Advantages of Inheritance

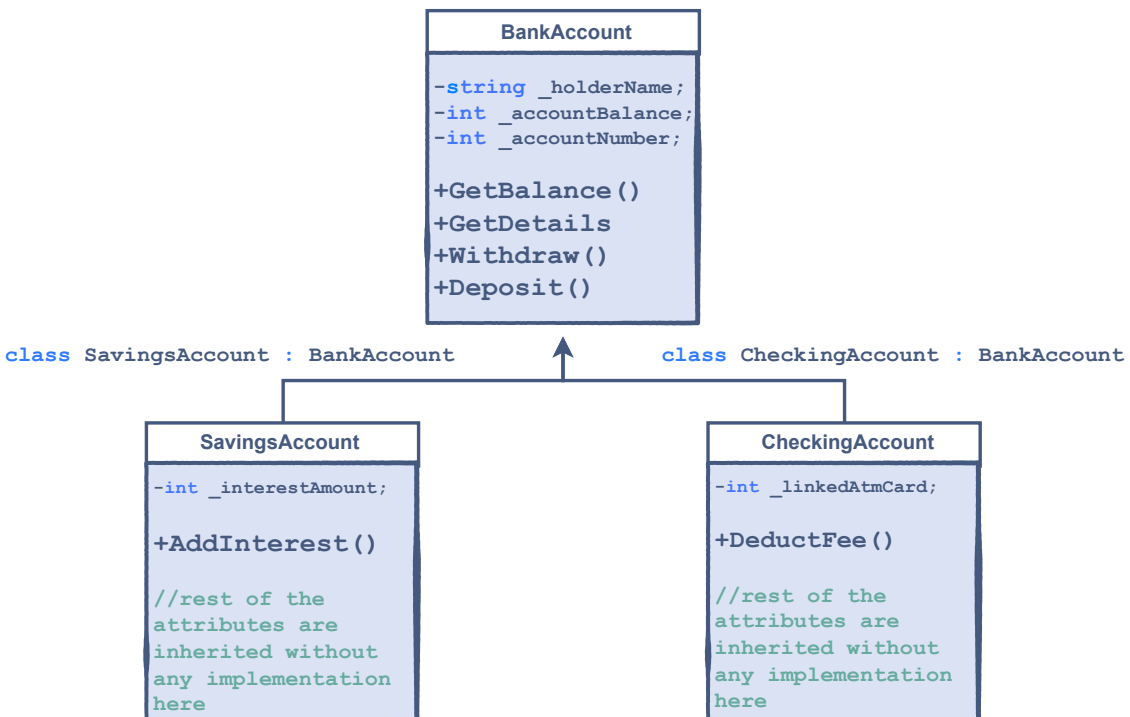
In this lesson, you'll get to know the advantages of using inheritance.

WE'LL COVER THE FOLLOWING

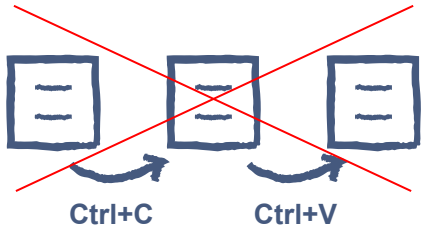
Reusability

Inheritance makes the code reusable. Consider that you are designing a banking system using classes. Your model might have these:

- A base `BankAccount` class
- A derived class named `SavingsAccount`
- A derived class named `CheckingAccount`

