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Searching Earthquake Data

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Developing Classes and Programs

using classes to search earthquake data.

Summary

Have a question? Discuss this lecture in the week forums.

Interactive Transcript

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English

0:03

Hi, you've seen code and concepts for developing and [using classes to search earthquake data.](#)

0:10

Often, classes use other classes with Has-A and Uses-A relationships. This means storing objects in instance variables or as local variables and methods. These are standard object-oriented design concepts that apply across all object-oriented languages, not just Java. In our examples, we processed streaming data, data that might change each time the program runs. We treated parsing as a black box, relying on Java libraries to parse xml formatted data. We developed the xml parser, relying on standard Java APIs. And you developed earthquake codes relying on APIs for standard Java libraries as well as those that we provided. To help with debugging, we also use data stored locally rather than streamed. This allows for smaller, repeatable debugging runs.

1:03

We touched briefly on software licensing, an important part of software development. We used a Location.java class from the Android platform. This helped in knowing that the code was robust and well tested. The location class is licensed with an Apache 2.0 license, a standard open source software license. This license allows us to modify the code to suit our needs, outside of the Android platform. We could license the modified code, using other licenses, but we chose the Apache 2.0 license as well. In other courses we've developed, we used the Apache Commons CSV class to parse comma-separated value files. This code is also licensed using the Apache 2.0 license, although we did not modify the CSV library.

1:51

As you processed quake data you practiced programming and design skills. The programs you saw and wrote include those for searching for quake data, data that satisfies properties related to magnitude and location. In searching filtering data entailed returning an ArrayList of QuakeEntry objects, objects that satisfy criteria such as being close to where you live.

2:14

In searching for the closest 10 or 20 quakes, rather than all those within a thousand kilometers, we used different but similar techniques. In particular, we made a copy of the data being searched since the code we wrote modified the data in the process of searching. These concepts and skills are a foundation for further work in searching and sorting data. Happy programming!

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Lecture Video

mp4

Subtitles (English)

WebVTT

Transcript (English)

txt

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