SENECA COLLEGE OF APPLIED ARTS & TECHNOLOGY SCHOOL OF INFORMATION AND COMMUNICATIONS TECHNOLOGY DPS918 - UNIX Bash Shell Scripting Winter 2017 Term Test V1

Name:	Man		
Student Number:	065743114		de a de Antonio de la Constantion de la Constant
Time Allowed:	90 minutes		
Professor:	Les Czegel		
Student's Mark:	25	out of 60	

Please Note: It is your responsibility to ensure that your test paper has all 9 pages. Check this now.

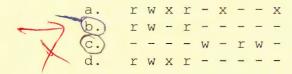
Please answer all questions on the test paper itself. If you need more room, use the back of the previous page.

Part 1 (10 marks) Each correct answer: 1 mark.

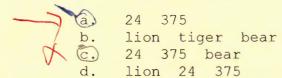
Circle the letter corresponding to the one correct answer to each of the following questions.

LMX K-X--X

1. With a umask of 026, what will be the default permissions for newly-created ordinary files?



- 2. Which filename will be matched by the following extended glob: [!a-c]*(cat|dog)?ab
 - (a) qdogcataab
 - b. ab
 - c. ipdoqaaab
 - d. tcatdogab
- 3. The variable containing the exit status of the previous command is:
 - a. \$0
 - b. \$*
 - c. \$#
 - a. \$?
- 4. Failure of a command is usually indicated by:
 - a. an exit status of 0
 - (b.) a non-zero exit status
 - c. an error message redirected to standard output
 - d. getting results different than expected
- 5. If script "zoo" is called as follows: zoo lion tiger bear and "zoo" executes the following: set 24 375; echo \$1 \$2 \$3 what will be displayed?



One method to read "file1" one line at a time in a loop is:

read line < file1 while for line in file1 cat file1 | while read line while read line file1

Infinite loop

- You need a file called "test2" which duplicates the contents of 7. "test1", without deleting "test1". Which command cannot be used to meet this requirement?
 - (a.) mv
 - b. cat
 - C. ср
 - d. grep
- What will this command do? cat < xfile | grep xfile
- pipes the standard input of cat to the standard output of grep pipes the standard input of cat to the standard input of grep pipes the standard output of cat to the standard input of grep pipes the standard output of cat to the standard output of grep
 - Which line will not be matched by the following extended regular 9. expression: ^[^a-c]*(cat|dog)?a+b\$
 - ab
 - ipdogaaab

directory?

- qdogcataab
 - tcatdogab

The number is take away from (take nothing from any w f With a umask of 023, a directory called "testing" was created. Which command will ensure that all users can copy files to this

chmod u+wx,g+x testing chmod o+w,go+x testing chmod go+w,o+x testing chmod g+wx,u+x testing

4

Part 2 (10 marks) Each correct answer: 1 mark.

Match the Symbol/Command number beside the best Explanation.

Matched Number	Explanation	Symbo	1 / Command
(11)	(EXAMPLE) Input redirection.	1.	\$0
(17)	All script arguments as a single string.	2.	2> which
115	Command to assign files as file descriptors.	4. 5.	&& find
(20)	Current directory.	6. 7.	<ctrl>-d >&2</ctrl>
(14)	Execute a command if the previous one failed	8.	\$2
(13/13	Command to display path of an executable.	10. 11.	xargs <
(10)	Command to convert piped input to parameters	12. .13.	file whereis
(3)	Name by which shell script was called.	14. 15.	exec
(19) 6	End-of-file for STDIN.	16. 17.	\$ \$ \$ *
6518	Terminate a long-running command.	18. 19.	<ctrl>-c <ctrl>-z</ctrl></ctrl>
(D)1	Redirect command output to STDERR.	20.	

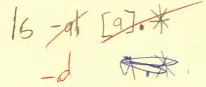
Part 3 (10 marks) Each correct answer: 1 mark.

Write the shortest <u>single</u> command, including any required options and pathnames, to answer the following questions. Do not assume a specific current directory.

1. Write a command to delete a directory called "dir1" from the current directory, including any contents, adding any error messages to the end of file, "messages" in your home directory:

85 0.5

2. Write a command to list all filenames in the current directory that consist of an 'a' followed by one or more digits, assuming extended globbing is enabled:



3. Write a command to allow users in your group to add or delete files in the parent of your current directory, without changing any other permissions:

chmod 9+WX ..

