**Week 1 Research**

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**What is Git? Why is it useful? What is the git workflow?**

**Git:** is free open-source software that allows a software team to have version control. Version control or source control helps the user to keep track of changes of source code over the life cycle of a program. This allows multiple users to work on the same files at the same time and later merge them together.

**Git workflow:**

1. Create Branch: A branch is created when the user wants to make changes that will not affect the main branch until it is safe to merge.
2. Add Commits: Commits are used to keep track of changes and progress made to the branch that the user is working on. When changes are committed correctly it makes it easy to roll back changes if a bug is found.
3. Pull Request: Will allow other developers working on the project to review the users work.
4. Push/Merge: In this step the user or project manager will handle any merge conflicts and choose which option is best for the project.

Sources:

<https://www.atlassian.com/git/tutorials/what-is-git>

<https://git-scm.com/about>

<https://guides.github.com/introduction/flow/>

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

**Byte:** 8 bit integer with a minimum value of -128 and a max of 127.

**Short:** 16 bit integer with a minimum value of -32,768 and a max of 32,767 both byte and short are used when saving memory matters.

**Int:** 32 bit integer with a minimum value of -231 and a maximum value of 231-1.

**Long:** 64 bit integer with a minimum value of -263 and a maximum value of 263-1. All integers are whole numbers.

**Float:** A float a number with decimal points of precision.

**Double:** A double is a larger form of float.

**Boolean:** A true or false statement.

**Char:** A single 16-bit Unicode character.

Source: <https://docs.oracle.com/javase/tutorial/java/nutsandbolts/datatypes.html>

**What is your favorite thing you learned this week?**