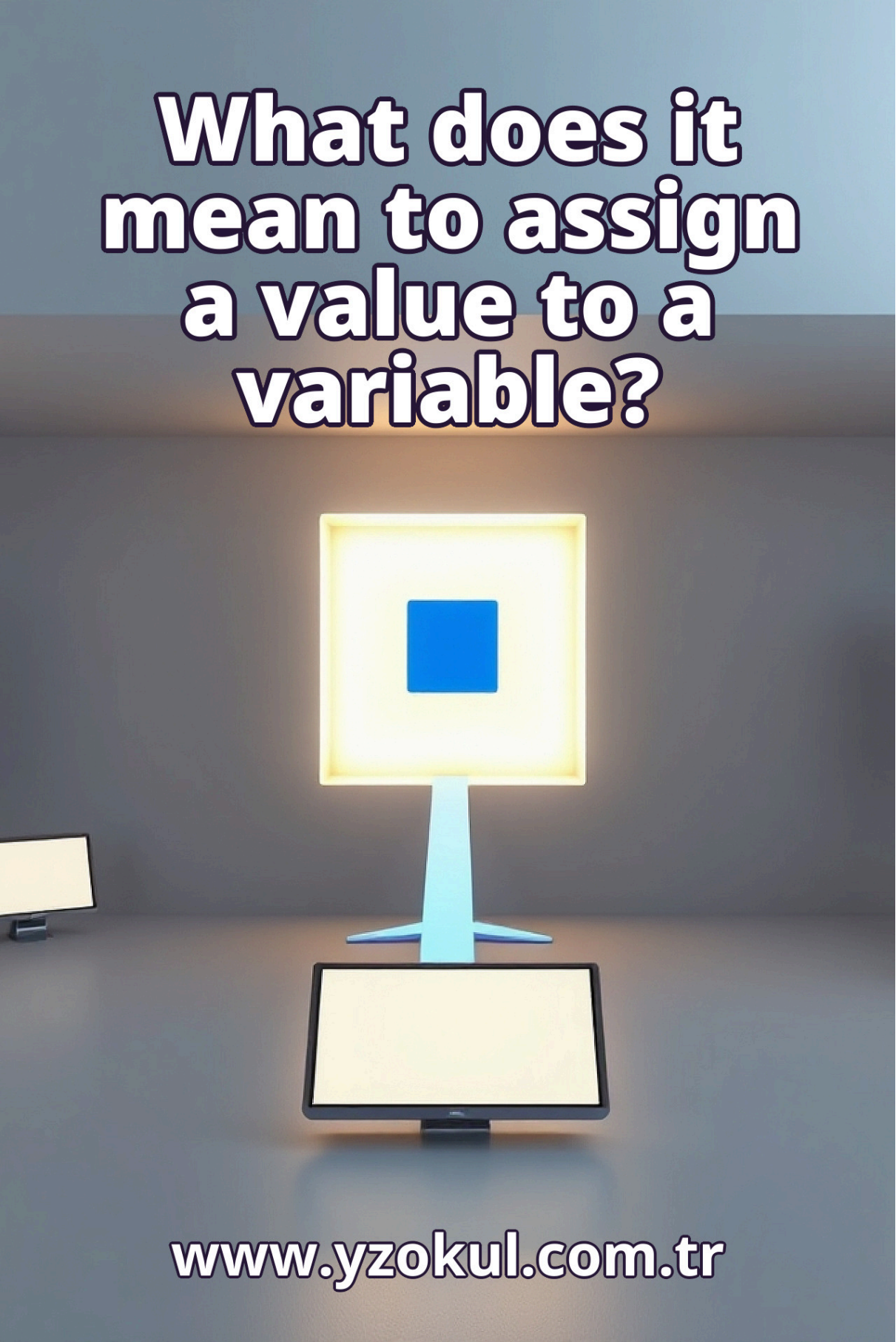
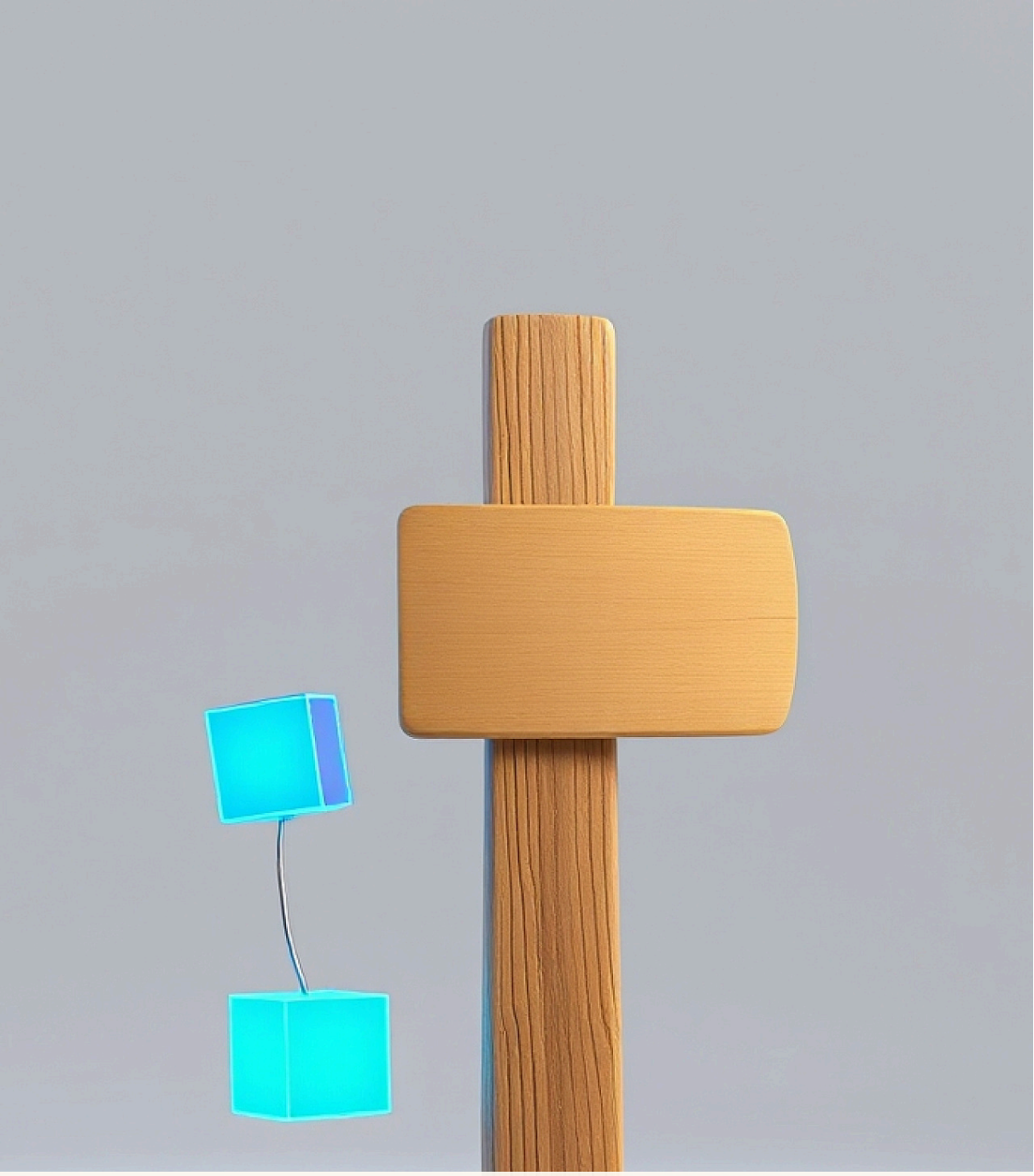
What does it mean to assign a value to a variable?



