CIS 90 - Spring 2012 - PRACTICE TEST 2 - 30 points

Honor Code:
This is a practice test and you may work with others and use the forum. However on the real test you must work alone.

Name: _____

Practice downloading and emailing the completed test to yourself as an attachment. On the real test you will email your filled-in test to the instructor. Make sure you can read the answers on the test after you have emailed it as an attachment.

Note to instructor:
hiderocks P2 (sun-hwa)
trouble-P2 (sun-hwa)
set permissions on activities (sun-hwa)
trick and treats for Benji (sun-hwa)

Part 1 - Flashcard questions (1 point each)

[Q1] What is the link count of a newly created directory?

[A1] _____

[Q2] A new file named *original* is created
(**touch original**)
link1 and *link2* are hard linked to *original*
(**ln original link1; ln original link2**)
What is the link count of *link1*?

[A2] _____

[Q3] What command and option is used to remove a directory containing files?

[A3] _____

[Q4] What command would change the group from cis90 to cis191 for the file *labxc03*?

[A4] _____

[Q5] What is the numeric permission equivalent of rwx r-x r--?

[A5] _____

[Q6] With a umask of 077 what permissions would a newly created directory have?

[A6] _____

[Q7] Without having x (execute) permission on a directory, is it possible to list the names of the files it contains?

[A7] _____

[Q8] What happens if you type this command?
> **mythesis**

[A8] _____

[Q9] What symbol is used to pipe the standard output (stdout) of one command to the standard input (stdin) of another?

[A9] _____

Part 2 – Troubleshooting in Sun-Hwa (1 point each)

Login to Sun, using your own username and VLab password:
   ssh cislab\\$LOGNAME@sun-hwa

[Q10] There is some trouble on the island today that you need to troubleshoot and repair. What exactly is the problem?

[A10] _____

[Q11] What command did you use to fix the problem on Sun-Hwa?

[A11] _____

[Q12] Was your fix a permanent fix on Sun-Hwa?

[A12] _____

[Q13] Benji needs your help. He created an *activities* directory on Sun-Hwa and added files for some of his favorite activities. Everything was fine until he started trying some of those new chmod commands he learned about in Lesson 7. Now, he can't remove his *bathing* file even though he owns it and it has write permission for the owner. He shows you the following output:

```
[CISLAB\simben90@sun-hwa ~]$ ls -l activities/
total 0
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Oct 20 16:42 barking
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Oct 20 16:42 bathing
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Oct 20 16:42 easting
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Oct 20 16:42 marking
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Oct 20 16:42 playing
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Oct 20 16:42 sleeping

[CISLAB\simben90@sun-hwa ~]$ rm activities/bathing
rm: cannot remove `activities/bathing': Permission denied
```

What single command should Benji use to enable him to remove files from his *activities* directory?

[A13] _____

Part 3 – Rock Collecting on Sun-Hwa (1 point each)

[Q14] On Sun-Hwa, a file named after an igneous rock was hidden somewhere in the */usr/lib* branch of the UNIX file tree. The rock file contains your name (first and last) which you will see when you cat it out. What is the absolute pathname of this file?

[A14] _____

[Q15] On Sun-Hwa, what are the permissions, in numerical format, on your igneous rock file?

[A15] _____

[Q16] On Sun-Hwa, how many other files in the */usr/lib* branch of the UNIX file tree have the same name as your igneous rock file (not the full pathname, just the filename)?

[A16] _____

Part 4 – George Washington's white horse section (1 point each)

[Q17] On Sun-Hwa or Opus, what is the absolute pathname for the */etc/passwd* file?

[A17] _____

Part 3 – Use Opus for the following questions (1 point each)

[Q18] Do a <u>numeric</u> sort of the numbers in */home/cis90/depot/randomints* and email the first 25 of them to rsimms on Opus using the **mail** command and a subject of "Practice Q18". What single command line does all this (no ;'s)?

[A18] _____

[Q19] From your home directory, what single command (no ;'s) would create this this directory structure in your own home directory?

```
/home/cis90/simben $ tree the
the
└── rain
    └── in
        └── spain
            └── stays
                └── mainly
                    └── in
                        └── the
                            └── plain

8 directories, 0 files
```

[A19] _____

[Q20] What single command (no ;'s) from your home directory would you use to populate the *plain* directory created above with two files named *ElizaDoolittle* and *ProfessorHiggins*?

```
/home/cis90/simben $ tree the
the
└── rain
    └── in
        └── spain
            └── stays
                └── mainly
                    └── in
                        └── the
                            └── plain
                                ├── ElizaDoolittle
                                └── ProfessorHiggins

8 directories, 2 files
```

[A20] _____

[Q21] From the *plain* directory shown above, what command would copy both the *ElizaDoolittle* and *ProfessorHiggens* files to your bin/ directory?

[A21] _____

[Q22] From your home directory, what single command (no ;'s) could you use to create a file named *IShallBeFreeNo10* containing "I'm a poet, and I know it" on the first line and "Hope I don't blow it" on the second line in your *poems/* directory? To check your command, cat out your new file which should match Benji's output EXACTLY:

```
/home/cis90/simben $ cat poems/IShallBeFreeNo10
Yippie! I'm a poet, and I know it
Hope I don't blow it
```

[A22] _____

[Q23] From your home directory, what single command (no ;'s) could be used to remove all the files and directories created in Questions 19-22 above and nothing else?

