

# Atomic types

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## Java

| Data Type | Bytes | Range   |
|-----------|-------|---|
| byte      | 1     | -128 to 127   |
| short     | 2     | -32,768 to 32,767                                       |
| int       | 4     | -2,147,483,648 to 2,147,483,647                         |
| long      | 8     | -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 |
| float     | 4     | Approximately $\pm 3.40282347\text{E}+38\text{F}$       |
| double    | 8     | Approximately $\pm 1.79769313486231570\text{E}+308$     |
| char      | 16    | Unicode   |
| boolean   | N/A   | true or false   |

## C Sharp

| Data Type | Bytes | Range   |
|-----------|-------|---|
| byte      | 1     | 0 to 255  |
| sbyte     | 1     | -128 to 127   |
| short     | 2     | -32,768 to 32,767                                       |
| ushort    | 2     | 0 to 65,535   |
| int       | 4     | -2,147,483,648 to 2,147,483,647                         |
| uint      | 4     | 0 to 4,294,967,295                                      |
| nint      | N/A   | Signed 32-or 64-bit integer                             |
| nuint     | N/A   | Unsigned 32-bit or 64-bit integer                       |
| long      | 8     | -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 |
| ulong     | 8     | 0 to 18,446,744,073,709,551,615                         |
| float     | 4     | Approximately $\pm 3.40282347\text{E}+38\text{F}$       |
| double    | 8     | Approximately $\pm 1.79769313486231570\text{E}+308$     |
| decimal   | 16    | Approximately $\pm 7.9 \times 10^{28}$                  |
| char      | 16    | Unicode   |
| bool      | N/A   | true or false   |