CST8102 – Operating System Fundamentals (Linux)

Midterm #2

Professor: Norman Han

Name: _____

Date:_____

Student #: _____

Signature _____

- Print the version number in the **TEST NAME** field on the scantron card
- Answer all questions on scantron card by selecting the letter representing the BEST choice.
- Read each question carefully before answering
- Ensure you understand the question properly.
- You may use the blank pages (page 13 and 14) as scrap paper if needed

- WHEN YOU FINISH THIS TEST.....

    1. Make sure your NAME is printed clearly on scantron card and this page
    2. Hand in both scantron card and test papers (including all pages)
    3. You may QUIETLY leave when permitted.

1) Login as root, to change the login shell to **/bin/csh** for **user100,** you type**_____.**

A. useradd –s /bin/csh user100
B. ehco $SHELL
C. SHELL=/bin/csh user100
D. usermod -s /bin/csh user100
E. All of the above

2) Login as root, to create a user account based on the following:

username: user200
home directory: /home/user200home *(create the user's home directory if it does not exist)*
initial group: root

What is the command that should be used?

A. useradd user200
B. useradd -d /home/user200home user200
C. useradd -d /home/user200home -m -g root user200
D. useradd -d /home/user200home -m -G root user200
E. None of the above

3) If **user300** is a valid account and the home directory is **/home/user300**, the command **usermod -d /home/user300home user300** will_____

A. Only change the home directory of **user300** in file **/etc/passwd**
B. Create a new directory named **user300home** in **/home**
C. Create a new directory named **user300home** in **/home**, and make the necessary change to **/etc/passwd**
D. Create a new directory named **user300home** in **/home**, and make the necessary change to **/etc/passwd,** and delete the previous directory **/home/user300**
E. None of the above

4) Which of the following command deletes **user400** from **/etc/passwd** and remove **user400**'s home directory and any files stored in it?

A. userdel user400
B. userdel -r user400
C. usermod -r user400
D. usermod -d user400
E. None of the above

5) What is the file that stores encrypted user passwords?

A. /etc/passwd
B. /etc/group
C. /etc/shadow
D. /etc/inittab
E. None of the above

6) Identify the command that is used to delete an existing group in Linux?

A. groupdel
B. gpasswd
C. groupmod
D. userdel
E. None of the above

7) Which of the following options for **useradd** command can be used to prevent Linux from creating a group with the same name as username?

A. -N
B. -s
C. -d
D. -m
E. None of the above

8) Which of the following command can be used to verify if **user500** has been created in the system?

A. ls /home
B. ls /root
C. cat /etc/passwd|grep user500
D. cat /etc/group|grep user500
E. None of the above.

Login as root, run the following commands and answer question **9** to 1**3**:

```
groupadd  group1
groupadd  group2
useradd  -m user1
useradd  -G group1 -m user2
useradd  -G group1,group2 -m user3
useradd  -g  group2 -G user2 -m user4
gpasswd  -a  user4  group1
gpasswd  -d  user3  group2
groups  user3
```

9) Who is a member of group1?

A. user1, user2 and user3
B. user2, user3 and user4
C. user2 and user4
D. user3 and user4
E. None of the above

10) Who is a member of group2?

A. user2
B. user3
C. user4
D. user3 and user4
E. None of the above

11) Who is a member of group user2?

A. user2
B. user1 and user2
C. user2 and user4
D. user3 and user4
E. None of the above

12) What is the output produced by command: ***groups user3?***

```
A. user3: user3  group1
B. user3: group1  group2
C. user3: user3
D. user3: user3  group1  grop2
E. None of the above
```

13) To make **user4** the administrator of **group1**, you login as root and type_____.

```
A. usermod  user4  group1
B. gpasswd  -A  user4  group1
C. useradd  -g  group1  user4
D. groupadd  group1  user4
E. None of the above
```

14) Which of the following uses the bash shell for the command interpreter in a script?

A. /bin/bash
B. #/bin/bash
C. !/bin/bash
D. #!/bin/bash
E. None of the above

15) What special variable is used to determine the exit status of a previously executed command?

A. $#
B. $0
C. $?
D. $9
E. None of the above

16) You use the _____ symbol to mark the beginning of a comment in a script.

A. #
B. $
C. !
D. >
E. None of the above

17) To redirect standard output and error of **script1** to a file named **outerr.txt**, use the _____ command.

A. script1 1> outerr.txt
B. script1 2> outerr.txt
C. script1 &> outerr.txt
D. script1 > /dev/null
E. None of the above

18) _____ is the operator that is used when you want one command to execute only if another command executes successfully.

A. *
B. ||
C. &&
D. >
E. None of the above

19) _____ is the symbol used to separate commands in a list, which are executed sequentially.

