

What is your name? Derek Wu

What is your quest? To become extremely proficient in data structures

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	$3.402823 * 10^{38}$	0x00000000	0x3f800000
double	8	$1.8 * 10^{308}$	0x00000000	0x00000000
char	1	127	Char '0' = 0x30	Char '1' = 0x31
bool	1	127	False = 0x00	true = 0x01
C++ Type	Size in bytes?	Max value? (base 16 (hexadecimal))	NULL is stored as?	
int*	8	0xffffffffffffff	0x00000000	
char*	8	0xffffffffffffff	0x00000000	
double*	8	0xffffffffffffff	0x00000000	

### 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];`

$\&(\text{IntArray2D}[i][j]) = \text{IntArray2D} + \text{sizeof}(\text{int}) * (\text{\#of columns} * i + j)$

$\&(\text{IntArray2D}[i][j]) = \text{IntArray2D} + \text{sizeof}(\text{int}) * (5 * i + j)$

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