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A variable is a name that stands for a value in a program. Assigning a value to a variable means giving that name a specific piece of information so the program can use it later. For example, writing score = 10 gives the variable named score the value 10. The short answer: assignment links a name to a value.



A variable is just a name, like a label, that stands for a value in a program. You do not need to know any code yet; think of it as a name tag. The name is what you write in your program to refer to the data. For example, the name score can stand for a number. A variable is not the value itself; it is the name that points to the value.



A value is a piece of information, such as the number 10 or a word like hello. The name points to this piece of information. Values are the actual data your program works with. For example, 10 is a value, and score is a name that can point to it. When you assign, you connect a name to a value.



Assignment is the act of connecting a name to a value. After assignment, whenever the program sees the name, it knows which value is meant. For example, after score = 10, the program knows that score means 10. Assignment is an action, not a statement of fact. It changes what the name stands for.



In many languages, writing score = 10 gives the variable named score the value 10. The name score now stands for 10. The equals sign here is the assignment operator; it means store the value on the right into the name on the left. For example, after this statement, using score in the program gives you 10. This is the basic form of assignment.



Read score = 10 as score gets 10 or score now holds 10. The name is on the left, and the value is on the right. The left side must be a variable name, not a value. The right side is the value you want to store. For example, in score = 10, score is the name and 10 is the value. This reading helps you avoid confusion.



In math, score = 10 would claim two things are equal. In programming, it is an action: it puts the value 10 into the variable score. The equals sign is not a comparison here; it is a command to store. For example, writing score = 10 does not ask whether score equals 10; it makes score hold 10. This difference is important for beginners.



Before the statement, score may have had no value or a different value. After it, the program's state has changed: score holds 10. The program state is the collection of all current values of all variables. For example, if score was 3 before, after score = 10 it is 10. Assignment is how you change the state of a running program.



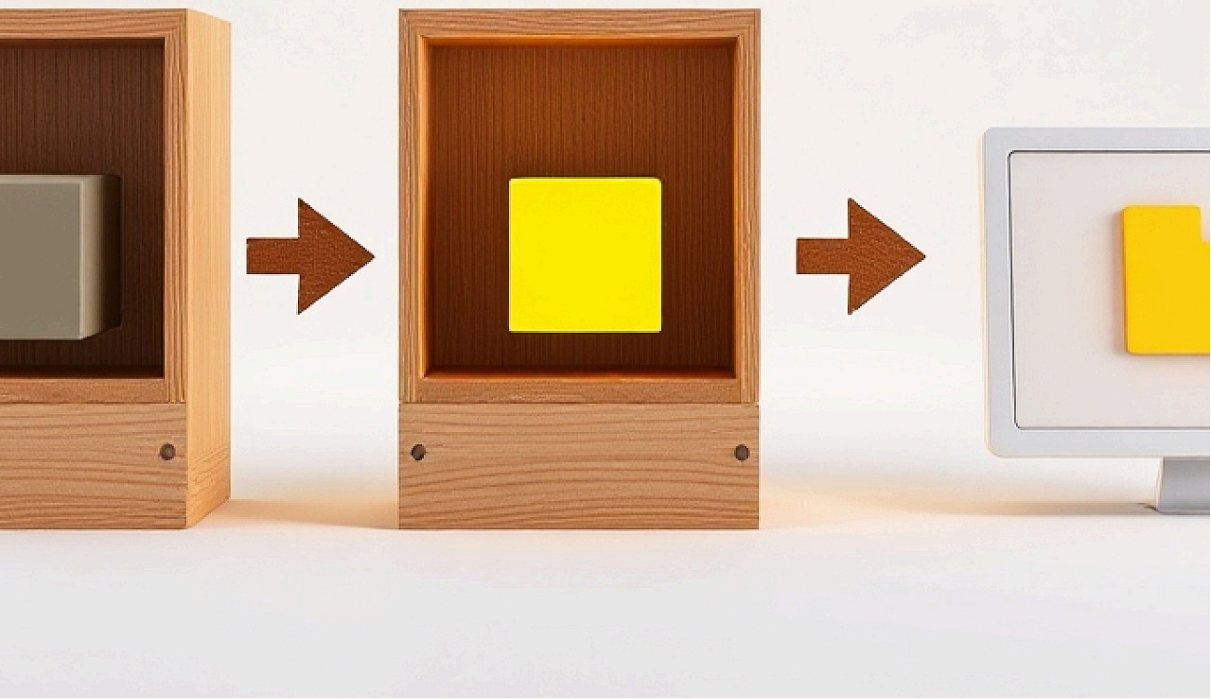
Once score holds 10, other statements can use the name score and get 10. The name works as a stand-in for the value. For example, a later statement like print(score) would show 10. You do not need to repeat the value 10; you just use the name. This is why variables are useful: they let you store and reuse values.



A later statement can use the old value to compute a new one. For example, score = score + 5 reads the old score (10), adds 5, and assigns 15 back to score. The right side is calculated first using the current value. Then the result is stored in the variable on the left. This pattern is common in programs.



