

## Primitive Data Types

| Type   | 64-bit Size | Description  | Example                               |
|--------|-------------|--|---------------------------------------|
| bool   | 1 bit       | Boolean (binary) number, either true or false.                       | bool x = 0; bool y = false            |
| char   | 1 byte      | Signed integer from $-128$ to $127$ or a character                   | char x = 'c'; char y = 100;           |
| short  | 2 bytes     | Smaller signed integer from $-(2^{15})$ to $(2^{15} - 1)$            | short x = 20;                         |
| int    | 4 bytes     | Signed integer from $-(2^{31})$ to $(2^{31} - 1)$                    | int x = -5;                           |
| long   | 8 bytes     | Bigger signed integer from $-(2^{63})$ to $(2^{63} - 1)$             | long x = 200;                         |
| float  | 4 bytes     | Floating-point number which allows exponential and non-integer form. | float x = 1.4932429; float y = 4e200; |
| double | 8 bytes     | Double-precision floating-point number (more decimal places).        | double x = 1.4932429543543;           |