
CSCI 162 Lab 2

Number Systems

Purpose: To explore different number systems.

Resources:

Copy lab 2 to your home directory with the command:

```
cp -R ~beestonj/csci162/lab2 .
```

Objectives: After this lab you should be able to

- Count in binary, hex and decimal.
- Know all the different ways a binary string can be interpreted.
- Add and subtract in binary.
- Write a simple program in C++

Instructions Part 1: GNumeric

In the lab2 folder I have created several files for you. One of them is Lab1.gnumeric : a spreadsheet in GNumeric for you to practice counting in binary and hex.

GNumeric is not installed on Pup, so you have to ssh to Otter. Open a terminal window. Type the following in

```
ssh otter -X
```

Now you can open Lab2 in gunmeric

```
gnumeric Lab1.gnumeric
```

Once the file is open, you will see a spreadsheet with several tables. Do not change the values in the coloured cells, but fill in the missing values in the white cells. Save the updated file as Lab01_123456789.gnumeric.

Instructions Part 2: C++

In the file you will also find a file called JB123456789.c Rename this file so that JB is your initials and 123456789.c is your student number.

To compile this file use the command:

```
g++ JB123456789.c -o JB123456789
```

To run this program use the command

```
./JB123456789
```

This file uses the input file to produce conversions from binary to decimal, addition in binary and multiplication in binary.

Open the file in the editor of your choice and find the lines with missing code:

Step 1: Write the convert function.

Step 2: Write the add function

Step 3: Write the multiply function

What to hand in:

Lab01_123456789.gnumeric (123456789 is your student number.)

JB123456789.c (123456789 is your student number.)

Demo the c code for your instructor and have the gnumeric file open.