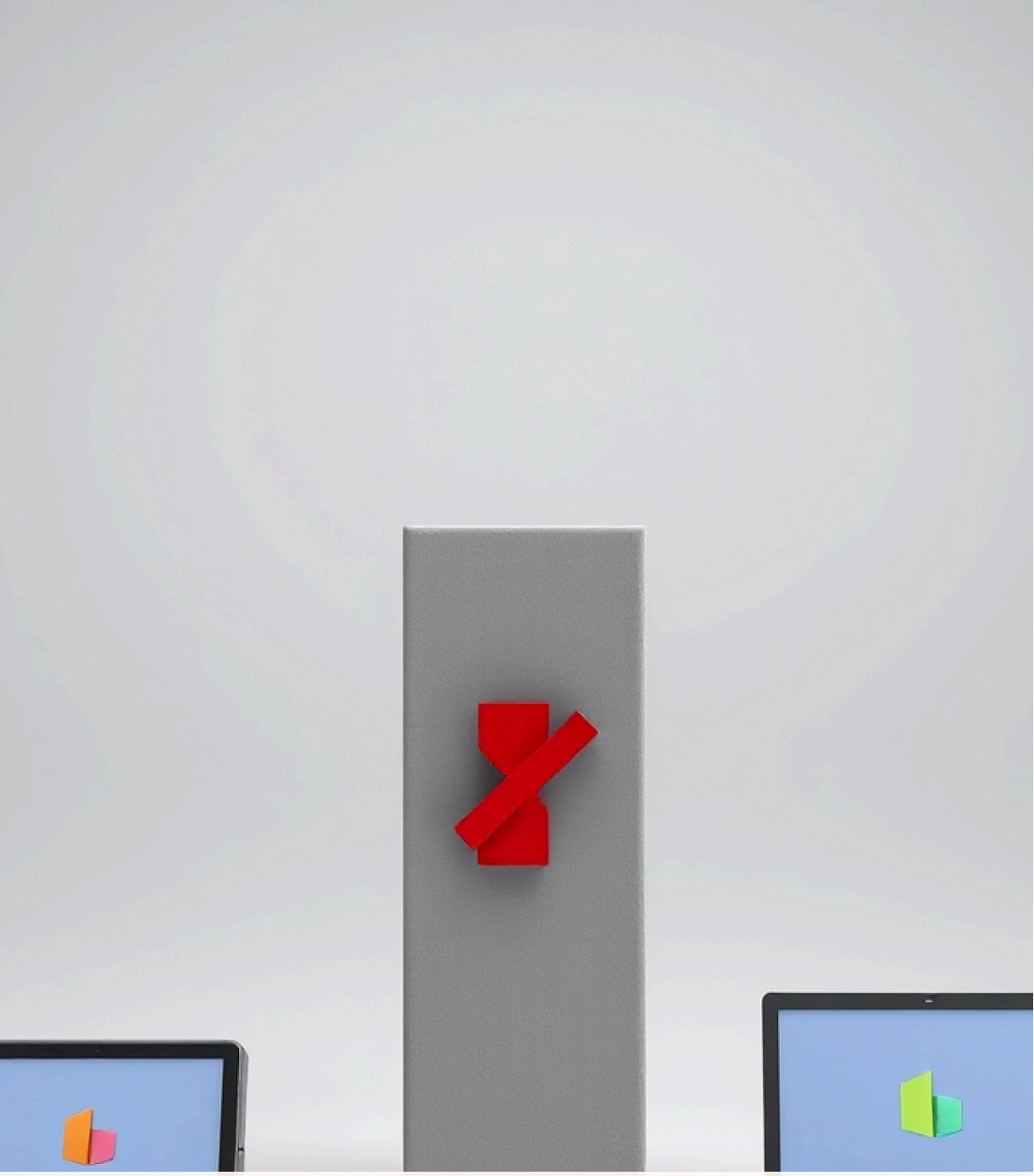
The right side is calculated first using the current value. Then the result is stored in the variable, replacing the old value. For example, in score = score + 5, the program first finds the current value of score (10), adds 5 to get 15, then stores 15 in score. The old value is gone after the assignment. This order is always the same.



