**CIS 90 - Fall 2013 - PRACTICE TEST 2 - 30 points**

**Name:** _____

**Instructions:**

**Download and save** this test to your computer.  Fill out the form using **Adobe Reader**, save it and email it as an attachment to **risimms@cabrillo.edu** using your regular (non-Opus) email.

<span style="color:red">Don't fill it out in your browser</span>

<span style="color:red">Don't fill it out with MAC Preview</span>

<span style="color:red">Please verify you actually sent a non-blank test
with complete answers to be graded!</span>

Submitting the practice test is optional and not graded.

You have all week to work on the questions, compare answers with others and openly discuss methods to determine the answers.

**Note to instructor:**
Remove /etc/nologin (sun-Hwa)
Q10-13 trouble-P2 (sun-hwa)
Q14-16 hiderocks P2 (sun-hwa)
Q33 hide treats for Homer (opus)

**Part 1 - Flashcard questions (1 point each)**

[Q1] What command could be used to update the access and modification time of a file?

[A1] _____

[Q2] How many inodes are needed for two files hard linked to each other?

[A2] _____

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

[A3] _____

[Q4] What command is used to rename a file?

[A4] _____

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

[A5] _____

**Part 2 – Six steps of the shell (1 point each)**

The following questions relate to the shell processing this command:

```
grep -i -w  Linus /usr/share/doc/git*/git-pa* > Torvalds
```

[Q6] On Opus, in what directory does the shell locate the grep command ?

[A6] _____

[Q7] When the grep command is executed, is it aware of the file named Torvalds?

[A7] _____

[Q8] How many options and arguments are passed from the shell to the grep command?

[A8] _____

[Q9] Which program, bash or grep, handles and expands the * metacharacter?

[A9] _____

**Part 3 – Troubleshooting in Sun-Hwa (1 point each)**

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

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

[A10] _____

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

[A11] _____

Note:  If you get stuck on Q10 and Q11 login to the forum and ask for help.

[Q12] Was your fix a permanent fix on Sun-Hwa? (To check, log out and log back in again)

[A12] _____

[Q13] On Sun-Hwa-II, Benji needs your help.  He created a *games* directory on Sun-Hwa and added some files.  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 *puppet* 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 games/
total 0
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Apr 14 16:05 chase
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Apr 14 16:05 fetch
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Apr 14 16:05 glove
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Apr 14 16:05 gopher
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Apr 14 16:05 puppet
-rw-r--r--. 1 CISLAB\simben90 CISLAB\domain users 0 Apr 14 16:05 sock
[CISLAB\simben90@sun-hwa ~]$ rm games/puppet
rm: cannot remove `games/puppet': Permission denied
```

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

[A13] _____

**Part 4 – 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 5 – 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] _____

[Q18] With a single command:

a) Sort the numbers in */home/cis90/depot/randomints* in <u>numeric</u> order

b) Select the first nine of them

c) Email the selection to yourself and rsimms on Opus with a subject of "Practice Q18".

What single pipeline command does all this (no ;'s)?

[A18] _____

[Q19] From your <u>home directory</u>, what single command (no ;'s) would create this this directory structure in your own home directory? To check your command, compare your output with Benji's:

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

8 directories, 0 files
```

[A19] _____

[Q20] From the *mainly* directory, what command would populate the *plain* directory with a file named *Eliza*? To check your command, compare your output with Benji's:

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

8 directories, 1 file
```

[A20] _____


[Q21] From the *spain* directory, what command would move the *Eliza* file to your *rain* directory and rename it to *ElizaDoolittle*? To check your command, compare your output with Benji's:

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

8 directories, 1 file
```

[A21] _____

[Q22] From your *spain* directory, what single command (no ;'s) could you use to create a file named *IShallBeFreeNo10* in your *spain* directory containing:

```
I'm a poet, and I know it
   on the first line and
Hope I don't blow it
   on the second line?
```

To check your command, compare your output with Benji's:

```
/home/cis90/simben $ tree the
the
└── rain
    ├── ElizaDoolittle
    └── in
        └── spain
            ├── IShallBeFreeNo10
            └── stays
                └── mainly
                    └── in
                        └── the
                            └── plain

8 directories, 2 files

/home/cis90/simben $ cat the/rain/in/spain/IShallBeFreeNo10
I'm a poet, and I know it
Hope I don't blow it
```

[A22] _____



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



[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
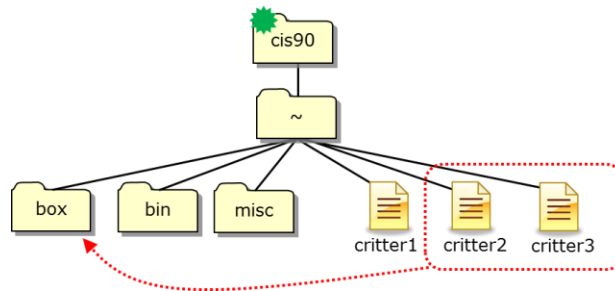home directory?
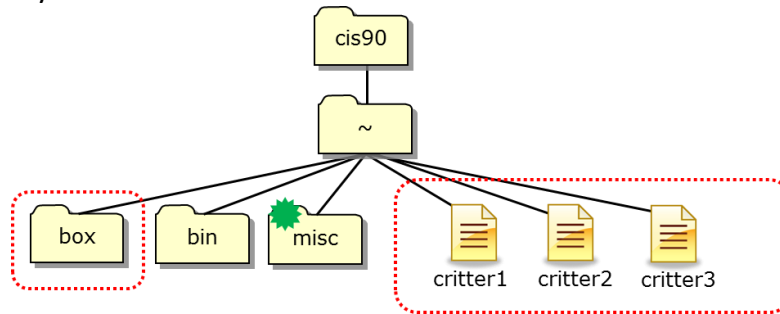
[A24] _____


[Q25] From the directory with the ✸ what single command (no ;'s) would set the permissions
on just the *critter1* and *critter2* files to be read/write/execute for the user, read only for
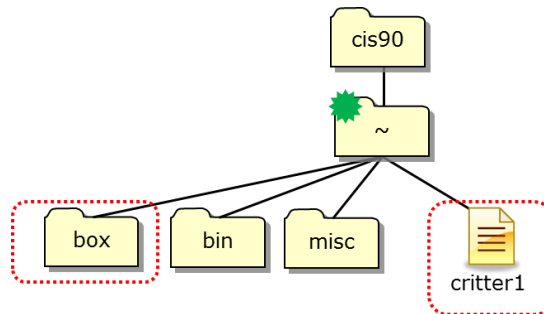group and read only permission for others?
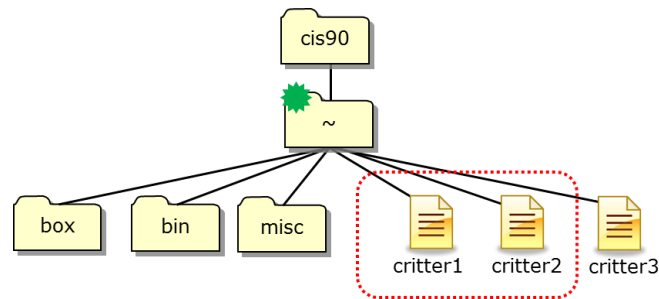
[A25] _____

[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>without any interaction</u>, remove only *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*,
- empty, then write 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 <u>numerical</u> 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 (1 point each)**

[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**, **basename** and **uniq** commands to make a reverse sorted list of the names of 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/milhom*

why does:
**find -name *treat* 2> /dev/null**
only find one of the treat files even though there are more in the subdirectories

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

[A33] _____