Understanding Strings

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0:03
Hi and welcome to this lesson on finding information and patterns in data. Which is a very general topic that we will make concrete in working with Java Strings. Strings are sequences of letters, digits, punctuation, any character that you might type, for example. Why will you learn about strings?

0:22
You've learned previously that everything is a number. That's true a s you can see here where I capture the beginning of three different files. These files might be stored in memory, on a flash drive or on your computer's hard drive. The first file was a video. A file with a .mp4 suffix. The second file was an image, a file with a .png suffix, and the third file was a plain text file with a .txt suffix. Can you tell which group of bits of zeroes and ones goes with which file by simply looking at the zeroes and ones? Some people maybe able to do that, but most cannot. Although everything stored on a computer is a number, information stored on the computer is often readable, we use strings to store data, so that we can read it and so that we can write programs to read the data and process it. Here are parts of three data files where the data are stored as strings. It's important that the data is readable by you not just by the computer. Although we could write programs even if everything was only a number. It would be easier to write programs to find patterns, knowledge and information and data when the data is stored as strings. The first part of a file is genomic data stored in what's called FASTA format. You'll write programs in this lesson to find proteins and genes and genomic data. The second part of a file is from a webpage. You'll write programs to find links and other information in a webpage. Doing at a small scale what search engines like Google do and ranking pages to be found by those doing web searches. The third part of a file is data from a csv file or crime in Sacramento California in 2008. The csv file is a file in a special format. The csv means comma separated values. You'll write code in a later lesson to process csv files. We have several goals for you to learn as part of this lesson. You will learn about the Java string class. You'll learn many details, how to write programs with the string class, and how that's most often done. You'll learn common string functions and how to read documentation to find out more about strings. You'll learn about Java types and operators. Here you'll learn more about Java's numeric types and operators on those types. Which for you will be int or integer and double or a floating point number. You'll learn about programming defined patterns and data by searching for specific parts of a string. You'll repeat searches, define information and patterns like all the links on a web page or all the genes in a strand of DNA, let's get started solving problems, thank you.

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