* **Pointers** store the address of a piece of memory
  + Only used in C++, not in other mainstream programming languages (ie Javascript, Python, etc)
    - Used for better memory management (dynamically allocating memory)
    - Can allocate memory while the program is running instead of before the program is ran
  + Can be used to indirectly access data without even referencing the original variable
  + Use the \* (dereference) operator to create an integer pointer

int \*xptr; //creates the pointer

\*xptr = &x //assigns the address of the variable x to the pointer

* + Use the & (reference) operator to get the address of a variable
  + You can initialize a pointer (int \*ptr = nullptr) to NULL or nullptr if you want to create a pointer without giving it a variable to point to
* The name of an **array** is simply just an address, meaning an array is automatically considered a pointer
  + If you output just the array without an index it will return a hexidecimal address
  + For array numbers, you can output the first element in the array using \*numbers
    - numbers[i] is the same as \*(numbers + i)
  + You can create a pointer of an array, but you don’t need to use \* when you assign it
    - Since an array is already an address, it can be assigned to a pointer without calling the address
  + You can increment through a pointer of an array simply by using the increment operator

cout << \*arrayPtr << “ “;

arrayPtr++;