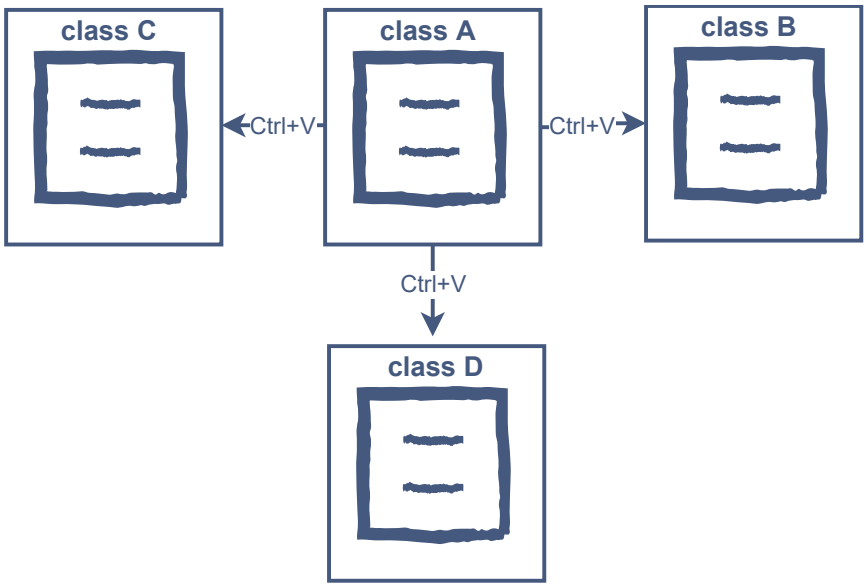


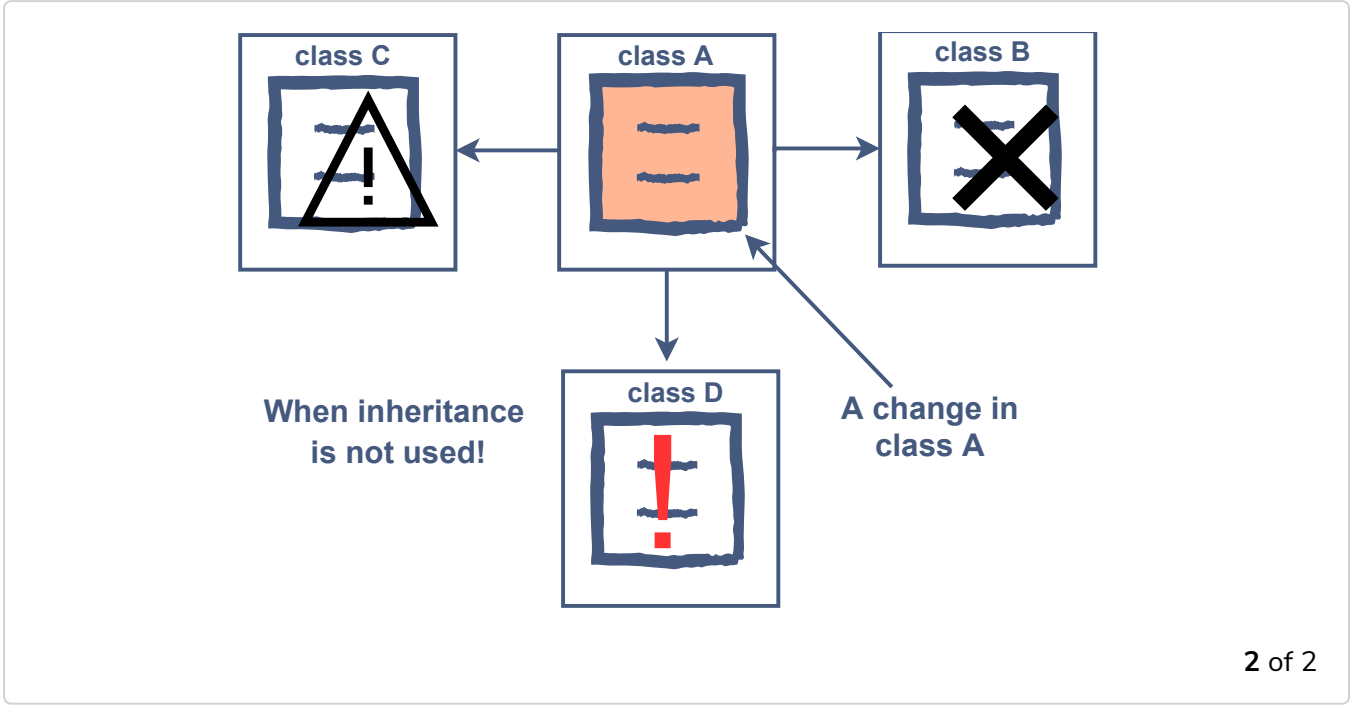
In the above example, you don't have to re-declare the fields nor do you have to re-code for the `Deposit()` and `Withdraw()` methods inside the child classes, namely `SavingsAccount` and `CheckingAccount`. All the `non-private` base class members are inherited and readily available to the derived classes.



