Notes From Class

Thursday, January 21, 2016 4:00 PM

Project 2 Submission URL is now available

- **bill.cpp**, **report.txt** or **report.doc** or **report.docx**, **hw.doc** or **hw.docx** or **hw.txt**
- In addition to saving your code, please also make screen shots (print screen showing date and time) of your submission process, just in case…

Project 3 now available

- We need to discuss more about char, the ASCII character set and string datatype
- Howard has prepared some code you can download (LetterSample) which might be of interest to you…

Student Questions:

1. Significant Digits: which digits count?

12.345678901234567890123456789 float has "about" 7 significant digits

1.2345678901234567890123456789 double has "about" 14

```
#include <iostream>
#include <iomanip> // for std::setprecision()
int main()
{
   std::cout << std::setprecision(16); // show 16 digits
   float f = 3.33333333333333333333333333333333333333f;
   std::cout << f << std::endl;
   double d = 3.33333333333333333333333333333333333333;
   std::cout << d << std::endl;
   return 0;
}
```

Outputs:

3.333333253860474
3.333333333333334

2. Math Func Demo Code: 0 for floor_value, ceil_value, fabs_value, sqrt_value

```
string commandstring;
getline( cin, commandstring );

char firstLetter = commandstring[ 0 ];       ///single letter

Size_t length = Commandstring.size( );
size_t length = commandstring.length( );


// loop to walk the entire string…
for ( size_t i = 0; i < commandstring.size( ); i++ )
{
   char c = commandstring[ i ];
   cout << c << endl;
}
```

```
#include <cassert>
```

```
Int main ( )
{
///  type "1912 Pico Boulevard"     ------>    1912 : integer

assert( number( "1912 Pico Boulevard", 0 )==1912 );   // -----> 1912
assert( number( "1912 Pico Boulevard", 1 )==912 );   // ----->  912
assert( number( "1912 Pico Boulevard", 2 ) == 12 );   // ----->   12
assert( number( "1912 Pico Boulevard", 3 ) == 2 );   // ----->    2
assert( number( "1912 Pico Boulevard", 10 ) == 0 );  // ----->    0

Return( 0 );

}


int number( string s, int startingposition )
{
   int result = 0;

   //// walking the letters of commandstring
    for ( size_t i = startingposition; i < commandstring.size( );
i++ )
    {
       char c = commandstring[ i ];
       switch( c )
       {
          case '0':
              cout << "You typed a 0!" << endl;
              break;
          case '1':
              cout << "You typed a 1!" << endl;
              break;
          default:
              cout << "You didn't type a 0 or a 1" << endl;
              break;
       }
       cout << c << endl;
    }



   return( result );
}







int number( string s, int startingposition )
{
   int result = 0;

   if (s[ startingposition ] >= '0' && s[ startingposition ] <= '9')
   {
       while( s[ startingposition ] >= '0' && s[ startingposition ] <= '9' )
       {
            /// digit converted from the letter '1'   into the int = 1
            int value = s[ startingposition ] - '0';     ////   '5'  --->   53-48
```

```
            result = ( result * 10 ) + value;
            /// move on down the road….
            startingposition = startingposition + 1;
        }
    }

    return( result );
}
```