CS2704

Topic: Polymorphism
Outline

• Polymorphism
  – Rationale
  – In C++
Polymorphism

• Refers to having many forms or shapes
• Polymorphic functions operate on many different types
  Ex. A sort function that only cares if type has a less than (<) operator
• Polymorphic types (“genericity”)
  Ex. A list definition that can be used for any kind of class
Why Polymorphism?

• A form of generalization
• Allows reuse of code within a program
  – Only have to write one
    • List class
    • Sort function
    • Binary search tree class
Polymorphism in C++

• Polymorphic functions
  – Through inheritance
  – Operator overloading
• Polymorphic types
  – Template classes