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Assignment: Week 1 Research

Back End Software Development Bootcamp

5/2/22

Question: What is git? Why is it useful? What is the git workflow?

Git is a version control system used by DevOps. It is used for source code management. When a developer uses Git to create a source code each version is logged. Other users or a team can use Git collaboratively and with version control it keeps track of changes made to the code by any member. This is called a Git workflow. With a workflow each developer can have a branch code that can then be merged into the single source code which helps keep work organized between the team. Git is useful for developers to create code with version control as well as collaborate in an effective organized way.

Information Source URL: https://about.gitlab.com/topics/version-control/what-is-git-workflow/

Question: What are the 8 primitive data types in Java? What makes them each unique? What values can they hold?

The 8 primitive data types in Java are byte, short, int (i.e. integer), long, float, double, char, and Boolean. These data types represent raw values. Byte is small only holding 8 bits of memory (range: -128 (-2^7) to 127 ($2^7 - 1$)). A short has twice the memory of a byte with the ability to hold 16 bits of memory (range: -32,768(-215) to 32,767(215 – 1)). Int has 32 bits (range: -2,147,483,648 (-2^{31}) to 2,147,483,647 (2^{31}-1)) and long has 64 bits (range: -9,223,372,036,854,775,808 (-263) to 9,223,372,036,854,775,807 (263 – 1)). Each of these four data types are used to store a range of non-fractional number values. A float is how we represent basic fractional numbers. It has a 32 bit memory with a range of $1.40239846 \times 10^{-45}$, $3.40282347 \times 10^{38}$, and because of its floating decimal point is can be either positive or negative numbers. Double is twice as precise as a float which is helpful for very precise projects with a memory of 64 bits and a range of$1.7976931348623157 \times 10^{308}$ which can also be positive or negative. A Boolean data type consists of just one bit and represents either true or false making this the simplest of the data types. Boolean is the base in which we use out programs flow. The last primitive data type is char. Char has a memory of 16 bits and a range of 0 to 65.535. Char is an integer that is helpful because it is an integer that shows a Unicode-encoded character. Each of these primitive data types are the blocks built for most java programs.

Information Source URL: https://www.baeldung.com/java-primitives#:~:text=2.-,Primitive%20Data%20Types,about%20memory%20management%20in%20Java).