4. Write a command to place the PID (process ID number) of the current process into the shell variable "\$1":

5. Write a command to subtract 2 from the first argument passed to the script, and place the result into a variable called "number":

6. Write a command which will display only the 7th line in a file called "stock" in the current directory:

Sed-n'7 p'stock

awk "NR==7" Stock

7. Write a command to display only lines containing at least 1000 characters, in a file called "xfiles" in the current directory:

We - < 1000 Xf. /es {1000} xf. /es {1000} { duplication

8. Write a command to display character positions 10 to 20 in every line of a file called "personnel" in the current directory:

Set Cur - C 10 - 20 Personne

9. Write a command to display "Enter your name" with no new-line on the terminal, regardless of any redirections specified when calling the containing script:

echo -n Enter your name "> /dev/Hy

10. Write a command to execute file "a.out" in the current directory, sending output to a file called "total.tax" in the "/tmp" directory:

a.out 1> /tmp/total.tax

a.out > /tmp/total.tax

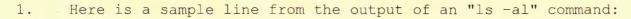
/a.out > /tmp/total.tax

./a.out

for not in your Path

Part 4 (10 marks) Each correct answer: 2 marks.

Write the shortest single UNIX command line required to perform each of the following tasks, without using the semi-colon (;) command separator. Do not assume a specific current directory. Efficiency counts, the fewer and simpler the commands and arguments, the better:



-rw-r--r-- 1 jbloe users 1878 Mar 16 20:21 index.html

Display this information for the largest file in your current directory. Sort of 5 to 1-1

15-915 / hard-1

If the first script argument is a single-digit number, display that field number within the tab-delimited file "file2". For example, if the first argument is "7", then the 7th field in each record of "file2" should be displayed. For full marks, do not use "grep" and use a named class.

Sed-1111 17 Fled [[\$] = [[:digit:]]]] [] Cut - F An filed

3. Display the contents of all files in the current directory that have names ending with ".txt", converting all alphabetic characters to uppercase.

Is at *. tx+CP tr [a-z] [A-z] Cat * , txt . * , txt | tr [a-Z] [A-Z] MIN ger 202 den files

Display the permissions for an ordinary file called "file1" in the current directory, in the following (example) format:

r w x r - x r - -(note the blanks between the characters).

15-1 File I / Cut - C2 +0 | Sed '5/. 18-1<-1 file1

5. Assign the number of fields in the file called "marks.dat" to the variable "fields". The number of fields is the same within each line of "marks.dat" and the fields are delimited by a space. The

"marks.dat" file is contained in your current directory.

Folds = \$ (head -1 marks, dat | WC - W)

Fields = \$ (awk) MR = =

6

Part 5 (10 marks)

My attempt at writing a script is shown below. It doesn't seem to work. Place an "X" beside each incorrect or missing line, and show the corrections required. There are several errors, please identify and correct any 5 of them.

if [\$# = 1]

then echo \$1 > file1

or remove to (axsile)

if cat file1 | egrep '^[0-9][0-9]*\$' file1 > /dev/null

remove an extra ()

then set \$1 \$((whoamit))

else set 25 \$1

() = SnbStituten

elif [\$# > 2]

whising echo snumber

then "Usage: greatscript [number] [userid] " > 62

elif [\$# = 0]

then set 25 sysadmin

Missing then

else if echo \$2 | egrep '^[0-9][0-9]*\$' > /dev/null

else if needs an

else if needs on if you keep it else if

echo "The answer is \$2" | mail \$1

fi

main if

Part 6 (10 marks)

Write a script called "numdir" that accepts any number of arguments. Each argument will be a filename (with any required path), which may be a directory, another type of file, or a filename that doesn't exist.

Display an error message for each filename that doesn't exist. Display a message for each existing filename that is not a directory. Then display the number of directories.

Here is an example of an execution, assuming that the current directory contains "f1" and "f2" as ordinary files, "d1" is a directory, and "xxx" and "yyy" don't exist. Follow the output format shown:

\$ ls -F
d1/ f1 f2
\$ numdir f1 xxx d1 f2 yyy
Filename f1 is not a directory
Filename xxx does not exist
Filename f2 is not a directory
Filename yyy does not exist
Directories: 1

Efficiency counts, the simpler and shorter the script and each command in it, the better. The script will be marked for readability, including indentation and meaningful variable names. Comments are not necessary. You don't need to check for errors other than those specified. Please read the question and the example output carefully.

