Due: 1) UNIX tutorial scriptfile due electronically **April 4, at 11:50pm**;
       2) Written UNIX and Theory questions are due **April 6, at 4pm, in ECS 30 box in Kemper 2131**;
       3) Programs due electronically **April 6, at 11:50pm**.

The written exercises should be typed and each page should have at the top your name and ID#, Section #, and hw#. Handwritten answers will not be graded. The scriptfile and programs are due electronically, for which you'll use the *handin* UNIX utility. The date and time your files are created in the cs30 directory will be counted as your submit times. If those times are later than 11:50pm on the due date your submissions will be considered late.

(1) UNIX Tutorial (Scriptfile, 10 pts)

   For this part of HW1 you have to go through Sean Davis's UNIX tutorial, linked on the class web page. Use the *script* command in UNIX to document your work as follows. Just before you start the tutorial at the prompt issue the command:

   script unixtut.txt

   This command will record everything that is typed on your screen in the file **unixtut.txt** until you issue the command **exit**. Submit the scriptfile **unixtut.txt** to **cs30**, directory **hw1** using *handin*, as follows:

   handin cs30 hw1 unixtut.txt

   Skip the *logout* section in the tutorial.

   When you are done with the above, answer the following questions (do not copy the questions just give the answers and the number of the question):

(2) Written Exercises (40 pts): The written exercises should be typed and each page should have at the top your name and ID#, class, and hw#. Handwritten answers will not be graded.

   (a) Unix Questions, 20 pts

      1. What happens if you give the following command when the file called done already exists?

       % cp stuff done
       What happens if you give the following command instead?
       % mv stuff done

      2. What command will send the files chapter1, chapter2, and chapter3 to the printer? What command would you use to have the files printed in 2 columns with a landscape orientation?
      3. (2 points) If you accidentally started to print a huge binary file, how would you go about removing the print job from the print queue?
      4. What command line displays the system documentation for the ftp utility?
      5. Should you ordinarily start your filenames with a period (.)? Why or why not?
      6. What command would you use to make your home directory the working directory? What command identifies the working directory?
      7. If your working directory is /usr/alex/ecs30, provide two ways to create the subdirectory called hw1.
      8. What sequence of commands can you use to remove a directory called /usr/alex/old_stuff and all of its contents?

9. Based on the following result from ls

```
% ls -l
total 1764
-rw-r--r--   31 cs30     users      688949 Oct  5 22:54 File1.dat
drwx------    2 cs30     users        4096 Oct 17 09:14 private
-rwxr-xr-x    5 cs30     users       28855 Oct  6 15:49 timetest.PC.out
-rw-r--r--    7 cs30     users         774 Sep 29 15:17 vector.c
-rw-r--r--    7 cs30     users        1398 Sep 29 15:17 vector.h
%
```

    a. Is vector.c a regular file?
    b. Is private a regular file?
    c. May members of the users group read the private file?
    d. What command can `cs30` use to give permission to everyone to write vector.h? What would the permssions
        flags be for vector.h after executing the command?
    e. When was vector.c last modified?
    f. What does the 774 for vector.c mean?
10. What does it mean to have execute permission for a directory?
11. What command would you use to display the contents of vector.c one screen at a time? How would you advance
    to the next screen?
12. How would display only the first three lines of vector.h?
13. What is the command to turn in your file named first.c to the hw2 directory of the cs30 account? What is the
    command to find out what directories to which you can submit files in the cs30 account?

(b) Theory, 20 pts

    J&K, 1.3.24, 1.4.4, 2.5.2, 2.8.2, 2.8.6, 3.2.2, 3.4.2, 3.6.6, 3.7.8, 4.11.8.

(3) Programming Exercises (50 pts):

(a) J&K, p.67, ex. 2.5. (25 pts)

    Write a program that reads integers until end-of-file and then prints **Yes** if the numbers do not decrease and **No**
    otherwise. (The numbers do not decrease if for every pair n_1, n_2 in succession we have $n_1 \le n_2$.) Ex. If the input is:
    -6 0 14 14 27, the output is **Yes**. If the input is **-8 0 3 1 7 29**, the output is **No**.

(c) J&K, p.111, ex. 3.1. (25 pts)

    Write a program that prints a logic table for the expression **x && (y || !z)**; that is, write a program that
    prints the values of **x, y, z**, and **x && (y || !z)** for all combinations of the values **x =0,1;
    y=0,1;** and **z=0,1**.

Use the *handin* program for electronic submission, described in the UNIX tutorial. For this homework, name your
source files **ex2_5.c** and **ex3_1.c**, and to submit use:

handin cs30 hw1 ex2_5.c ex3_1.c

Example executables, **ex2_5** and **ex3_1** are located in **/home/cs30/public/p1/** on the csif machines.