

JAVA Notes 1 - Variables

Variables are the names you give to computer memory locations which are used to store values in a computer program. They are called variables as the information that these storage locations hold can change, depending on conditions or on information passed to the program. In Java variable names are in lowercase and for clarity they have to make sense e.g. name, age, etc. and not a, b, etc..

When declaring a variable the programmer has to state the **type of data** that is to be stored in that variable. The list of primitive data types that can be used is listed below.

Variables in Java – Primitive Data types:

Data Type	Size	Data that variable can hold
byte	8 bits	-128 to 127
short	16 bits	-32,768 to 32,767
int	32 bits	-2,147,483,648 to 2,147,483,647
Long	64 bits	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
float	32 bits	1.4e-045 to 3.4e+308
double	64 bits	4.9e-324 to 1.8e+308
char	16 bits	0 to 65,536
boolean	1 bit	True or False

Strings

When a programmer needs to store one character the 'char' data type is used. However, what if a programmer needs to store text i.e. lots of characters and not just one? To do so a programmer needs to use the 'String' to hold a sequence of characters. In theory, the String is not a primitive data type but its use is very similar to that of the other data types.

Java Variable Names:

- Must be a valid identifier
- Must NOT be a keyword
- Must NOT be Boolean literal or null
- Must be unique within its scope i.e. cannot use same name for different variables within the same { } OR a variable with the same name but used in different scope { } would not be the same variable (so avoid to name variables with the same name) – refer to program below
- Must NOT contain blank spaces
- int and double are mostly used in our programs