

CS120 – Computer Science 1

Lab #5

Spring 2014

The purpose of this lab is to gain additional experience, working with the calculator program from Chapter 3 of the book. A copy of the code for this program is available at <http://www2.cs.uidaho.edu/~jeffery/courses/120/calc.cpp>

This week, expand the calculator program as follows:

- Make it calculate using integers instead of real numbers.
- Support subtraction and multiplication.
- Output in either hexadecimal or octal format.

Incorporating subtraction and multiplication into the calculator should be pretty easy, but see your TA for help as needed. You should use choices 3 and 4 for subtraction and multiplication, respectively.

Outputting numbers in hexadecimal or octal format is a bit trickier. You should support choices 5 for decimal format, 6 for hexadecimal format, or 7 for octal format, and whenever the user chooses one of these, all “Answer =” ... statements should then use the selected format until the format is changed again.

The actual way that you get C++ to output a number in a different format is easy, at least for these three formats. C++ has special entities called “I/O manipulators” that you send to streams to tell them to change format, as in this example:

```
cout << hex << 123 << endl;
```

Note that format changes such as sending “hex” to “cout” are sticky and will persist until you change the stream to some other format.

Submitting your solution

When you have written a working program, hand in a hardcopy of both the source code and a typescript that shows a complete execution using all the operators and output formats at least once.

Additionally, submit these files online through *cscheckin*. Use the name “Lab5.cpp” for your source code (the “.cpp” file) and the name “Lab5script” for your script file, this helps the TAs find your submissions among those of your classmates. N.B.: the *cscheckin* command is **cscheckin -f filename -c coursename**, where “filename” is the name of the file you want to submit and “coursename” is “cs120”.