

## **Week 1: Research**

### **Prompts**

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

The eight primitive data types in Java are the basic tools or objects you use to build code. They include regular integers, bytes, short and long integers, single and double precision floating points, Booleans, and characters. A basic integer (written as "int" in code) is a 32-bit whole number with an inclusive possible value range of  $-2^{31}$  to  $2^{31}-1$ . This is the primary number type most commonly worked with when decimals are not necessary. A byte is an 8-bit integer with an inclusive possible value range of -128 to 127, they are primarily used in arrays. A short integer (written "short") is a 16-bit integer with an inclusive possible value range of -32,768 to 32,767, also used commonly in arrays. A long integer (written "long") is a 64-bit integer with an inclusive possible value range of  $-2^{63}$  to  $2^{63}-1$ , or a range of 0 to  $2^{63}$  if unsigned, and are also used commonly in arrays. A single precision floating point (written "float") is a 32-bit numerical entity with a floating point, while commonly used in other programming languages, float is actually often used less than its brother, the double. A double precision float (written "double") is a larger 64-bit numerical entity with a floating point, despite some conflicting documentation, it is often used to describe monetary values in Java. A Boolean is a data type that provides 1 bit of information and only two possible values: "true" and "false". A character (written "char") is a 16-bit Unicode character that has an inclusive possible value range of 0 to 65,535 or '\u0000' to '\uffff'. The char is the common data type used for alphabet, punctuation, and numerals when not being used as numerical values or operators, however it can only include a single character, anything longer requires a string. Though strings are also fundamental, they are not considered a "primitive data type", as they are rather objects created out of groups of the primitive types and are also written into Java with uses and operations that make them more complex than a primitive data type.

References: continue to next page

## References:

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*Primitive data types*. Primitive Data Types (The Java™ Tutorials > Learning the Java Language > Language Basics). (n.d.). Retrieved September 5, 2022, from <https://docs.oracle.com/javase/tutorial/java/nutsandbolts/datatypes.html>

*Variables and Data Types*. Promineo Tech. (n.d.). Retrieved September 5, 2022, from <https://www.youtube.com/watch?v=xyZmG3g1VC8>

What is your favorite thing you learned this week?

I learned a lot this week, primarily about GitHub and git. While I do not like recording myself, recording myself reviewing and operating git commands forced me to familiarize myself with what I was doing well enough to display and explain what I was doing succinctly and understandably. It made me additionally realize the difference in abilities between windows command line and ubuntu terminal. Which then pushed me into learning whether it is doable to use the same repository on two different operating systems with the same repository utilizing a flash USB drive. What I have learned so far is that while possible to utilize a USB in the process, changing computers causes a difference great enough that requires the cloning of repositories and arranging push and pull methods rather than the straightforward utilization that I thought might be possible. This knowledge will be helpful when working between my desktop (windows), and my laptop (ubuntu). This is useful because windows command line no longer allows you to append to text files using commands. The best it allows is opening a text editor or simply overwriting a file.

## References:

*Moving a git repo to a second computer?* Stack Overflow. Retrieved September 10, 2022, from <https://stackoverflow.com/questions/5851966/moving-a-git-repo-to-a-second-computer>

*Source Control with Git Overview*. Promineo Tech. (n.d.). Retrieved September 5, 2022, from [https://youtu.be/sRw0\\_G-Z52Y](https://youtu.be/sRw0_G-Z52Y)

*Uploading Your Assignments to Github*. Promineo Tech. (n.d.). Retrieved September 5, 2022, from <https://youtu.be/u6W1W1Z8oWU>

*Using GIT on USB stick for "travelling code".* Stack Overflow. Retrieved September 8, 2022, from <https://stackoverflow.com/questions/5851966/moving-a-git-repo-to-a-second-computer>

*Working with github repositories on more than one computer.* GEOS.ed. (n.d.). Retrieved September 5, 2022, from [https://www.geos.ed.ac.uk/~smudd/NMDM\\_Course/html/more\\_advanced\\_github.html](https://www.geos.ed.ac.uk/~smudd/NMDM_Course/html/more_advanced_github.html)