

System Commands

Section Id :	64065351363
Section Number :	15
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	100
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653107679
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 239 Question Id : 640653737526 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : SYSTEM COMMANDS (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?

CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS

REGISTERED BY YOU)

Options :

6406532468327. ✓ YES

6406532468328. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	640653107680
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 240 Question Id : 640653737527 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

Ajit is writing an essay in English. He realizes that he has used both the American English and British English spellings for the same words in his essay. He wants to find all such occurrences for the words "color/colour" and "program/programme". Help him by selecting the correct regular expression which will capture the British version as well as American version of the words from the text. Make sure It only collects the words which has correct spellings in either of the format.

Note: It is an Extended Regular Expression (ERE)

Options :

6406532468329. ✗ colo?r

6406532468330. ✗ program???

6406532468331. ✓ colou?r

6406532468332. ✓ program(me)?

Question Number : 241 Question Id : 640653737528 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

```
export LOG_FILE="/var/log/$USER.log"
```

From the following options which will print the Shell environmental variable "LOG_FILE"

Options :

6406532468333. ✓ `echo $LOG_FILE`

6406532468334. ✗ `printenv $LOG_FILE`

6406532468335. ✓ `printenv LOG_FILE`

6406532468336. ✗ `env $LOG_FILE`

Question Number : 242 Question Id : 640653737529 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

For a log file 'file.txt' the user wants to change the permissions such that he gives read, write, and execute to the owner; read and execute to the group and others. which of the following commands will accomplish the same?

Options :

6406532468337.

✘ `chmod u+rw,g+rw,o+rw file.txt`

6406532468338. ✔ `chmod u+rw,g+rx,o+rx file.txt`

6406532468339. ✘ `chmod 644 file.txt`

6406532468340. ✔ `chmod 755 file.txt`

Question Number : 243 Question Id : 640653737530 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

```
$ sleep 200 &
$ ps
  PID TTY          TIME CMD
   10 pts/0    00:00:02  bash
  344 pts/0    00:00:00  sleep
  345 pts/0    00:00:00   ps
```

Select the command(s) from the options below which will suspend the `sleep` process started as shown in the above code block.

```
$ man kill
KILL(1)                                User Commands
KILL(1)

NAME
    kill - send a signal to a process

SYNOPSIS
    kill [options] <pid> [...]

DESCRIPTION
    The default signal for kill is TERM. Use -l or -L to list
    available signals.

    Particularly useful signals include HUP, INT, KILL, STOP, CONT, and
    0. Alter-
    nate signals may be specified in three ways: -9, -SIGKILL or -
    KILL. Negative
    PID values may be used to choose whole process groups; see the PGID
    column in ps
    command output. A PID of -1 is special; it indicates all processes
    except the
    kill process itself and init.

OPTIONS
    <pid> [...]
        Send signal to every <pid> listed.
```

```

-<signal>
-s <signal>
--signal <signal>
    Specify the signal to be sent. The signal can be specified by
using name
    or number. The behavior of signals is explained in
signal(7) manual
    page.

-l, --list [signal]
    List signal names. This option has optional argument, which
will convert
    signal number to signal name, or other way round.

-L, --table
    List signal names in a nice table.

NOTES Your shell (command line interpreter) may have a built-in
kill command.
    You may need to run the command described here as /bin/kill to
solve the
    conflict.
...

