CS102: Week 2

February 6, 2015

1 Address Book

1. Initialize the following variables with your information:

   - firstname
   - lastname
   - streetaddress
   - city
   - state
   - zipcode

   And then print out the following using the values you've set. For example:

```
Nero Wolfe
454 West 35th Street
New York, New York, 10001
```

2. Repeat the above, but this time ask the user to input the information

2 Temperature Conversions

The formula to convert Celsius to Fahrenheit is:

$$^\circ F = \frac{9}{5}{}^\circ C + 32 \tag{1}$$

1. Write a program that converts 100° C to Fahrenheit. It should print out the following:

   100 degrees Celsius is equivalent to F degrees Fahrenheit

   Note: replace F with the converted temperature.

2. Modify the program to convert arbitrary Celsius temperatures to Fahrenheit and change the printout accordingly.

3. Write a version of the program that converts Fahrenheit to Celsius.

3 Pointers and References

Write a C++ program that includes the following code:

```
int b;
int& a = b;
a = 10;
cout<<"a="<<a<<" b="<<b<<endl;

int d;
int *c = &d;
*c = 10;
cout<<"c="<<c<<" d="<<d<<endl;
```

Explain what each line does. Then modify the program so that a and c are set using user input (hint: substitute a variable for 10);

Extra: Memory Allocation

Using the `sizeof()` operator determine the number of bytes your computer uses to store:

1. an integer, a character, and a double-precision number
2. the **address** of an integer, a character, and a double-precision number

Hint: `sizeof(*int)` can be used to determine the number of memory bytes used for a pointer to an integer.) Would you expect the size of each address to be the same? Why or why not?