Object Oriented Design

① Inheritance

→ Class & Struct can inherit data & functions from other classes.

→ "is a" relationship:

\# Function overriding

> If a function is virtual in Base class, it can be overridden in Derived class.

(Abstract Class)   (Interface Class)

② Polymorphism

→ Allows morphing derived classes into their base class type.

③ Type Casting

> Type conversion is called type casting.

⇒ There are 5 ways of type casting:

- → static_cast
- → reinterpret_cast
- → const_cast
- → dynamic_cast
- → C-style cast (unsafe)

Design Patterns

① Strategy Pattern

⇒ If a class relies on complex external functionality use strategy pattern.

⇒ Allows to add/switch functionality of the class without changing its implementation.

② Singleton Pattern

⇒ We want only one instance of a given class

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