```

```

$ kill -L
 1) SIGHUP      2) SIGINT      3) SIGQUIT      4) SIGILL      5) SIGTRAP
 6) SIGABRT     7) SIGBUS      8) SIGFPE       9) SIGKILL     10) SIGUSR1
11) SIGSEGV    12) SIGUSR2    13) SIGPIPE     14) SIGALRM     15) SIGTERM
16) SIGSTKFLT  17) SIGCHLD    18) SIGCONT     19) SIGSTOP     20) SIGTSTP
21) SIGTTIN    22) SIGTTOU    23) SIGURG      24) SIGXCPU     25) SIGXFSZ
26) SIGVTALRM  27) SIGPROF    28) SIGWINCH    29) SIGIO        30) SIGPWR
31) SIGSYS     34) SIGRTMIN   35) SIGRTMIN+1  36) SIGRTMIN+2  37)
SIGRTMIN+3
38) SIGRTMIN+4 39) SIGRTMIN+5 40) SIGRTMIN+6 41) SIGRTMIN+7 42)
SIGRTMIN+8
43) SIGRTMIN+9 44) SIGRTMIN+10 45) SIGRTMIN+11 46) SIGRTMIN+12 47)
SIGRTMIN+13
48) SIGRTMIN+14 49) SIGRTMIN+15 50) SIGRTMAX-14 51) SIGRTMAX-13 52)
SIGRTMAX-12
53) SIGRTMAX-11 54) SIGRTMAX-10 55) SIGRTMAX-9  56) SIGRTMAX-8  57)
SIGRTMAX-7
58) SIGRTMAX-6 59) SIGRTMAX-5 60) SIGRTMAX-4 61) SIGRTMAX-3 62)
SIGRTMAX-2
63) SIGRTMAX-1 64) SIGRTMAX

```

Options :

6406532468341. ✖ Ctrl + C

6406532468342. ✖ Ctrl + D

6406532468343. ✓ `Ctrl + Z`

6406532468344. ✗ `kill STOP 344`

6406532468345. ✓ `kill -20 344`

Question Number : 244 Question Id : 640653737533 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following command(s) will run the `ls` command with the `more` command to show the output page-by-page.

Options :

6406532468354. ✓ `ls | more`

6406532468355. ✗ `list="ls | more"; echo $list`

6406532468356. ✗ `list="ls | more"; bash $list`

6406532468357. ✓ `list="ls | more"; eval $list`

Question Number : 245 Question Id : 640653737539 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

Following bash script is run to find if a given file has a 'txt' extension. Which of the following option(s) will achieve the same?

```
#!/bin/bash

echo "Enter a filename: "
read filename

if [[ "$filename" =~ \.txt$ ]]; then
    echo "Text file"
else
    echo "Not a text file"
fi
```

Options :

6406532468373. ✓ `extension="txt"; [ "${filename##*.}" == "$extension" ] && echo "Text file" || echo "Not a Text file"`

6406532468374. ✗ `extension="txt"; [ "${filename%%*.}" == "$extension" ] && echo "Text file" || echo "Not a Text file"`

6406532468375. ✗ ``extension="txt"; ["${filename%%*.}" == "$extension"] || echo "Text file" && echo "Not a Text file"`

6406532468376. ✗ `extension="txt"; [ "${filename##*.}" == "$extension" ] || echo "Text file" && echo "Not a Text file"`

6406532468377. ✓ `[[ "$filename" =~ \.txt$ ]] && echo "Text file" || echo "Not a text file"`

6406532468378. ✗ `[[ "$filename" =~ \.txt$ ]] || echo "Text file" && echo "Not a text file"`

Sub-Section Number : 3

Sub-Section Id : 640653107681

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 246 Question Id : 640653737534 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 9 Max. Selectable Options : 0

Question Label : Multiple Select Question

Select the regex to extract only the value of MAC address from the command `ifconfig` output as shown below.

Hint:

- A sample mac address is `00:15:5d:01:52:74`
- The field separator colon `:` separates 6 hexadecimal numbers

```
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1492
    inet 172.17.118.210 netmask 255.255.240.0 broadcast 172.17.127.255
    inet6 fe80::215:8dfa:fe06:5174 prefixlen 64 scopeid 0x20<link>
    ether 00:15:5d:01:52:74 txqueuelen 1000 (Ethernet)
    RX packets 1088 bytes 700086 (700.0 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 286 bytes 39079 (39.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 4 bytes 200 (200.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4 bytes 200 (200.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Hint:

- `-o` option in `grep` prints only the matched regular expression.
- `-E` option enables ERE

Options :

6406532468358. ✓ `grep -oE "([0-9A-Fa-f]{2}[:-]){5}([0-9A-Fa-f]{2})"`

6406532468359. ✗ `grep -o "([0-9A-Fa-f]{2}[:-]){5}([0-9A-Fa-f]{2})"`

6406532468360. ✓ `grep -o "\([0-9A-Fa-f]\{2\}[:-]\)\{5\}\([0-9A-Fa-f]\{2\}\)"`

6406532468361. ✖ `grep -o "[[:alnum:]]/{2/}[: -]/)/{5/}/([[:alnum:]]/{2/}/)"`

6406532468362. ✔ `grep -oE "([[:xdigit:]]{2}[: -]){5}([[:xdigit:]]{2})"`

Question Number : 247 Question Id : 640653737541 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 9 Max. Selectable Options : 0

Question Label : Multiple Select Question

Select the command(s) that prints the files present in both the directory `dir1` and `dir2` in the current working directory.

Sample directory structure

