Fall 2013, CS288 Test 1, 1-2:15 pm, Fri, 9/27/2013, CKB204

Name:

Make sure you have four pages. Do not take any page(s) with you. Any missing page(s) will result in failure in the exam. This exam is closed book close notes. Do not exchange anything during the exam. You all have the same exam. **No questions will be answered during the exam, including typos.** I don't want to give different answers to different people. If you are in doubt, briefly state your assumptions below, including typos if any.

I have read and understood all of the instructions above. On my honor, I pledge that I have not violated the provisions of the NJIT Academic Honor Code.

Signature: **Date:**

Questions 1-10: 5 points each

1. Write the output when you exeucte the Bash command `: echo \"Hello  World\"` Note there are *three* space characters between `Hello` and `World`. Indicate the number of space charecters in the output after you execute the command.

2. Given `x="hello"`, executing the Bash command `y='expr $x * 2'` will result in
   (a) hello2 (b)hellohello (c) command not found (d) errors (e)none of the above

3. Write a Bash command to change the permission of a file `f` to allow for the user to read/write/execute, for the group members read/execute, and the others read only. Use *octal* numbers only as discussed in class. Use of any other format will receive no credit.

4. Given `lst=(1 2 3)`, write a Bash command to find the number of elements in `lst`.

5. Given `l1=(1 2)` and `l2=(x y)`, write a Bash command to obatin `lst=(x y 1 2)`

6. Given `f()` and `main()`, what is the output when `main` is called?

```
function f() { local p=$2; q=1; r=$1; }
function main() { p=1; q=2; r=3; f $p $q $r; echo $p $q $r; }
```

7. Given `x=abc` , the Bash command `[[ $x > 123 ]] && echo yes || echo no` will output:
   (a)yes (b)no (c)command not found (d) errors (e)none of the above

8. Given `s='<span class="viewcount">/acct/1,696,807/name/</span>'`, write a Bash command to extract the numbers without commas. Your command must work for any number of numbers and commas. Answers based on fixed nubmer of numbers and commas will receive no credit.

9. Write a grep statement to match lines such as below using two backreferences.
   `Mr abc came home to Mrs abc and visit Mr xyz and Mrs xyz to discuss backreferences`

10. Assuming the file `fruits.txt` shown right has eight lines of fruit names, write the output of the Bash grep command: `grep -v ^p fruits.txt`

```
apple
orange
pear
peach
grape
banana
blueberry
plum
```

11. (10 points) Write a Bash script using `for` loop to find the sum of `lst=(1 2 3 4 5)`.

12. (20 points) Write a Bash script, reverse.sh, which reverses the contents of a directory passed as a parameter. Assuming `/my/dir` contains "cache cron games lib log run tmp," your program "`reverse.sh /my/dir`" will return "tmp run log lib games cron cache." Use an array and two functions: `main()` and `reverse()`. Reverse manually manipulating the list. DO NOT use the built-in command sort -r.

13. (20 points): Write a Bash script to traverse a directory tree in *depth*-first order using *recursion*. A seed directory is passed as a command line parameter. Return the list of *all* sub directories in complete path.