

Examination : B.TECH Sem-I
Date : 09/10/2014
Time : 1 Hour 15 minute

Seat No : _____
Day : Friday
Max. Marks : 36

INSTRUCTIONS:

1. Answer each section in separate answer book.
2. Figures to the right indicate maximum marks for that question.
3. The symbols used carry their usual meanings.
4. Assume suitable data, if required & mention them clearly.
5. Draw neat sketches wherever necessary.

Q.1 Do as directed.

[12]

- (1) Which of the following is the default mode in VI editor? [1]
a) **Command mode**
- (2) Which of the following is True with respect to .(dot) command in VI editor. [1]
a) **The . command can be used to repeat only the most recent editing operation commands..**
- (3) What is the difference for the execution of the following commands in VI editor? [2]
a) /printf [Enter] searches printf in forward direction
b) ?printf [Enter] searches printf in backward direction
1 marks for each correct answer.
- (4) What is the difference between `ls -l` and `ls -lut` ? [2]
ls -lt will list file & directory in order of their modification time. [01 Marks]
ls -lu will list file & directory in order of their access time. [01 Marks]
- (5) Match the followings [2]
a) -n a) Use for background process.
b) & b) Print number of arguments.
c) \$* c) To check file is writable.
d) -w d) To check not a null string.
e) Print complete set of positional parameters as string.
f) To check file exists and is writable.
a)-d), b)-a), c)-e), d)-f) Half marks for each correct answer.
- (6) What do you mean by daemon process? How can user identifies system process? [2]
System process which are called without specific request from a user are known as daemon process. System process can be identified using ? In tty column. These process doesn't have controlling terminal and user can't provide interrupt to it.
- (7) When one program is executed by three users, how many processes are generated? [1]
Three
- (8) A user provides 11 22 33 as input from keyboard to following interactive script. Write a output. [1]
`read a b`
`echo $b`
ans :22 33 in a new line.

Q.2 Answer the following questions (any two).

[12]

- (1) A) Describe the output of the following substitution commands in VI editor. [3]

(i) `:1,$s/Unix/Linux/g` [Ans:Substitution in all lines in a file]
(ii) `:1,60s/Unix/ /g` [Ans:Deletes Unix everywhere in lines 1 to 60]
(iii) `:3,10s/Unix/Linux/g` [Ans:Substitutions in lines 3 through 10]
(iv) `.:s/Unix/Linux/g` [Ans:Only the current line]
(v) `:$s/Unix/Linux/g` [Ans:Only the last line]
(vi) `:1,$s/Unix/Linux/gc` [Ans:Substitution with confirmatory parameter]

B) Match the following commands operation for VI Editor. [3]
a) s Inserts text at beginning of line
b) R Appends text at end of line
c) S Opens a new line below current line
d) o Replaces the entire line irrespective of cursor position
e) A Replaces all text on the right of the cursor position.

f) I

Replace one character with many characters.

[Ans: Reverse pattern]

- (2) A) what will be the effect of `ln file.txt new_file.txt` command ? will it create soft-link or hard-link? and also state two main limitations of the hard-link? [3 Marks] [3]

ln file.txt new_file.txt will create hard-link. There would be two entry in inode_table and but both file will have same inode_number.

two main limitations of the hard-link listed below [01 Marks]

- 1. You can not have two linked filenames in two file systems. [01 Marks]**
- 2. You can not link a directory even within the same file systems. [01 Marks]**

B) Use find to

- a) locate all files having extension .txt in your /home/student directory .
- b) remove all files having extension .c in your home/student directory.

(a) **find /home/student -name "*.txt" -ls [1.5 Marks]**

(b) **find /home/bhavinpatel -name "*.c" -exec rm {} \;** [1.5 Marks]

- (3) A) what will be the effect of `$ ln -s file.txt new_file.txt` command ? will it create soft-link or hard-link? If we remove file.txt, where will new_file.txt point to? [3]

ln -s file.txt new_file.txt will create soft-link. There would be two entry in inode_table and both file will have two different inode_numbers.[02 Marks]

if we remove file.txt, we would lose the file containing the data. In that case, new_file.txt will point to a nonexistent file and become a dangling symbolic link. [01 Marks]

B) Discuss the response upon the execution of following commands.

1. **`$ chmod 555 MyFolder` *MyFolder has Readable and Executable Permission only after this command execution. [0.5 Marks]***

`$ cp file.txt newfile.txt` *Permission Denied [0.5 Marks]*

2. **`$ chmod 666 MyFolder` *MyFolder has Readable and Writable Permission only after this command execution. [0.5 Marks]***

`$ cd MyFolder` *Permission Denied [0.5 Marks]*

3. **`$ chmod 777 MyFolder` *MyFolder has Readable, Writable and Executable Permission only after this command execution. [0.5 Marks]***

`$ cp file.txt newfile.txt` *it will get execute. [0.5 Marks]*

Q.3 Answer the following questions.

[12]

- (1) Write a shell expressions for following :

[2]

`ans=a+b/2*c`

`ans=`expr $a + $b / 2 * $c``

- (2) Write a shell script which will print following output using *while*.

[4]

`2 4 6 8 10 12`

`i=1`

`while [$i -le 6]`

`do`

`b=`expr 2 * $i``

`i=`expr $i + 1``

`echo -n "$b" #Alternate for this line is : echo "$b \c"`

`done`

- (3) Write the output of following script named as "test.sh" :

[6]

`x=10;`

`echo xx xx`

`echo "$0"`

`echo $1 $2`

```
test $1 -eq $x
echo $?
```

if user execute test.sh using following command :
`sh test.sh 12 56`

```
abc@abc-HP-Pavilion-dv6-Notebook-PC:~$ sh test.sh 12 56
x10$ 1010
test.sh
12 56
1
abc@abc-HP-Pavilion-dv6-Notebook-PC:~$
```

OR

Q.3 Answer the following questions.

[12]

- (1) A student run a program called "cricket". If PID of a this process is 121, write a command to terminate this process. [2]

kill 121

- (2) Write a shell expression to find the length of string : DDUniversity [1]

```
abc@abc-HP-Pavilion-dv6-Notebook-PC:~$ expr "DDUniversity" : ".*"
12
```

- (3) Write the content of file "output" in following script : [2]

```
count=20
while $count -ge 10
do
    echo "hello" > output
    count=`expr $count - 1`
done
```

[] is missing in while so consider any of two possible answer given below and give marks accordingly

1.output file contains only one time hello

```
cat output
hello
```

OR

2.output file is not created due to error in second line if file is not present.

If output file is present then no overwriting of date using > operator due to error in shell script.

- (4) Write an interactive shell script which will print "yes" if user press y and print "no" if user press n, otherwise it will print "invalid input" using case. [3]

```
echo "Enter 'y' or 'n' to continue:"
```

```
read a
case "$a" in
y) echo yes ;;
n) echo no ;;
*) echo invalid input ;;
esac
```

- (5) Write a shell script which will find total of five numbers using for. Script must be interactive. [4]

```
sum1=0;
for i in 1 2 3 4 5
do
```

```
read a  
sum1=`expr $sum1 + $a`  
done  
echo $sum1
```