```
$ ls -R
.:
dir1 dir2

./dir1:
file1 file2 file3 file4 file5 file6 file7

./dir2:
file1 file2 file3 file4 file5
```

Sample output

```
file1
file2
file3
file4
file5
```

Hints::

- `-f` flag in `grep` command will search for all the regex pattern in the file separated by line break
- `basename` command will return the filename from the path, example `basename /home/user/file1` will return `file1`

Options :

6406532468383. ✓ `ls dir2 > pat; ls dir1 | grep -f pat`

6406532468384. ✓ `ls dir1 > pat; ls dir2 | grep -f pat`

6406532468385. ✓ `for i in dir1/*; do [ -f "dir2/${basename $i}" ] && echo ${basename $i}; done`

6406532468386. ✖ `for i in dir2/*; do [ -f "dir2/${basename $i}" ] && echo ${basename $i}; done`

Sub-Section Number : 4
Sub-Section Id : 640653107682
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 248 Question Id : 640653737543 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 8 Max. Selectable Options : 0

Question Label : Multiple Select Question

Select the script that prints the number of files and directory present in the current working directory, in the format "5,7" given that there 5 files and 7 directories present in the current directory before running the script.

Hint:

- Unary operator `-f` checks if the file exists and is a regular file
- Unary operator `-d` checks if the file exists and is a directory

Options :

```
#!/bin/bash
files=0
dirs=0
for i in *; do
    if [ -f "$i" ]; then
        files=$((files+1))
    elif [ -d "$i" ]; then
        dirs=$((dirs+1))
    fi
done
echo "$files,$dirs"
```

6406532468388. ✔

```
#!/bin/bash
files=0
dirs=0
for i in *; do
    if [ -f "$i" ]; then
        files=$((files+1))
    elif [ -d "$i" ]; then
        dirs=$((dirs+1))
    fi
done
echo "$dirs,$files"
```

6406532468389. ✖

```
#!/bin/bash
files=0
dirs=0
ls > ls.txt # ls.txt did not exist before
while read -r i; do
    if [ -f "$i" ]; then
        files=$((files+1))
    elif [ -d "$i" ]; then
        dirs=$((dirs+1))
    fi
done < ls.txt
echo "$files,$dirs"
```

6406532468390. ✖

6406532468391. ✔

```
#!/bin/bash
files=0
dirs=0
ls > ls.txt # ls.txt did not exist before
while read -r i; do
    if [ -f "$i" ]; then
        files=$((files+1))
    elif [ -d "$i" ]; then
        dirs=$((dirs+1))
    fi
done < ls.txt
echo "$((files-1)),$dirs"
```

Sub-Section Number : 5

Sub-Section Id : 640653107683

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 249 Question Id : 640653737531 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

```
$ start=5; end=8; echo {$start..$end}
```

Above commands were executed in Bash shell. Which of the following represents the output of the above commands.

Options :

6406532468346. ✓ {5..8}

6406532468347. ✗ 5 6 7 8

5
6
7
8

6406532468348. ✖

6406532468349. ✖ None of these

Question Number : 250 Question Id : 640653737532 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

```
$ a=test  
$ b=10  
$ c=$((a + b))  
$ d=$((a + c))  
$ echo $d
```

What will be the value of `d` at the end of execution?

Options :

6406532468350. ✖ 10

6406532468351. ✔ 20

6406532468352. ✖ test1010

6406532468353. ✖ will result in error

Question Number : 251 Question Id : 640653737540 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

```
192.168.1.1 - - [22/Jan/2024:10:30:45 +0000] "GET /page1 HTTP/1.1" 200 1234
192.168.1.2 - - [22/Jan/2024:10:31:15 +0000] "GET /page2 HTTP/1.1" 404 5678
192.168.1.1 - - [22/Jan/2024:10:32:30 +0000] "POST /page1 HTTP/1.1" 200 9876
192.168.1.3 - - [22/Jan/2024:10:33:45 +0000] "GET /page3 HTTP/1.1" 200 4321
192.168.1.2 - - [22/Jan/2024:10:34:00 +0000] "GET /page1 HTTP/1.1" 200 8765
```

A sample web access log file of a web server is shown above. If the following command is run on the access log what will it return?

