Data Types available in Java

* Primary Data Type - Java supports 8 primitive data types: byte, short, int, long, float, double, char and boolean.
* Non-Primitive Data Types  
  [Classes](http://www.w3schools.in/java-tutorial/object-classes/), Interface, Arrays etc.

Integer Types

It can hold whole numbers such as 196, -52, 4036 etc. Java supports four different types of integers These are:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Contains | Default | Size | Range |
| byte | Signed integer | 0 | 8 bit or 1 byte | -27 to 27-1 or -128 to 127 |
| short | Signed integer | 0 | 16 bit or 2 bytes | -215 to 215-1 or -23,768 to 32767 |
| int | Signed integer | 0 | 32 bit or 4 bytes | -231 to 231-1 or -2147,483,648 to 2147,483,647 |
| long | Signed integer | 0 | 64 bit or 8 bytes | -263 to 263-1 or -9223,372,036,854,755,808 to 9223,372,036,854,755,807 |

Rational Numbers

It is used to hold whole numbers containing fractional part such as 36.74, or -23.95 (which are known as floating point constants). There are two types of floating point storage in java. These are:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Contains | Default | Size | Range |
| float | IEEE 754 floating point single-precision | 0.0f | 32 bit or 4 bytes | ±1.4E-45 to ±3.40282347E+38F |
| double | IEEE 754 floating point double-precision | 0.0 | 64 bit or 8 bytes | ±439E-324 to ±1.7976931348623157E+308 |

Characters

It is used to store character constants in memory. Java provides a character data type called char whose type consumes a size of two bytes but can hold only a single character.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Contains | Default | Size | Range |
| char | Unicode character unsigned | \u0000 | 16 bits or 2 bytes | 0 to 216-1 or \u0000 to \uFFFF |

Conditional

Boolean type is used to test a particular condition during program execution. Boolean variables can take either true or false and is denoted by the keyword boolean and usually consumes one byte of storage.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Contains | Default | Size | Range |
| boolean | true or false | false | 1 bit | true or false |