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CSCI 3731

Homework 10

1. What is the fundamental difference between how Java and C++ implement collections?
   1. To access an element in Java, you need to cast from an Object. You also can’t store primitives in java collections. In C++, the compiler gernerates the code for a class that uses exactly the desired data type, which requires no casting and wrapper classes.
2. What is the difference between a template and a class?
   1. Templates are the ‘blueprint’ for creating classes and functions. Classes don’t define templates, templates define classes.
3. What are some of the drawbacks of templates?
   1. Since the compiler creates and compiles a separate version of the template class, it makes executable files larger and can slow down compile time. Another drawback , for instance, is that Point<Double> and Point<Int> are unrelatable classes, making them not castable to one another.
4. What is an iterator?
   1. An iterator is a class that represents the current element of a collection and lets you step from one element to the next.