Java Learning

**General:**

Java code is case sensitive. This includes not only keywords and language syntax, but variable names and data types as well.

**JShell**:

It is used in windows to run Java programs.

Go to command prompt-> Jshell-> write programs.

/list is used to print all the command we executed in current session of jshell.

/var is used to list all the variables created in current session.

In jshell, We can declare a variable again with data type and same name but in a java program, We are not allowed to do that.

**Keywords in java**

A keyword is any one of a number of reserved words, that have a predefined meaning in the java language.

Link to all the keywords in java: <https://docs.oracle.com/javase/specs/jls/se17/html/jls-3.html#jls-3.9>

**Variables in Java:**

Variables are a way to store information in out program. It is stored in RAM.

**Expression in Java:**

Expression is the code segment, that is on the right side of the equals sign in an assignment or declaration statement.

**Primitive Data Types in Java:**

1. Number: byte, short, int, long: Here every type has a min and max limit for type.
2. Real numbers: float, double
3. Single character: char
4. Boolean value: Boolean

**Wrapper Classes for data types:**

Java used the concept of a wrapper class, for all of its eight primitive data types.

A wrapper class provides simple operations, as well as some basic information about the primitive data type, which cannot be stored on the primitive itself.

Here are primitive type and wrapper classes:

1. byte: Byte: 8 bits
2. short: Short: 16 bits
3. char: Character
4. int: Integer: 32 bits
5. long: Long: 64 bits
6. float: Float
7. double: Double
8. boolean: Boolean

If we try to put a value larger than specified range, it will be overflow. Same if we try to put a value lesser than the specified range, it will be underflow.

**Casting in Java:**

Casting means to treat or convert a number, from one type to another. We put the type we want the number to be, in paratheses;

Normal casting returns, an integer so we need to convert in into byte.

byte myMinByteValue = Byte.*MIN\_VALUE*;  
byte myMinByteValueHalf = (byte) (myMinByteValue/2);

**Float and Double primitives:**

We use a floating point number when we need more precision in calculation.

There are two primitive types in java for expressing floating point numbers, the float and double.

Float: width: 32 bits

Double: width: 64 bits

Double is more precise than float.

We must write f at the end of a float number and d at the end of a double number.

Ex: float x = 2.3f; double d = 2.4d; float num = 5.34, this line will give error because we must either specify f at the end of use casting.

Double is default data type for decimal literals.