Java Data Type

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| --- | --- | --- | --- |
| Data Type | Default | Size (Bit) | Range |
| byte | 0 | 8 | -128 to 127 |
| short | 0 | 16 | -32768 to 32767 |
| int | 0 | 32 | -231 to 231-1  -2147483648 to 2147483647  ±2 Billion  9 zeros)  (10 digits) |
| int (unsigned)  (Java SE 8 and later) | 0 | 32 | 0 to 232-1  0 to 4294967295  (0 to 4 Billion  9 zeros)  (10 digits) |
| long  l  L | 0I  0L | 64 | -263 to 263-1  -9223372036854775808 to 9223372036854775807  (±9 Quintillion  18 zeros)  (19 digits) |
| long (unsigned)  (Java SE 8 and later)  l  L | 0I  0L | 64 | 0 to 264-1  0 to 18446744073709551615  (0 to 18 Quintillion  18 zeros)  (19 digits) |
| float  f  F | 0f  0F  0.0f  0.0F | 32 | 2-126  to 2127  1.4e045 to 3.4e+038 |
| double  d  D | 0d  0D  0.0d  0.0D | 64 | 2-1022 to 21023  4.9e324 to 1.8e+308 (Approximate) |
| char | '\u0000' | 16 | '\u0000' (or 0) to '\uffff' (or 65535). |
| String (or any object) | null | [Note String](https://www.google.co.in/?gfe_rd=cr&ei=-GYgVvmZK-nI8AfQ8YbIBQ&gws_rd=ssl#q=java+string+size) | [231-1 Characters](http://stackoverflow.com/questions/17604479/what-is-the-maximum-size-of-a-string-object-in-java) |
| boolean | false | [Note boolean](https://www.google.co.in/?gfe_rd=cr&ei=-GYgVvmZK-nI8AfQ8YbIBQ&gws_rd=ssl#q=java+boolean+size) | [Virtual machine dependent](http://stackoverflow.com/questions/383551/what-is-the-size-of-a-boolean-variable-in-java) |

[Note String](https://www.google.co.in/?gfe_rd=cr&ei=-GYgVvmZK-nI8AfQ8YbIBQ&gws_rd=ssl#q=java+string+size): From the source code

class String implements java. io. Serializable {

private char value[];

// 4 bytes + 12 bytes of array header private int offset;

// 4 bytes private int count;

// 4 bytes

}

whatever the value of Integer.MAX\_VALUE is (which on most systems will be 2^31 -1 )

[Note boolean](https://www.google.co.in/?gfe_rd=cr&ei=-GYgVvmZK-nI8AfQ8YbIBQ&gws_rd=ssl#q=java+boolean+size): Size of the boolean in java is virtual machine dependent. Any Java object is aligned to an 8 bytes granularity. A Boolean has 8 bytes of header, plus 1 byte of payload, for a total of 9 bytes of information. The JVM then rounds it up to the next multiple of 8.