


# Access Rights

- The access rights of the inheritance relation determine which functionality of the base class can be used in the derived class.
- A class can be derived `public`, `protected`, and `private` from its base class.
- For classes the default is `private`; for structs `public`.

```
class BankAcc: Acc{...  class BankAcc: private Acc{...
```

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Is-a relation between the derived class and the base class

- The `public` inheritance is called an is-a relation because the derived class has the same interface such as the base class.
- The derived class is a specialization of the base class.
- A is-a relation follows the [liskov substitution principle](#).
- Distinguish between interface inheritance (public) and implementation inheritance (private).

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## Rules for Access Rights

**public:** `class BankAccount: public Account{ ...`  
public and protected member in Account  public and protected in BankAccount

**protected:** `class BankAccount: protected Account{ ...`  
public and protected member in Account  protected in BankAccount

**private:** `class BankAccount: private Account{ ...`  
public and protected member in Account  private in BankAccount

`inheritanceAccessRights.cpp`