Udemy: Beginning c++ programming notes:

Section 6:

* Initializing variables
  + Int age; // uninitialized
  + Int age = 21 // c-like initialization
  + Int age (21); // constructor initialization
  + Int age {21}; // c++11 list initialization syntax
* Global variables will be initialized automatically

Section 7:

* Array
  + Fixed size
  + Elements are all the same type
  + Stored contiguously in memory
  + Individual elements can be accessed by their position or index
  + No checking to see if you are out of bounds
  + Always initialize arrays
  + Very efficient
  + Int test\_score [5] {100, 95, 99, 97, 98}
  + Int high\_score\_per\_level [10] {3, 5} // init to 3, 5 and remaining to 0
  + Const double days\_in\_year {365}
  + Double hi\_remperature [days\_in\_year] {0} // init all to zero
  + Int another\_array [] {1, 2, 3, 4, 5} // size automatically calculated
  + The name of the array represents the location of the first element in the array (index 0)
  + The [index] represents the offset from the beginning of the array
* Vector
  + Container in the c++ standard template library
  + Elements are all the same type
  + An array that can grow and shrink in size at execution time, dynamic size
  + [] – no checking to see if you are out of bounds
  + Can provide bounce checking
  + Can use lots of cool functions like sort, reverse, find and more
  + #include <vector>

using namespace std;

vector <char> vowels (5);

vector <int> test\_scores (10);

vector <char> vowels {‘a’, ‘e’, ‘I’, ‘o’, ‘u’}

vector<double> hi\_temperatores (365, 80.0)