Code Modification

Let's suppose you duplicate some piece of code in several classes. What happens when you change a method, a data type or something similar? You have to make changes everywhere you duplicated the code. Chances are, you will forget some places and bugs will be introduced. With inheritance, all changes will be localized and inconsistencies will be avoided.

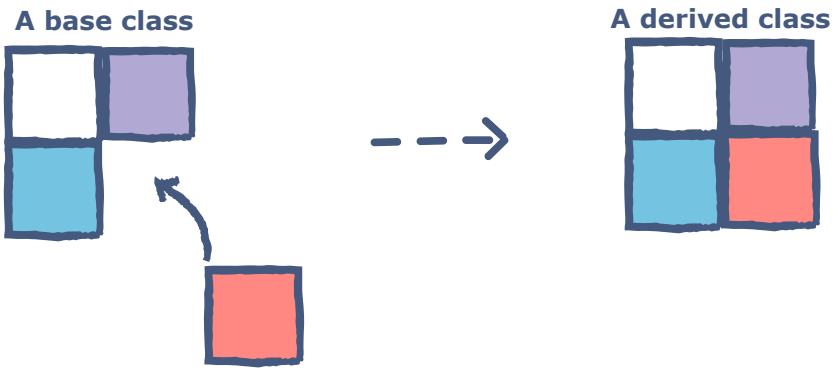




Extensibility

Using inheritance, one can extend the base class as per the requirements of the derived class. It provides an easy way to upgrade or enhance specific parts of a product without changing the core attributes. An existing class can act as a base class from which a new class with upgraded features can be derived.

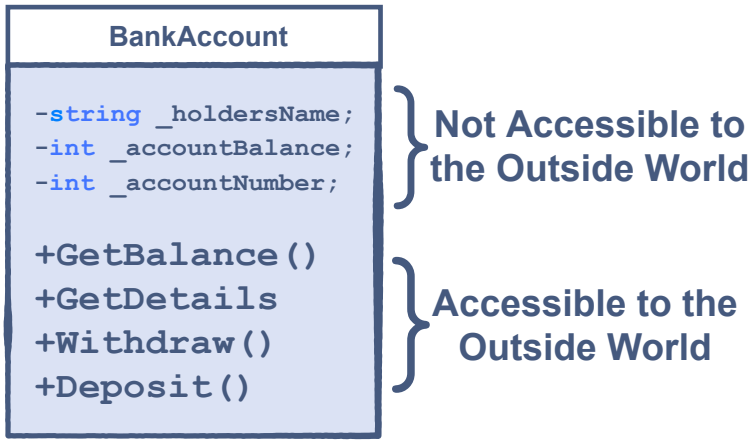
Let's say in the first example of this lesson, you realize at a later point that you have to diversify this banking application by adding another class for `MoneyMarketAccount`. Rather than implementing this class from scratch, you can extend it from the existing `BankAccount` class as a starting point. You can also reuse its attributes that are common with `MoneyMarketAccount`.



Data Hiding

Data Hiding

The base class can decide to keep some data private so that it cannot be altered by the derived class. This concept, i.e., encapsulation has already been discussed in the previous chapter.



These were some of the key advantages of Inheritance. Before moving on to the next chapter on polymorphism, you will take a quick quiz and a couple of challenges to test your understanding of the concepts related to inheritance.