CS 375

Fall, 2021

**Due: Monday, October 18, 2021**

(5 points) Write a C/C++ program **getstat** that outputs the same information (and in the same

format) as the "**stat**" shell command. Only model the “**stat**” with no options.

(10 points) Write a C/C++ program **lsl** that outputs the same information (and in the same format) as the "**ls ­l**" shell command. It should take either zero or one directory names as arguments. If no argument is given the program should do a long directory listing on the current directory. Hint: look at the man page for the "ls" command to determine what information is presented when using the "­l" option.

(10 points) Write a C/C++ program **kitten** that is a replacement for the **cat** shell command. Only

the ­E, ­n, and ­s options are to be supported. Any other command arguments should be treated as input file names. The program must use **getopt()** to process the command line options. If no

input file names are supplied as arguments on the command line, then the program should read from standard input.

(10 points) Create a table in an SQLite database. The fields for each record should be 1) an auto-incrementing primary key, 2) a part name, 3) a part description, 4) price of the part, and 5) the quantity of parts on hand. Populate the table with at least 6 records. The actual data included is your choice. Write a C/C++ program that will read thee table from the database and display the part name and value of the parts on hand (price times quantity). Turn in the source code for the program and your database.

(5 points) Provide a **makefile** named **Makefile** that will make all four programs for this assignment as the default target (typically called all). Each program must be a separate target, but the command for each target can be to compile directly from source file to executable file. I.e., you do not need to make .o files.

**What to submit**  
Create a **tarfile** or **zipfile** containing your four program source files, database, and **makefile**. Note that these files should be in the top level of the archive. Do not tar/zip a directory. Submit your archive using Blackboard.