

CS 352 HW 3: Polymorphism

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Question 4:

For two different aspects of your code from questions 1-3, indicate the portion of code, state which of the three kinds of polymorphism (ad-hoc, parametric, or subtype) it uses, and describe how it is that kind of polymorphism.

In my Sized.hs:

```
-- Define Sized typeclass
class Sized t where
    size :: t -> Int

-- Define Sized for arb. lists
instance Sized [a] where
    size [] = 0
    size (_:xs) = 1 + size xs
```

This is an example of ad-hoc polymorphism. In defining the typeclass, we use a generic type signature which is then implemented for generic lists in the instance method.

In my twofour.hpp:

```
// Our TwoFourTree superclass
template <typename T>
class TwoFourTree {

// TwoNode child node
template <typename T>
class TwoNode: public TwoFourTree<T> {
```

This is an example of subtype polymorphism. This is because the child class TwoNode is a subtype derived from our parent class TwoFourTree.