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## 1. What is git? Why is it useful? What is the git workflow?

Git is an environment that allows you to work collaboratively with more than one person, as generally software developments require many individuals input. It will maintain and track the history of all changes made to the code. This allows you to focus on the input, rather than the communication to team members to let them know what was done. The other team members will have the opportunity to see what changes were put in.

### **The GIT Workflow :**

Create a local copy of code

Create a branch

Edit files

Add and commit changes to a local machine

Get back in sync with any changes committed by others

Push branch to remote git repository

Merge local branch into a local master

Push local master to a remote git repository.

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

## **8 primitive data types in Java are:**

1. **int** – int is short for integer. You are able to perform all arithmetic operations by using *int*. You should not use decimals when using *int* as they will be chopped off when performing these on integers.

The values that an int can hold are values from -2,147,483,648 ( $-2^{31}$ ) to 2,147,483,647 ( $2^{31}-1$ ).

2. **Byte** - similar to *int*, however it will only hold up to 8 bits of memory. It is called a byte because the memory is small, like a little bite of food.

The values that a byte can hold are values from -128 ( $-2^7$ ) to 127 ( $2^7 - 1$ ).

3. **Short** – related to *int*. If you want to save memory and a byte is too small, you can use a short which is halfway between a byte and an int

The values that a short can hold are values is -32,768 ( $-2^{15}$ ) to 32,767 ( $2^{15} - 1$ ).

4. **Long** – Related to *int*, and it is the big brother to the int. it can hold a significantly larger set of values.

The values that a long can hold are between -9,223,372,036,854,775,808 ( $-2^{63}$ ) to 9,223,372,036,854,775,807 ( $2^{63} - 1$ ).

5. **Float** – Floats represent a basic fractional number. This is for a single decimal number. If the number gets past six decimal points, then it will become less precise and more of an estimate. \*\*\*You must add the ***f*** designation at the end of your literal number to define that it is a float.

The values of a float are smallest decimal is  $1.40239846 \times 10^{-45}$ , and the largest value is  $3.40282347 \times 10^{38}$ .

6. **Double** – Double precision decimal number. The range can be positive or negative but allows for a much larger range of possible numbers. Just like a float, you must designate the ***d*** after your literal number to define that it is a double.

The values for a double are a range of  $4.9406564584124654 \times 10^{-324}$  to  $1.7976931348623157 \times 10^{308}$ . That range can also be positive or negative.

7. **Boolean** – Contains only 2 values- True or False. Boolean is the cornerstone of controlling how the programs flow.

The values for Boolean are true or false. That is the only 2 values.

8. **Char** – char is short for character. We can use any character literal to get transformed into the Unicode default value.

A character's default value is `'\u0000'`.

### 3. What is your favorite thing you learned this week?

I have to say that I am very excited about Dr. Jaavy teaching style. This is my second go around, and I have to say that the way that he explains things really stick and he is funny and keeps a good flow with the topics. He had a funny analogy called the Beyonce method. He said “everything you own to the left to the left, do not touch the right” And now because of this fun little quote I will remember this. I am excited about what I am learning , and want it to stick and be successful this time around.