Lecture 1

Wednesday, February 12, 2020 11:17 PM

- Namespace
  - using namespace std;
  - std
    - cin>>x
    - cout<<x <<endl;
  - #include <iostream>
- data type
  - int
  - short
  - long
  - double
  - bool
  - char
  - std::string (not fundamental)
  - &&
  - ||
  - 7%3=1
- functions
  - overloading (different return, different parameters (must))
  - return type
- type conversion
  - promotion/widening
    - int to double
  - narrowing
    - double to int
  - casting
    - cout << static_cast<double>(a) / b << endl;
- source file and header file
  - .cpp
  - .h
    - #include "add.h"
- cpp building process
  - preprocessing
    - #include. etc.
  - compiling
    - check syntax and compile
    - compile cpp --> .obj
  - linking
    - use linker
    - create exe file
- aliasing
  - typedef

    double CallPrice(double s,double k,double r,
    double v,double t);

```
typedef double OptionPrice;
typedef double StockPrice;
typedef double Strike;
typedef double Expiration;
typedef double Rate;
typedef double Volatility;
```

- using

```
using OptionPrice = double;
using StockPrice = double;
using Strike = double;
using Expiration = double;
using Rate = double;
using Volatility = double;
```

- result would be clearer code

```
OptionPrice CallPrice(StockPrice s,
Strike k,
Expiration t,
Rate r,
Volatility v);
```

- const keyword
  - const int pi = 3.14;