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/p01/* using our standard program structure. Your main program must be called *p01.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:

Write a C program that reads three floating-point numbers from the command line and assigns them to the floating-point variables *a, b* and *c* respectively(e.g., argv[1] is assigned to *a*). Write a program that computes the value of a second-order polynomial, $y=ax^{2}+sin\left(bx\right)+cos\left(c\right)$, for values of *x* in the range [0,10] in steps of 0.5, and prints the values of x and y to stdout.

Your main program must call a function named “poly()” that takes *a, b* and *c* as arguments and returns the value of the polynomial.

Also create an Excel spreadsheet that implements the above function. Your spreadsheet can be very basic: enumerate the values of $x$ in one column and the computed values in a second column. The first row of the spreadsheet should have the values of *a, b* and *c*. All the calculations should be done in terms of these values so that when I change these values, the corresponding computed values change.

Use this spreadsheet to debug your program by demonstrating that your program produces the same result as the Excel spreadsheet. Your spreadsheet filename should be *p01.xlsx*.

Note that you must do the computation in a function call. You must use our standard makefile to compile and link your program. You must declare the function in a header file.

Your main program should be in a file named *p01.cc*. Your function should be in a file named *p01\_00.cc*. Your header file should be *p01.h*.

Submit your code in the usual place on the class server – *qu\_04/lastname\_firstname/*.