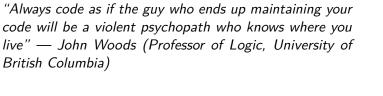
Lecture 7

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List Initialisation

```
const int code = 66;
int x = 66;
char c1 {31325}; //narrowing, not allowed
char c2 {66}; //allowed because char can hold 66
char c3 {code}; //ditto
char c4 {x}; //not allowed, x is not constant
```

Type conversion

```
#include <iostream>
using namespace std;
int main(){
   int guess(1.23456);
   int debt = 1.23456E12;
   cout << "guess: " << guess << endl;</pre>
   cout << "debt: " << debt << endl;</pre>
   return 0;
```

Typecast

Listing 3.14 typecast.cpp

```
// typecast.cpp -- forcing type changes
#include <iostream>
int main()
   using namespace std;
   int auks, bats, coots;
   // the following statement adds the values as double,
   // then converts the result to int
   auks = 19.99 + 11.99;
   // these statements add values as int
   bats = (int) 19.99 + (int) 11.99; // old C syntax
   coots = int (19.99) + int (11.99); // new C++ syntax
   cout << "auks = " << auks << ", bats = " << bats;
   cout << ", coots = " << coots << endl:
   char ch = 'Z':
   cout << "The code for " << ch << " is "; // print as char
   cout << int(ch) << endl;
                                           // print as int
   cout << "Yes, the code is ";
```

Typecast

- static_cast<int>(variableName)
- ▶ int(variableName)

Automatic type allocation

- ▶ auto i=12 declares i as int
- ▶ auto i=1.2 declares i as double

Arrays

- Array input manipulation (./code/11-arrayInputManipulation.cpp)
- Array memory access (./code/11a-arrayMemoryAccess.cpp)