A. ;
B. <
C. >>
D. &&
E. None of the above

Answer question 20 to 24 based on the following array:

```
cst8102=(test1:15% test2:15% final:30% labs:30% online:10%)
```

20) What is the output of the following command?

```
echo ${cst8102[1+3]}
```

A. test1:15%
B. test2:15%
C. final:30%
D. labs:30%
E. online:10%

21) What is the output of the following command?

```
echo ${#cst8102[*]}
```

A. 4
B. 5
C. 6
D. 7
E. None of the above

22) What is the output of the following command?

```
echo ${#cst8102[2]}
```

A. final:30%
B. test2:15%
C. 9
D. 10
E. None of the above

23) What is the output of the following command?

```
echo ${cst8102[*]}
```

A. test1:15% test2:15% final:30% labs:30% online:10%
B. Test2:15%
C. test2:15%
D. final:30%
E. None of the above

24) What is the output of the following command?

```
echo ${cst8102[1]}|cut -d: -f2
```

A. test2:15%
B. 15%
C. final:30%
D. 30%
E. None of the above

25) What is the output of the following statement?

```
echo "\$(pwd)"
```

A. current directory
B. pwd
C. $(pwd)
D. sysntax error
E. None of the above

26) What is the output of the following statement?

```
echo 'Linux is an "open-source" operating system.'
```

A. Linux is an "open-source" operating system.
B. Linux is an open-source operating system.
C. Linux is an 'open-source operating' system.
D. 'Linux is an "open-source" operating system.'
E. None of the above

27) What must you type in order for child shells to be able to use functions created in the parent shell?

A. env <function name>
B. export -f <function name>
C. set <function name>
D. just the name of the function
E. None of the above

28) What is the vim command to save changes with a filename you specify?

A. :wq
B. :w!
C. :w filename
D. :q filename
E. None of the above

29) Typing _____ followed by a phrase searches FORWARD for the phrase in **vim**.

A. ?
B. %
C. /
D. G
E. None of the above

30) The command that will set an option so a search or substitute ignores case in **vim** _____.

A. :set hls
B. :set ic
C. :set noic
D. :ignore case
E. None of the above

31) Process priority could be changed by using _____ command.

A. fg
B. bg
C. ps
D. nice
E. None of the above

32) What is the output of the following statements?

```
a=20;b=50
{ a=40;b=100; }
(a=5;b=10)
echo $a $b
```

A. 20 50
B. 60 150
C. 5 10
D. 40 100
E. None of above

33) The following **echo** statement will execute _____ time(s).

```
for ((num=1; num<10; num++ ))
do
        echo $num
done
```

A. 0
B. 1
C. 9
D. 10
E. None of the above

34) What is the result of executing the following statements?

```
for animal in cat dog bear
do
     echo $animal
done
```

A. The words “cat”, “dog”, and “bear” are displayed on the screen on separate lines
B. The word “animal” is displayed on the screen
C. The words “cat”, “dog”, “animal”, and “bear” are displayed on the screen in one line
D. Nothing is displayed
E. None of the above

35) The following **echo** statement will execute _____time(s).

```
((t=0))
while [ $t -eq 10 ] && [ $t –ge 0 ]
do
     echo “Blue ocean!”
done
```

A. 0
B. 1
C. 2
D. an infinite number of
E. None of the above

36) What is the result of executing the following statements?

```
((g=5))
until [ $g –lt 1 ]
do
     echo $g
     ((g--))
done
```

A. The numbers 5,4,3,2, are displayed on the screen on separate lines
B. The numbers 5,4,3,2,1 are displayed on the screen on separate lines
C. The numbers 4,3,2,1,0 are displayed on the screen on separate lines
D. Nothing occurs because there is a syntax error
E. None of the above

37) What value of the variable name **total** will be displayed after executing the following statements?

```
((total=0))
for ((num1=1; num1<=3; num1++))
do
     for ((num2=1; num2<=2; num2++))
     do
          for ((num3=10; num3>=1; num3--))
          do
               ((total++))
          done
     done
done
echo $total
```

A. 20
B. 30
C. 60
D. 120
E. None of the above

38) What value of the variable name **c** will be displayed after executing the following statements?

```
((x=1))
((c=0))
while [ $x -le 5 ]
do
     ((y=4))
     until [ $y -le 1 ]
     do
          ((y--))
          echo $x $y
          ((c++))
     done
     ((x++))
done
echo "The number of times looped is: " $c
```

A. 5
B. 10
C. 15
D. 20
E. None of the above

39) What is the result of executing the following statements?

```
((x=5))
function function1 ()
{
     local x=10
     echo $x
}
echo $x
function1
((x=x+10))
echo $x
```

A. The numbers 5, 10, 15 are displayed on the screen on separate lines
B. The numbers 10, 5, 10 are displayed on the screen on separate lines
C. The numbers 5, 10, 20 are displayed on the screen on separate lines
D. The numbers 10, 10, 15 are displayed on the screen on separate lines
E. None of the above

40) What is the output of executing the following script file named **display_it**?

```
#!/bin/bash

function shownum ()
{
     echo $3 $2 $1
}
shownum $1 $2 $3
```

$ display_it 2 4 6

A. 2 4 6
B. 6 4 2
C. 4 6 2
D. 2 6 4
E. None of the above