VARIABLES

Concepts:

- Variables are containers or identifiers that are used to store specific Data_types and Data_values. They are used to reserve a storage space, so that data can be accessed and modified.
- **Identifiers**: name assigned to a particular entity (variables, Method, Class, Structure) in a program

Syntax:

<datatype> <variableName> = <value><formatSpecifier>

Naming Conventions:

- Must begin with letters (A-Z, a-z), dollar ($) or underscore (_).
- Cannot begin with a number. Numbers can only be added after the 1st letter.
- Case sensitive. Example: Num1 != num1.
- Use camel casing (myVarName) or snake casing (my_var_name).
- Cannot be Java Reserved Keywords:

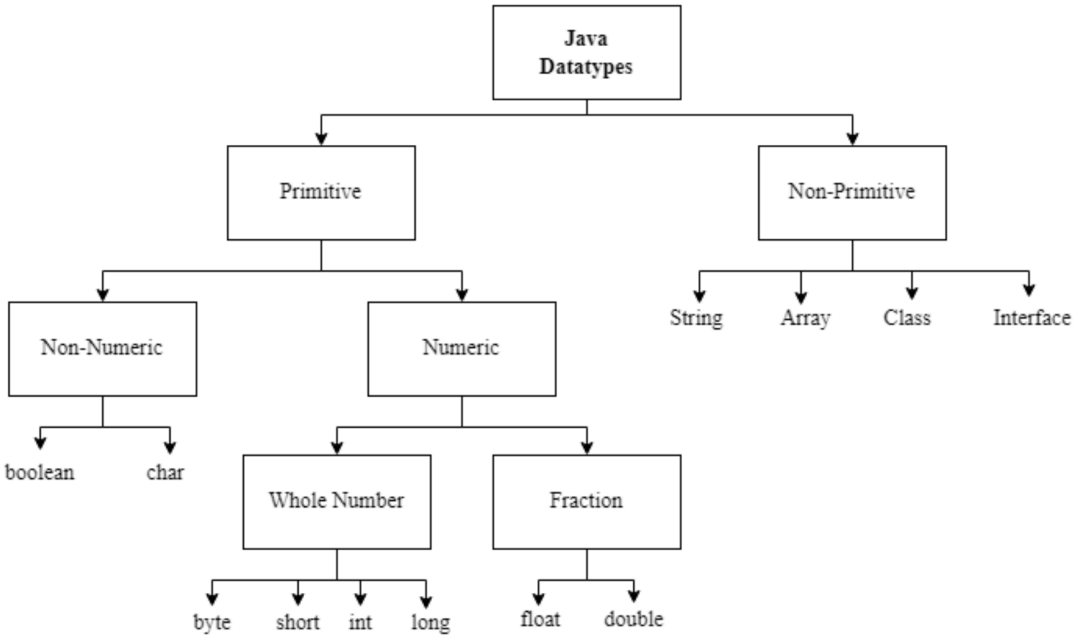
Variable, Data type								
abstract	assert	boolean	synchronized	byte	case	catch	char	class
continue	default	do	double	else	enum	extends	final	finally
float	for	if	implements	import	int	long	native	new
null	package	private	instanceOf	public	return	short	static	strictfp
super	switch	break	interface	this	throw	throws	transient	try
void	volatile	while	protected	const	goto	true	false	null

DATATYPES

Concepts:

Every variable in Java must be of a specific datatype. Datatypes can be categorized as follows:

- Primitive Data Types: Holds a value, represents the size and type of a variable
- Non-Primitive Data Types: Holds a reference to an object or location



Category	Name	Size (bytes)	Possible Values/Explanation	Examples
Primitive	**byte**	1	Whole numbers from -128 or – (2^7) to 127 or (2^7)-1	byte b1 = 51;
	short	2	Whole numbers from -32,768 or – (2^15) to 32,767 or (2^15)-1	short s1 = 513;
	int	4	Whole numbers from -2,147,483,648 or – (2 ^31) to 2,147,483,647 or (2^31)-1	int i1 = 5456;
	long	8	Whole numbers from -2^63 to 2^63-1	long l1= 12345788;
	float	4	Fractional numbers with at most 6 to 7 decimal digits	float f1= 5.0f;
	double	8	Fractional numbers with at most 15 decimal digits	double d1= 123.4558428743d;
	boolean	1	Either true or false	boolean b1 = true;
	char	2	A single character from the ASCII code	char c1 = 'A';
Non-Primitive	**String**	Same size	A sequence of characters	String s1 = "Hello";
	Arrays		Multiple data of the same datatype	int [ ] arr = {1, 2, 3};

* String must be within Double quotation.
* Char must be within Single quotation.
* Double and Float must have a Format specifier.