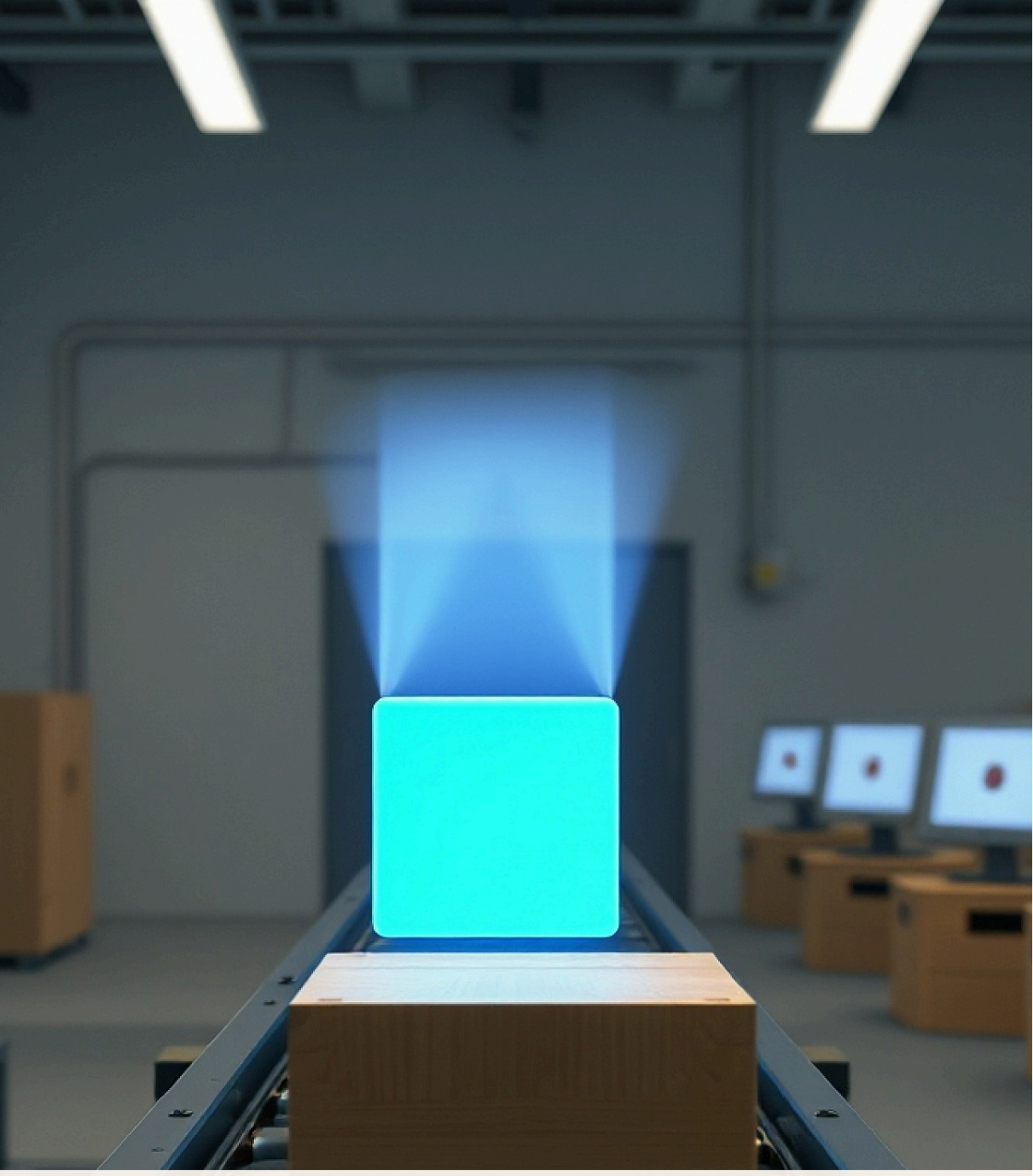
Statements run one after another, so the order of assignments matters. Changing the order can change the final value of the variable. For example, if you write score = 10 then score = score + 5, score becomes 15. If you reverse the order, the result is different or an error. Always check the sequence of your assignments.



