Evaluation: 40 Questions **Name:** _____

Important Instructions

1. Read all instructions and both sides of all pages.
2. Manage your time when answering questions on this test. Answer the questions you know, first.

(Office use only: 6 12 26 35 16 22 25 37 38 32 19 9 8 7 20 24 18 40 13 29 30 34 31 14 21 3 15 23 5 11 28 17 10 36 4 1 39 33 2 27)

1. Which of the following statements is true about this shell command line:
```
>foo file bar haven
```
   a. The command **file** sees three arguments.
   b. The command **foo** sees only two arguments
   c. The command **foo** sees three arguments.
   d. Error: The command name is missing from the command line.
   e. The command **file** sees two arguments.

2. Which of the following **bash PATH** statements makes the most sense?
   a. **PATH=/bin/sh:/usr/bin:/etc:/bin**
   b. **PATH=/bin:/usr/bin:/etc/passwd**
   c. **PATH=/bin/ls:/etc:/usr/bin**
   d. **PATH=/bin:/bin/cat:/usr/bin**
   e. **PATH=/bin:/usr/bin:/etc**

3. What is the output of this command sequence:
```
echo dog >one ; echo cow | head -2 one
```
   a. **cow**
   b. an error message
   c. **dog**
   d. **dog** followed by **cow**
   e. **cow** followed by **dog**

4. Given this long listing:
```
drwxr-xr-x 2048 root root 4096 Jan 20 14:22 /dir
```
   How many subdirectories lie immediately under **/dir**?
   a. 2048
   b. there is not enough information shown to answer the question
   c. 4094
   d. 4096
   e. 2046

5. Which of the following shell command lines displays only the names in the current directory that are exactly three numeric digits long?
   a. **echo [1-3][1-3][1-3]**
   b. **echo '[0-9]''[0-9]''[0-9]'**
   c. **echo '0-9'0-9'0-9'**
   d. **echo [0-9][0-9][0-9]**
   e. **echo ???**

6. If file **foo** contains nine lines, each of which is the one-digit line number of the line in the file (**1** through **9**), what is the output of this command:
```
cat foo foo | sort -r | head -5 | tail -1
```
   a. **6**
   b. **8**
   c. **9**
   d. **5**
   e. **7**

7. What is in the file named **file** after this command sequence:
```
echo a >x ; echo b >>x ; mv x y >file
```
   a. **b**
   b. **a** followed by **b**
   c. **a**
   d. nothing - **file** is empty - no data
   e. no such file (nonexistent file)

8. How can you ask the **bash** (Linux) shell to complete commands or file names for you?
   a. Type **[CONTROL]-[ALT]-[DEL]** and the shell will present a menu of commands.
   b. You can type the first part of the command or file name and press the **ALT** key.
   c. Type **[CONTROL]-[D]** and the shell will present a menu of commands.
   d. Type **[ALT]-[F2]** the shell will present a menu of commands.
   e. You can type the first part of the command or file name and press the **TAB** key.

9. What Unix command line will show you all of the processes currently running, for all userids?
   a. **whereis ps**
   b. **finger ps**
   c. **ps all**
   d. **which ps**
   e. **ps aux**

10. Which command sequence below does *not* generate an error message from the last command in the sequence?
   a. **mkdir foo ; ln foo bar**
   b. **date >foo ; cp foo/. bar**
   c. **mkdir one one/two ; rmdir one/two**
   d. **mkdir foo foo/bar ; rmdir foo**
   e. **cat /etc/passwd > mail idallen@ncf.ca**

11. Given my directory **dir** and my file **dir/foo** owned by me, which permissions allow me to change or create new content (data) in the file **dir/foo** but not delete the file?
    a. Permissions **100** on directory **dir** and **100** on file **dir/foo**.
    b. Permissions **200** on directory **dir** and **200** on file **dir/foo**.
    c. Permissions **400** on directory **dir** and **400** on file **dir/foo**.
    d. Permissions **600** on directory **dir** and **700** on file **dir/foo**.
    e. Permissions **500** on directory **dir** and **600** on file **dir/foo**.

12. If file **/a** contains 20 lines, and file **/b** contains 30 lines, then how many lines are in file **/c** after this sequence of shell commands:
```
sort /a /b >/c ; cat /a >>/b ; sort /c /b /a >/c
```
    a. **80**
    b. **70**
    c. **120**
    d. **50**
    e. no lines (empty file)

13. Which of these statements is true?
    a. If **/p** is an empty directory, **ls /p/.*** produces an error message.
    b. If **/q** is an empty directory, **echo /q/.*** produces an error message.
    c. The **ls dir** command looks up the directory argument **dir** in your **$PATH**.
    d. Either single or double quotes will stop shell glob (wildcard) patterns from expanding.
    e. Typing **./script** and **bash script** always give identical results.

