

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

Git is a Distributed Version Control System (DVCS) that helps developers work collaboratively on projects. Git tracks the changes made to a project by taking “snapshots” of the files within each respective individuals local directories whenever they choose to commit their changes and creates copies of such changes in both centralized and decentralized locations. This is useful because it allows developers to work independently on a project regardless of whether they have internet connection, keep track of any changes, identify when and where problems occurred, restore to previous versions, and prevent data loss. The git workflow is a series of steps that is utilized to achieve these goals and typically involves 1) making changes to a project 2) reviewing the changes and 3) committing the changes for a permanent snapshot in the directory.

<https://git-scm.com/book/en/v2/Getting-Started-About-Version-Control>

<https://git-scm.com/book/en/v2/Getting-Started-What-is-Git%3F>

2. 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, long, float, double, boolean, and char. These data types are unique in that they differ in the types of values they can hold and utilize varying amounts of memory. Bytes can hold integers between -128 & 127, short can hold integers between -32,768 & 32,767, int can hold integers between -2^{31} and $2^{31}-1$, and long can hold integers between -2^{63} and $2^{63}-1$. Float and double data types are used for values that require a decimal point (with float being less memory intensive), but neither should not be used for ultra-precise values such as currency. Finally, the boolean data type can only be used for values that indicate an outcome is either true or false, and the char data type is used to represent a single character, such as a letter or symbol.

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