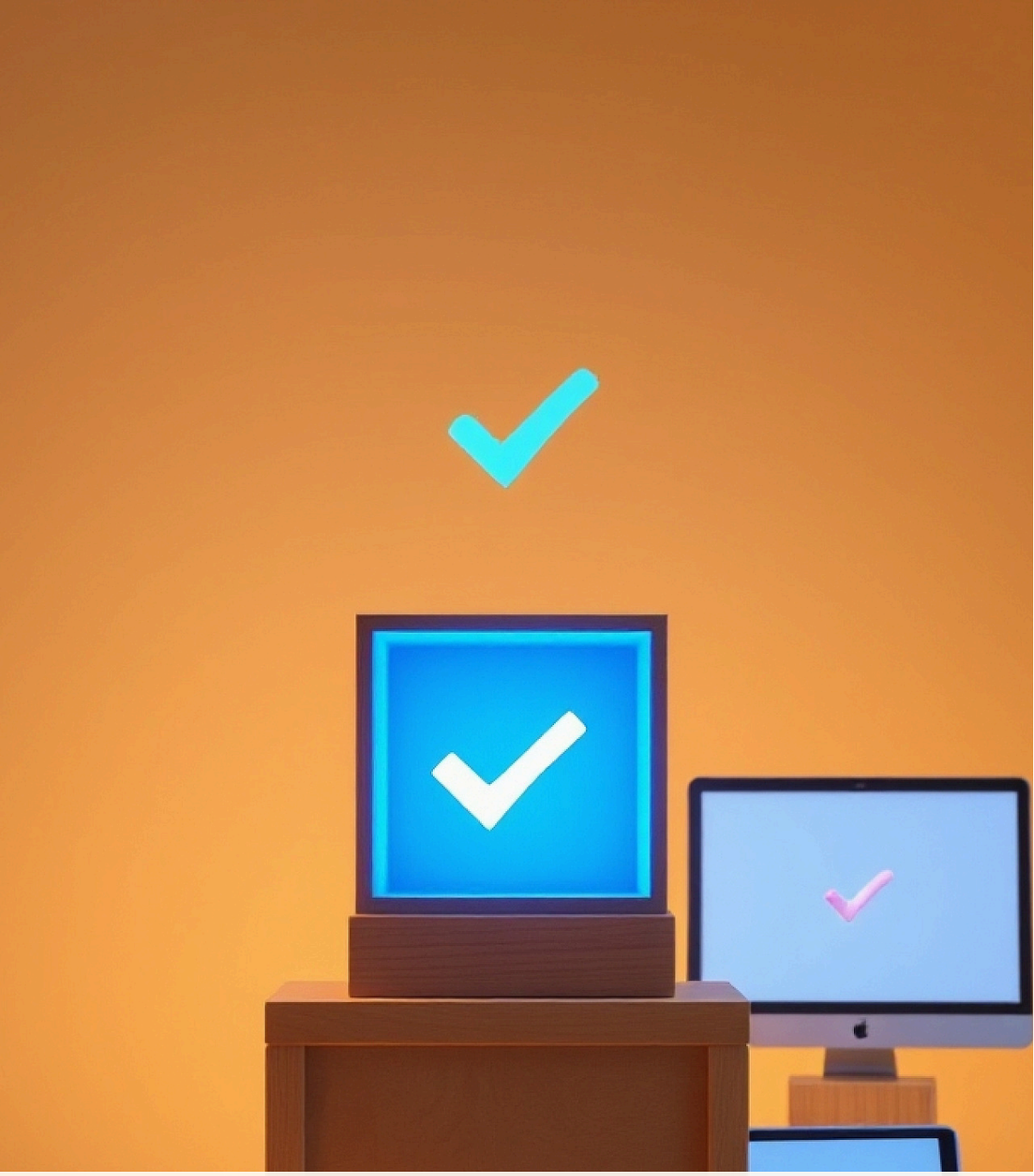
Different languages write assignment in slightly different ways. The idea is the same even when the symbols or keywords differ. For example, some languages use =, others use := or let. In Python, score = 10 works; in other languages you might write int score = 10;. The core meaning—store a value in a name—does not change.



Beginners often read = as is equal to from math class. In assignment, it means store this value in this name, not a comparison. For example, score = 10 does not ask a question; it gives an order. To compare values, programming languages use a different symbol, often ==. Remember: one equals sign usually means assignment.



In score = score + 5, beginners may think score is used twice at once. Actually the old value is read first, then the new value is stored. For example, if score is 10, the right side becomes 10 + 5 = 15, and then score becomes 15. The name on the left is not read until the store happens. This two-step process is key.



Assignment means linking a name to a value, like score = 10, and it changes the program's state. Remember: read the right side first, then store the result in the name on the left. For example, score = score + 5 uses the old value to make a new one. This simple idea is the foundation of how programs keep track of data.