

1. Pass by Value

When you pass by value, you are passing a copy of the variable to the function. This means that the function works with the copy of the original variable, not the actual variable itself. Any changes made to the parameter inside the function do not affect the original variable.

Pass by Value — You give a photocopy of your notebook:

- Someone asks to see your notes, so you photocopy the notebook and give them the copy.
- They can write on it, tear pages, or scribble whatever they want.
- Your original notebook stays the same.

Inside incrementByValue, x = 6

Outside incrementByValue, a = 5

2. Pass by Reference

When you pass by reference, you are passing the original variable to the function. This means that the function operates directly on the original variable, and any changes made inside the function will affect the original variable.

In C++, passing by reference is done using the & symbol.

Pass by Reference — You give them the actual notebook:

- This time, instead of a copy, you give them your real notebook.
- Whatever they write or erase — you'll see it later.
- Your original notebook is directly affected.

Inside incrementByReference, x = 6

Outside incrementByReference, a = 6