14. Which of these statements is true?
    a. If **/x** is an empty directory, **sort /x/*** produces an error message.
    b. Typing **./script** and **bash script** always give identical results.
    c. Only single quotes are strong enough to stop shell glob (wildcard) patterns from expanding.
    d. The **cat food** command looks up the file name argument **food** in your **$PATH**.
    e. If **/y** is an empty directory, **echo /y/*** produces an error message.

15. Given my directory **dir** and my file **dir/foo** owned by me, which permissions allow me to delete the file **dir/foo** from the directory, but not change the content (data) in the file?
    a. Permissions **300** on directory **dir** and **500** on file **dir/foo**.
    b. Permissions **100** on directory **dir** and **100** on file **dir/foo**.
    c. Permissions **100** on directory **dir** and **200** on file **dir/foo**.
    d. Permissions **500** on directory **dir** and **400** on file **dir/foo**.
    e. Permissions **300** on directory **dir** and **300** on file **dir/foo**.

16. What is the output of this sequence of three shell commands:
```
echo x >abc ; ls >abc abc ; wc abc
```
    a. no output
    b. **0 0 0 abc**
    c. **1 1 4 abc**
    d. **1 1 3 abc**
    e. **1 1 2 abc**

17. If directory **/dir** contains these three four-character file names: **.123**, **.124**, **.???**, then what is the output of the following **bash** shell command line: **echo /dir/????**
    a. **/dir/????**
    b. **/dir/.123 /dir/.124**
    c. **echo: /dir/????: No such file or directory**
    d. **/dir/.123 /dir/.124 /dir/.???**
    e. no output

18. Which command line displays the contents of the Unix **passwd** file one page at a time?
    a. **/etc/passwd >less**
    b. **/etc/passwd | less**
    c. **cat /etc/passwd >less**
    d. **less | /etc/passwd**
    e. **less </etc/passwd**

19. If the file **foo** contained the word **mom**, what would be the **bash** shell output of this two command sequence:
```
PATH=/etc/passwd:/bin/ls:/bin/cat ; /bin/ls foo
```
    a. **mom**
    b. **/bin/ls: foo: No such file or directory**
    c. no output
    d. **bash: /bin/ls: command not found**
    e. **foo**

20. Which Unix command sequence deletes a directory and everything inside it?
    a. **rmdir –r dir**
    b. **rm –r dir**
    c. **rm –all dir**
    d. **deltree –all dir**
    e. **rmdir –all dir**

21. What is the link count of directory **dir** after this set of successful commands?
```
mkdir dir ; cd dir ; touch one ; mkdir two
```
a. 1
b. 4
c. 5
d. 2
e. 3

22. Which of the following VI/VIM key sequences will move the entire line on which the cursor resides to after the line that follows it (i.e. it would move line 5 to be line 6 and line 6 would become line 5)?
a. **ddp**
b. **DDp**
c. **:dp**
d. **DDP**
e. **ddP**

23. Which command sequence below outputs only lines 11-15 of the Unix password file?
a. **tail -10 /etc/passwd | head -15 /etc/passwd**
b. **head -10 /etc/passwd | tail -15 /etc/passwd**
c. **tail -15 /etc/passwd | head -10**
d. **head -15 /etc/passwd | tail -5**
e. **head -15 /etc/passwd | tail -5 /etc/passwd**

24. If **/bin/foo** is a program that outputs **hi** and **/usr/bin/foo** is a program that outputs **mom** what is the output of this shell command sequence:
```
PATH=/etc:/usr/bin:/bin ; foo
```
a. **mom**
b. **mom** followed by **hi**
c. **hi**
d. **bash: foo: command not found**
e. **hi** followed by **mom**

25. If file **foo** contains nine lines, each of which is the one-digit line number of the line in the file (**1** through **9**), what is the output of this command:
```
cat foo foo | cat | tail -4 | head -1
```
a. **5**
b. **8**
c. **7**
d. **9**
e. **6**

26. How many arguments and options are there to the command:
```
cal -yj 1752
```
a. Two arguments, one of which is a single option and the other is a pathname.
b. A single numeric option and a three-letter file name.
c. Three arguments, one of which contains options and one is a pathname.
d. Two command line arguments, one of which contains two options.
e. Two arguments, neither of which is an option.

27. What minimal permissions must you have on a directory to be able to execute successfully the command **ls .** from *inside* the directory?
a. **-wx**
b. **r--**
c. **rw-**
d. **r-x**
e. **--x**

28. If **foo** were a file of text containing 50 different lines, what would be the output of this exact command line: **diff foo foo**
a. an error message because **diff** only allows one file name
b. an error message because **diff** doesn't allow the same file name twice
c. no output
d. several lines, which are the lines that are different between the two files
e. the contents of file **foo** would be displayed

29. How many arguments and options are there to the command:
```
wc -l <infile
```
a. A file name starting with a dash and an **<infile** switch option argument.
b. Two arguments, neither of which is an option.
c. Two arguments, one of which is a single option name and the other is a pathname.
d. One command line argument containing one option name.
e. Three arguments, one of which contains an option and one is a pathname.

