Advanced Programming in Unix Fall 2007

Test 2 Maximum Points: 44

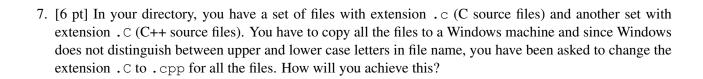
Important: This is an open book test. You can use any books, notes, or paper but no electronic device. *Do not log into the computer during the test, or use any electronic or communications device. Switch off your cell phones*. Any calculations and rough work can be done on the back side of the test pages. If there is a syntax error in any program segment, just write it down and you will get full credit for the problem. You will lose five points for not writing your name.

1.	[4 pt]	How	can	you	get t	he	process-ic	l of	your	current	shell?
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2. [8 pt] You have written a program in C and have performed excellent documentation in the form of comments. You want to give the algorithm to a friend without sharing the code. Write a command to extract all the comments; they could be anywhere on the line and may be preceded by some code. You can assume that the comment does not go onto next line and is terminated on the same line that it starts. Account for both // and /* type of comments.

3. [6 pt] You are given a large text file. Give me a command to display all the lines that are duplicated anywhere in the file. The lines may not be one after the other.

4	[6 pt] I suddenly realized that my 1s command on my Unix system got corrupted. I need to look at all the files in the current directory whose name starts with the character f. Since I do not have 1s, how can achieve my objective? The solution should not rely on 1s being available in a different directory.
5.	[4 pt] Show the output that appears on stdout from executing the following commands in ksh:
	<pre>\$ fubar=red \$ print \$fubar ; (fubar=red ; print \$fubar) ; print \$fubar \$ print \$fubar ; { fubar=red ; print \$fubar ; } ; print \$fubar</pre>
6.	[4 pt] As part of the housekeeping in RCS files, you delete some revisions every once in a while. Are there any revisions that you cannot delete?
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8. [6 pt] You have a need to print the user name and actual name of all the students in this class from the Unix password file. The students in the class have a group id 2750 in field 4 of the file /etc/passwd. The user name is in field 1 and actual name is in field 5. Give a command to list just the username and real name such that the username appears in columns 1-10 and real name appears in columns 11-40. All the data should be left aligned. Do not forget to account for the field separator in password file.