

# Polymorphism Solutions

# Polymorphism

- Explain in one sentence what is meant by "polymorphism"
  - Polymorphism means that different types have the same interface

# Importance of Polymorphism

- Explain why polymorphism is a useful programming technique
  - When we have related types, we can write one set of code which handles all of them
  - We can add new types without having to write extra code to handle them
  - However, it still respects any individual features or behaviour that a particular type may have
  - Avoids duplicated code
  - Saves programmer time
  - Ensures correct behaviour

# Polymorphism in C++

- How is polymorphism supported by C++?
  - Parametric polymorphism
    - Containers which store elements of different types have the same interface
    - Implemented using templates
  - Subtype polymorphism
    - Classes in an inheritance hierarchy have the same interface
    - Implemented using virtual functions and pointers or references