

What is your name? Sabreena Abedin

What is your quest? TO UNDERSTAND DATA REPRESENTATION

What is your favorite color? Bleed orange and 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	$1.7976931 * 10^{308}$	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 10)	NULL is stored as?	
int*	8	$1.8446744 * 10^{19}$ (or $2^{64} - 1$)	0x0000000000000000	
char*	8	$1.8446744 * 10^{19}$ (or $2^{64} - 1$)	0x0000000000000000	
double*	8	$1.8446744 * 10^{19}$ (or $2^{64} - 1$)	0x0000000000000000	

Primitive Arrays in C++

How does the compiler determine the address of `&(IntArray2D[i][j])`?

`IntArray2D[row][column]`

$\{\text{address of IntArray}\} + \text{sizeof(int)} * (\text{number of columns}) * i + (\text{sizeof(int)} * j)$