30. What is the **bash** shell output of this two command sequence:
```
PATH=/bin/ls:/bin/cat:/bin/sh ; cat nosuchfile
```
a. **bash: /bin/ls: command not found**
b. **ls: /bin/cat: command not found**
c. **bash: cat: command not found**
d. **bash: /bin/sh: No such file or directory**
e. **cat: nosuchfile: No such file or directory**

31. If my current working directory is **/home**, and my home directory is **/home/me**, which of the of the following commands copies the Unix password file into my home directory under the name **foo**?
    a. **cp ./me/../etc/passwd ../home/me/foo**
    b. **cp me/../../etc/passwd me/foo**
    c. **cp ../../etc/passwd /me/foo**
    d. **cp ../etc/passwd ../me/foo**
    e. **cp ../home/me/../etc/passwd ./me/./foo**

32. If directory **dir** contains only these five two-character file names: **a?**, **11**, **?1**, **1***, **.1**, then which shell command below will remove *only* the single two-character name **?1** from the directory?
    a. **rm dir/\??**
    b. **rm dir/*1**
    c. **rm dir/1***
    d. **rm dir/?1**
    e. **rm dir/??**

33. If file **/a** contains 40 lines, and file **/b** contains 60 lines, then how many lines are output by this command: **sort /a /b | cat /a | cat /b**
    a. **200**
    b. **100**
    c. **40**
    d. **160**
    e. **60**

34. Which of the command lines below can generate a non-empty file?
    a. **grep -v /a/b /a/b >/a/b**
    b. **tail -5 /a/b >/a/b**
    c. **ls /a/b >/a/b**
    d. **tr abc ABC </a/b >/a/b**
    e. **sort -r /a/b >/a/b**

35. How many arguments and options are there to the command:
    ls -lid /p
    a. Two command line arguments, one of which contains three options.
    b. Two arguments, one of which is a single option name and the other is a pathname.
    c. Two arguments: A file name starting with a dash and a **/p** switch option argument.
    d. Two arguments, neither of which is an option.
    e. Three arguments, one of which contains options and one is a pathname.

36. What is the output of this sequence of three shell commands:
    umask 674 ; touch newfile ; ls -l newfile
    a. **-rw-rwxr-- 1 me me 0 Feb 20 07:55 newfile**
    b. **-rw-rw-r-- 1 me me 0 Feb 20 07:55 newfile**
    c. **--w--wxr-x 1 me me 0 Feb 20 07:55 newfile**
    d. **--------w- 1 me me 0 Feb 20 07:55 newfile**
    e. **---x----wx 1 me me 0 Feb 20 07:55 newfile**

37. Which command line below does not show any lines from inside the file **dog**?
    a. **tail dog**
    b. **less dog**
    c. **ls dog**
    d. **more dog**
    e. **head dog**

38. What is the link count of file **foo** after this set of successful commands?
    rm foo ; touch foo ; ln foo bar
    cp bar x ; ln x y ; ln bar z
    a. 5
    b. 4
    c. 1
    d. 3
    e. 2

39. What is the output of this sequence of three shell commands:
    umask 547 ; mkdir newdir ; ls -ld newdir
    a. **d-w--w---- 1 me me 0 Feb 20 07:55 newdir**
    b. **dr--r--rw- 1 me me 0 Feb 20 07:55 newdir**
    c. **d-w--wxrwx 1 me me 0 Feb 20 07:55 newdir**
    d. **dr-xr--rwx 1 me me 0 Feb 20 07:55 newdir**
    e. **d-w--wx--- 1 me me 0 Feb 20 07:55 newdir**

40. If **/etc/passwd** is a file name, which of the following pathnames always leads to the same file?
    a. **/etc/passwd/./.**
    b. **/etc/passwd/../..**
    c. **/etc/../../passwd**
    d. **./../etc/passwd**
    e. **/./../etc/./passwd**

Answer Key - DAT 2330 – Ian Allen – Winter 2003 - DAT 2330 Test #2 - Unix - 10%

Office use only: 6 12 26 35 16 22 25 37 38 32 19 9 8 7 20 24 18 40 13 29 30 34 31 14 21 3 15 23 5 11 28 17 10 36 4 1 39 33 2 27

1. e
2. e
3. c
4. e
5. d
6. e
7. d
8. e
9. e
10. c
11. e
12. b
13. d
14. a
15. a
16. c
17. a
18. e
19. e
20. b
21. e
22. a
23. d
24. a
25. e
26. d
27. d
28. c
29. d
30. c
31. b
32. a
33. e
34. c
35. a
36. d
37. c
38. d
39. e
40. e

Count of a: 7 18%
Count of b: 3 8%
Count of c: 7 18%
Count of d: 9 23%
Count of e: 14 35%

With 5 choices: 40
1 2 3 4 5 6 7 8 9 10 11
12 13 14 15 16 17 18 19
20 21 22 23 24 25 26 27
28 29 30 31 32 33 34 35
36 37 38 39 40

Macro .cmd splits: 17
Macro .ans splits: 0