

Composite



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Overview



Motivation

Object Composition and Iteration

Neural Networks

Geometric Shapes



Motivation



Objects use other objects' fields and members through inheritance and composition

Composition lets us make compound objects

- A mathematical expression composed of simpler expressions
- A grouping of shapes that make up several shapes

Composite design pattern is used to treat both single and composite objects uniformly (e.g., with identical APIs)



Composite

A mechanism for treating individual (scalar) and compositions of objects in a uniform manner.



Summary



Objects can use either objects either via inheritance or composition

Some composed and singular objects need similar/identical behaviors

Composite design pattern lets us treat both types of objects uniformly

C++ has no special support for the idea of 'enumeration' of objects

A single object can 'masquerade' to become suitable for begin/end iteration

