What is your name? Liya Xu
What is your quest? To be a person with stories.
What is your favorite color? White

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 10)	NULL is stored as?	
int*	8	18446744073709551615 (2^64-1)	0x0000000000000000	
char*	8	18446744073709551615 (2^64-1)	0x0000000000000000	
double*	8	18446744073709551615 (2^64-1)	0x0000000000000000	

Primitive Arrays in C++

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

```
&(IntArray2D[i][j])
= &(IntArray2D[0][0])+4*j*(number of column)+4*i
```

I got this answer by looking at the addresses that I printed out:

```
0x7fff5a206a60 0x7fff5a206a64 0x7fff5a206a68
0x7fff5a206a6c 0x7fff5a206a70
0x7fff5a206a74 0x7fff5a206a78 0x7fff5a206a7c
0x7fff5a206a80 0x7fff5a206a84
…
```

I found that each new address is 4 bits more than the previous address. So from this pattern I derived the formula.