This removal should include:
- *the/* directory in your home directory
- *IShallBeFreeNo10* in *poems/*
- *ElizaDoolittle* and *ProfessorHiggins in bin/*

[A23] _____

[Q24] From the directory with the ✳ what command line, using a **;** to separate commands, would create a directory named *box* and three *files critter1, critter2* and *critter3* in your home directory?
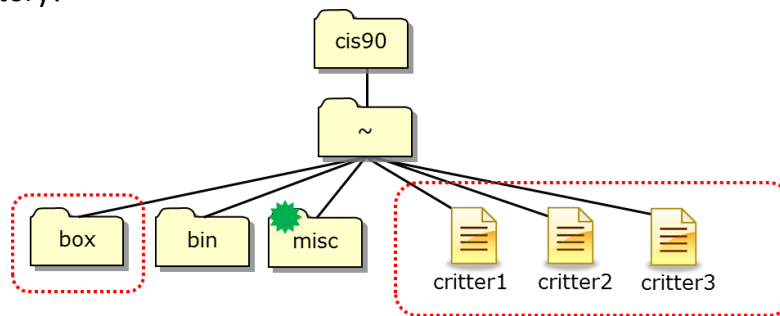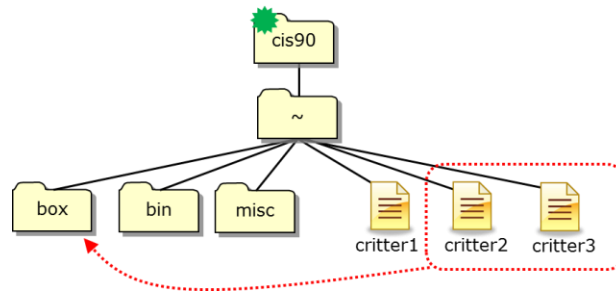

[A24] _____

[Q25] From the directory with the ✳ what single command (no ;'s) would set the permissions on the three critter files to be read/write for the user, and no permissions whatsoever for group and others?
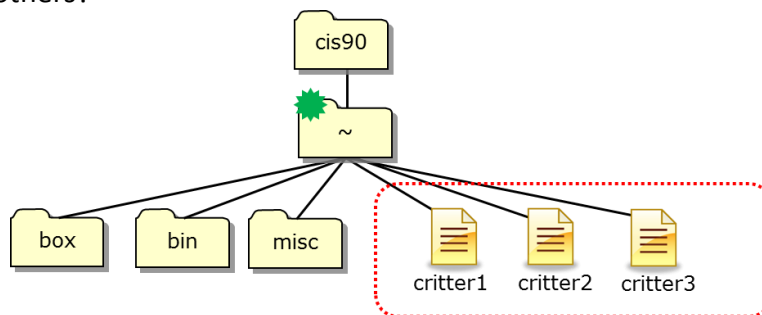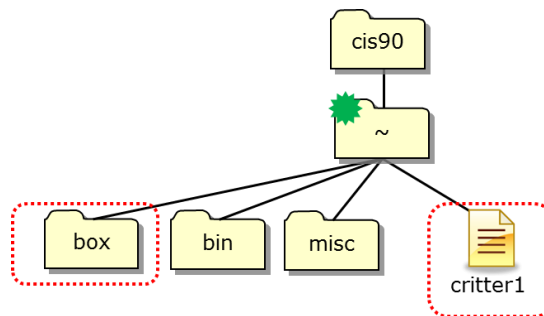

[A25] _____

[Q26] From the directory with the ✹ what command would move just *critter2* and *critter3* to the new *box* directory in your home directory?

[A26] _____

[Q27] From the directory with the ✹ what single command (no ;'s) would <u>interactively</u> remove critter1, the files in the *box* directory and the *box* directory?

[A27] _____

[Q28] Given the file *expressions* contains these two lines:

```
/home/cis90/simben $ cat expressions
1971+sqrt(10000)+2679+5
1/0
```

What complete command (no ;'s) using **bc** would
- input the math problems in *expressions*,
- **append** the calculated answers to the file *results*
- write any errors to the file *errors*?

[A28] _____

[Q29] Benji has the following file in his home directory:

```
/home/cis90/simben $ ls -l torbellino
-rw-rw-r-- 1 simben90 cis90 0 Apr  3 10:05 torbellino
```

If his umask value is 333 and he copies the *torbellino* file to *torbellino.bak*, what would the permissions be, in numerical form, on *torbellino.bak*?

[A29] _____

[Q30] What command would cause future <u>directories</u> to be created with:
- all permissions for the owner
- no permissions for group
- no permissions for others

[A30] _____

Extra credit

[Q31] What are the permissions, in <u>numeric</u> format, on the **mount** command?

[A31] _____

[Q32] On Sun-Hwa, what pipeline could you assemble that would use **find**, **sort**, and **uniq** commands to make a list of the names for all the igneous rock files in */usr/lib*? There should be no error messages and the output should match the following EXACTLY:

```
.Tuff
.Scoria
.Rhyolite
.Pumice
.Peridote
.Pegmatite
.Obsidian
.Granite
.Gabbro
.Diorite
.Basalt
.Andesite
```

[A32] _____

[Q33] On Opus, **cd** into */home/cis90/simben*

why does:
find -name treat* 2> /dev/null
only find one of the treat files,

yet:
find -name 'treat*' 2> /dev/null
finds multiple treat files?

[A33] _____