Name:

Please remember you must follow instructions exactly in this course. Submit your code in the usual place on the class server – *qu\_04/lastname\_firstname/*.Your main program must be called *p01.cc*. Your functions should be in a file *p01\_00.cc*. Your header file should be called *p01.h*. Your binary must be called *p01.exe*. You must use a make file – the command “make” generates *p01.exe*.

The requirements for this program are:

An 8-bit unsigned character is represented by the bit sequence $b\_{8}b\_{7}b\_{6}b\_{5}b\_{4}b\_{3}b\_{2}b\_{1}b\_{0}$, where $b\_{0}$ is the least significant bit. Write a C program that reads two integers from the command line, extracts bits $b\_{4}b\_{3}b\_{2}$ and adds them together. The output of your program should look like this:

ece-000\_[1]: p01.exe 9 13

the sum of 2 and 3 is 5

Your program only needs to work for any unsigned integers in the range $[0, 255]$.

The number 9 is represented as “00001001”. The number 13 is represented as “00001101”. If you extract $b\_{4}b\_{3}b\_{2}$ from each, you are left with “010” (decimal value: 2) and “011” (decimal value: 3). The sum is 5.

To implement this, you must create a function called sum\_bits that have the following prototype:

unsigned char sum\_bits(unsigned char a, unsigned char b);

This function should be defined in your header file and implemented in p01\_00.cc.