CS 2150 In-lab 4 worksheet

What is your name? What is your quest? What is your favorite color?

## Size of C++ data types

| C++<br>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              | 2,147,483,647                            | 0x00000000                  | 0x00602180                          |
| unsigned int | 4              | 4,294,967,295                            | 0x00000000                  | 0x00602180                          |
| float        | 4              | 3.40282e+38                              | 0x00000000                  | 0x00602180                          |
| double       | 8              | 1.79769e+308                             | 0x00000000000000000         | 0x00000000000602180                 |
| char         | 1              | 127                                      | Char'0'= 0x00               | Char '1'= 0x00                      |
| bool         | 1              | true                                     | false = 0x00                | true = 0x01                         |
| C++<br>Type  | Size in bytes? | Max value?<br>(base 16<br>(hexadecimal)) | NULL is stored as?          |                                     |
| int*         | 8              | 0xffffffffffffff                         | 0                           |                                     |
| char*        | 8              | Oxffffffffffffff                         | 0                           |                                     |
| double*      | 8              | 0xfffffffffffff                          | 0                           |                                     |

## **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];

&(IntArray2D[i][j]) = (i\*(5+j))\*8