## CSCI 235

Programming Assignment

The following (unambiguous) grammar in BNF form:

expr → expr + term | term

term → term \* factor | factor

factor → ( expr ) | number

number → number digit | digit

digit -> 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

is a specification for simple arithmetic expressions. Write a program to evaluate such expressions (expr). For instance, given the input string "(23+(4\*2))\*(2+5)+2\*3+4\*5", your program should output “243”, and given “00123+0”, it should output “123”. Your program should apply the C++ operators + and \* to single digits only. Notice also that, in this context, a number consists of an arbitrary long string of digits.

Read input data from a file named “data.txt” (one expression per line) and write results to “results.txt”.