UML Class Diagram

UML - Unified Modelling Language

In an effort to promote Object Oriented designs, three leading object oriented programming researchers joined ranks to combine their languages:

- Grady Booch (BOOCH)
- Jim Rumbaugh (OML: object modeling technique)
- Ivar Jacobsen (OOSE: object oriented software eng)

and come up with an industry standard [mid 1990's].

UML Class Diagram

- UML Class Diagram is a picture of:
  - The classes in an Object Oriented system
  - The attributes and methods
  - Connections between the classes, such as how classes interact or inherit
- UML Class Diagram does not represent:
  - The details of how classes interact with each other
  - Algorithmic details such as how a particular behaviour is implemented

UML Class Diagram - Example

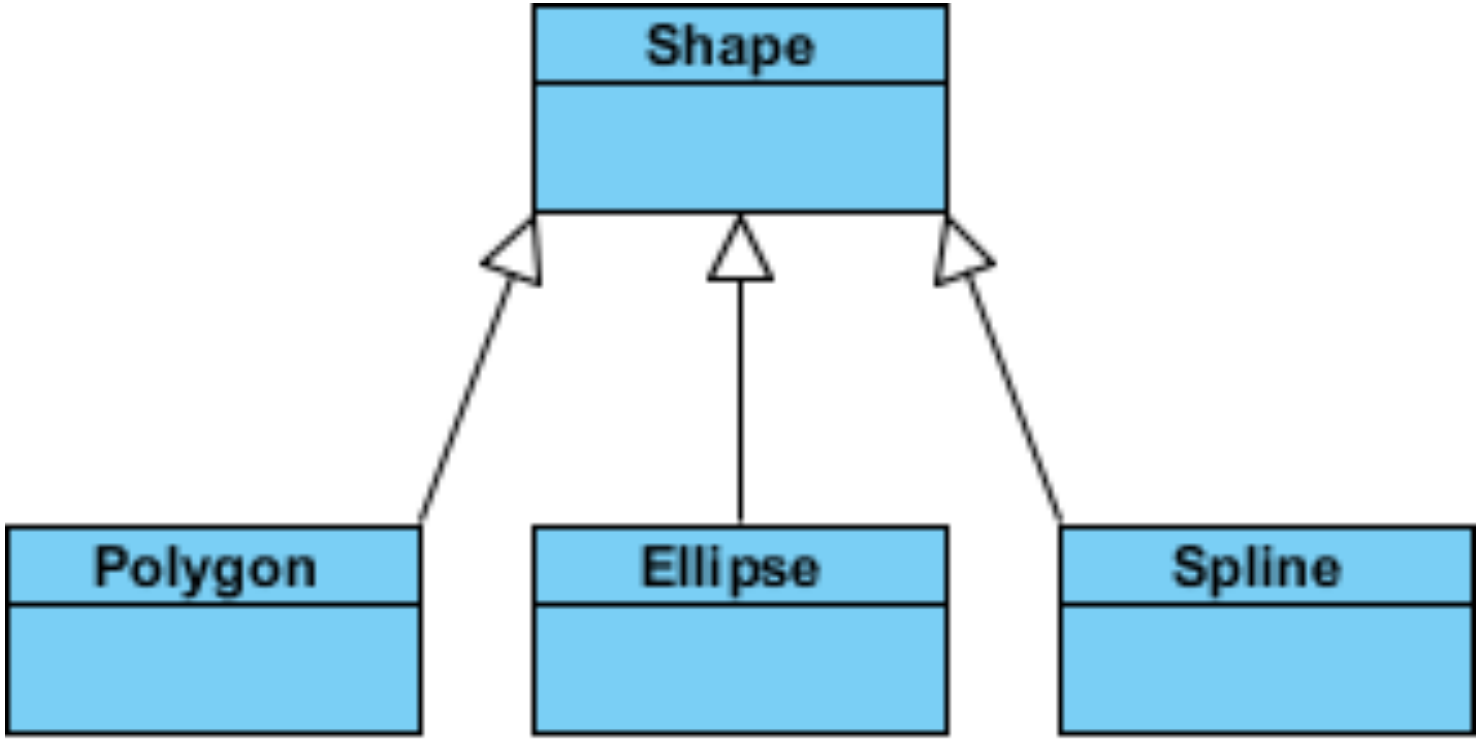
Class Name
Attributes *visibility name: type = default value* + public - private
Methods: should not include inherited methods *visibility name (parameters): return_type* omit *return_type* on constructors and when return type is void

Bicycle
- model: string - colour: string - price: float - stock: int = 0
+ Bicycle(model:string, colour:string, price:int) + set_colour(colour:string) + set_price(price: float) + get_model(): string + get_colour(): string + get_price(): float + increase_stock(new_stock: int) + get_stock(): int

Generalization

- It indicates that one of the two related classes (the subclass) is considered to be a specialized form of the other (the super type) and the superclass is considered a Generalization of the subclass.
- The generalization relationship is also known as the inheritance.

Example of inheritance



Relationships in UML