Use a few words to conclude the semester

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went well

it was quick

liked my classes

informative

rough

3

Today's plan

- Review Ex 13-1
- Recap questions
- In-class Ex 13-2 / final project

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Ex 13-1: Exceptions

- → throw // something that you want to throw
- → try { // codes where exception may be thrown }
- → catch (// things that you want to catch)
- → {// how do you want to handle the things that you catch}

Iterators

Why use iterators?

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To "standardize" how we run through the elements of containers (combining for loop with pointer advancing through container) ✗

Provides a familiar and standard method of iterating through a container type. May need other functions like compare for other logic rather ✗

to traverse a container without having to explicity use a for loop every time ✗

The correct answer is: To unify the iteration step as well as encapsulate the iteration implementation. The users don't need to know how to do the iteration.

3

When won't a pointer work for representing an iterator?

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A pointer needs to have contiguous elements adjacent in memory but this might not be the case for a container like a map ✕

Memory might not be continous ✕

when the memory isn't stored in a linear/expected way like in a map ✕

The correct answer is: When data is not stored sequentially in memory (e.g. a CTrie/TTrie structure)

3

What are the bare minimum operators that need to be overloaded by an iterator?

Dereference (operator*), preincrement (operator++), inequality (operator!=)

!=, ++, * you could also do: == and ->

!=, *, ++

The correct answer is: Inequality (operator !=), dereference (operator*), and preincremenet (operator++)

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Given a container how/where should the iterator class be specified?

Should be nested class inside the container class ✕

As a nested class inside the container class ✕

as a nested class ✕

The correct answer is: As a nested subclass of the container (i.e. within the class scope)

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In addition to defining the iterator class, what else should the container do to support iterators?

Define .begin() and .end() methods ✗

cbegin, cend, begin, end, rbegin, rend - depending on itterator ✗

The correct answer is: Define `begin` and `end` member functions

2

What might go wrong if we don't also define a **const_iterator** for a container?

you can only iterate through non const containers?

1

Ask me anything

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0 questions
0 upvotes