```
$ grep -oE '\b([0-9]{1,3}\.){3}[0-9]{1,3}\b' web_access.log | sort | uniq -c
```

Hint:

Uniq with -c flag:

- -c, --count
prefix lines by the number of occurrences

Options :

6406532468379. ✖ Sort the log as per the first column entry

6406532468380. ✖ Sort the log as per the first column entry and show uniq entries in the log

Sort the log as per the first column entry and show uniq entries in the log
6406532468381. ✖ with it's count in the output

sort the log as per first column entry and show the unique entries in the log
with the output showing only the count of uniq entries in first column with the
ip addresses as a first column from the log file
6406532468382. ✔

Sub-Section Number :

6

Sub-Section Id :

640653107684

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Id : 640653737535

Question Type : COMPREHENSION

Sub Question Shuffling Allowed : No

Group Comprehension Questions : No

Question Pattern Type : NonMatrix

Calculator : None

Response Time : N.A

Think Time : N.A

Minimum Instruction Time : 0

Question Numbers : (252 to 254)

Question Label : Comprehension

Following is a part of information obtained upon running `ls -la` command in a directory.
Based upon the given information answer the subquestions.

```
drwxr-xr-x 16 root root      3640 Jan 16 19:38 .
drwxr-xr-x 25 root root      4096 Jan 16 19:33 ..
crw-r--r--  1 root root    10, 235 Jan 16 19:38 autofs
drwxr-xr-x  2 root root      620 Jan 16 19:38 block
drwxr-xr-x  2 root root      140 Jan 16 19:37 bsg
crw-rw----  1 root disk   10, 234 Jan 16 19:38 btrfs-control
drwxr-xr-x  3 root root       60 Jan 16 19:33 bus
drwxr-xr-x  2 root root    2840 Jan 16 19:38 char
crw--w----  1 root tty       5,   1 Jan 17 10:53 console
lrwxrwxrwx  1 root root       11 Jan 16 19:36 core -> /proc/kcore
crw-----  1 root root   10, 125 Jan 16 19:38 cpu_dma_latency
crw-----  1 root root   10, 203 Jan 16 19:38 cuse
drwxr-xr-x  5 root root      100 Jan 16 19:36 disk
drwxr-xr-x  3 root root      100 Jan 16 19:36 dri
crw-rw-rw-  1 root root   10, 127 Jan 16 19:38 dxg
lrwxrwxrwx  1 root root       13 Jan 16 19:33 fd -> /proc/self/fd
```

Sub questions

Question Number : 252

Question Id : 640653737536

Question Type : SA

Calculator : None

Response Time : N.A

Think Time : N.A

Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

How many soft links are present in the list?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2

Question Number : 253 Question Id : 640653737537 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

Assume that each directory has 2 hard links (one for the current working directory and another from its parent directory) and a link each for the sub-directory's parent directory. How many subdirectories are present in the current working directory?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

14

Question Number : 254 Question Id : 640653737538 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6 Max. Selectable Options : 0

Question Label : Multiple Select Question

From the given information, which of the following types are present in the list?

Options :

6406532468365. ✖ regular file

6406532468366. ✔ directory

6406532468367. ✖ hard links

6406532468368. ✔ soft/symbolic links

6406532468369. ✔ character files

6406532468370. ✖ block files

6406532468371. ✖ named pipe files

6406532468372. ✖ socket files

Sub-Section Number :

7

Sub-Section Id :

640653107685

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 255 Question Id : 640653737542 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Short Answer Question

Assuming the file `myfile.txt` has 10 lines, what will be the output from the following script?

```
#!/bin/bash
c=0
while read -r line; do
    c=$((c+1))
    if [ "$c" -eq 5 ]; then
        break
    fi
done < myfile.txt
echo $c
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

5