to see if both fields are there — without running the app.

## Validation – *“Are we building the right product?”*

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

* **Goal:** Ensure the software **meets the user’s needs** and works correctly in the real world.
* **Focus:** *Product-oriented* — testing the actual software by executing it.
* **When:** After development, during or after implementation.
* **Methods:**
  + Functional testing
  + System testing
  + User acceptance testing (UAT)
* **Example:** You run the app, enter an email and password, and confirm that login actually works as intended for the user.

## Key Difference in One Line

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

* **Verification:** *Build it right* → Checks if you followed the plan.
* **Validation:** *Build the right thing* → Checks if the plan solves the real problem.