CS 2213-001 Advanced Programming

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Homework 5 **Due date: check BB** !!!! NO LATE HOMEWORK WILL BE ACCEPTED !!! Total 5 points

(From our textbook Chapter 3)

Programming Exercises 11 and 12 (page 158-159) with an addition described below:

Ex. 11"Design and implement an interface called card.h that..."

Ex. 12 "Using card.h interface from the preceding exercise, write a program...." Addition: Modify your program in Ex 12 such that it will be able to process command line arguments. First, if there is no command line argument, your program will work as in Ex 12 and print the output on the screen. Otherwise, user will give an output file name and several numbers (as many as he/she wants) as command line arguments. Your program will use each of these numbers as a random seed, and generate a new deck of cards and write them into the output file.

> randdeck
this will just print out one deck as in Ex 12.

> randdeck mydecks.txt 23 53 87 98
this will generate 4 decks with random seeds of 23 53 87 98
and write them into mydecks.txt

Finally, it is not mentioned in the question, but you should make sure you will release (free) the dynamically allocated memories if you allocate any in your programs.... So, before submitting your program, run it with valgrind to see if there is any memory leakage... Also if you need to debug your program, compile your programs with -g option and then run it with gdb and/or ddd.

What to return: !!!! NO LATE HOMEWORK WILL BE ACCEPTED !!!

- 1. Create a directory, say LASTNAME_hw5, and do all your work under that directory.
- 2. You will implement a simple library (card.h and card.c) and use this library along with other libraries (like random.h) in your driver/client

program, say randdeck.c. To easily compile the library and driver program, you **MUST** have a Makefile and use "make" to compile your code. Compile your code and run it a few times and save the output (using script) into output.txt file and other files. So you will have at least 6-7 files in your LASTNAME_hw5 directory.

- 2. Go to parent directory of LASTNAME_hw5, and use
- > tar -cf LASTNAME_hw5.tar LASTNAME_hw5

This will create a new file called LASTNAME_hw5.tar and it contains all your files in it. So you will just submit this one!

- 3. Go to WebCT (BB), and just submit LASTNAME_hw5.tar as **attachment** before the deadline. DO NOT submit other .h or .c files.
- /* Don't forget to include comments about the problem, yourself and each major step in your program! */

You must submit your work using Blackboard Learn and respect the following rules:

- 1) All assignments must be submitted as either a zip or tar archive file unless it is a single pdf file.
- 2) Assignments must include all source code.
- 3) Assignments must include an output.txt file which demonstrates the final test output run by the student.
- 4) If your assignment does not run/compile, the output.txt file should include an explanation of what was accomplished, what the error message was that prevented the student from finishing the assignment and what the student BELIEVES to be the underlying cause of the error.