

What is your name?

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What is your quest?

To seek the Holy Grail

What is your favorite color?

Blue

Size of C++ data types

| C++ Type | Size in bytes? | Max value? (base 10) | Zero is stored as (in hex)? | One (or 1.0) is stored as (in hex)? |
|--------------|----------------|------------------------------------|-----------------------------|-------------------------------------|
| int | 4 | 2147483647 | 0x00000000 | 0x00000001 |
| unsigned int | 4 | 4294967295 | 0x00000000 | 0x00000001 |
| float | 4 | 3.40282e+38 | 0x00000000 | 0x3f800000 |
| double | 8 | 1.79769e+308 | 0x0000000000000000 | 0x3ff0000000000000 |
| char | 1 | 127 | Char '0' = 0x30 | Char '1' = 0x31 |
| bool | 1 | 1 | false = 0x00 | true = 0x01 |
| C++ Type | Size in bytes? | Max value? (base 16 (hexadecimal)) | NULL is stored as? | |
| int* | 8 | 0xffffffffffffff | 0x0000000000000000 | |
| char* | 8 | 0xffffffffffffff | 0x0000000000000000 | |
| double* | 8 | 0xffffffffffffff | 0x0000000000000000 | |

Primitive Arrays in C++

How does the compiler determine the address of `&(IntArray2D[i][j])`? Assume the array is defined as: `int IntArray2D[6][5];`

The address is determined by the formula: $(\text{base address}) + 4 \cdot (i \cdot \text{rowsize} + j)$
 $= (\text{base address}) + 4 \cdot (i \cdot 5 + j)$
