

Unix and Shell Programming

1. What will be output of following command:

```
$ echo "The process id is" $$$$
```

- a) The process id is \$\$
- b) The process id is \$<pid>\$<pid>
- c) The process id is <pid><pid>
- d) The process id is \$\$\$\$

View Answer

Answer:c

2. What would be the current working directory at the end of the following command sequence?

```
$ pwd
/home/user1/proj
$ cd src
$ cd generic
$ cd .
$ pwd
```

- a) /home/user1/proj
- b) /home/user1/proj/src
- c) /home/user1
- d) /home/user1/proj/src/generic

View Answer

Answer:d

3. How do you print the lines between 5 and 10, both inclusive

- a) cat filename | head | tail -6
- b) cat filename | head | tail -5
- c) cat filename | tail +5 | head
- d) cat filename | tail -5 | head -10

View Answer

Answer:a

4. Create a new file “new.txt” that is a concatenation of “file1.txt” and “file2.txt”

- a) cp file.txt file2.txt new.txt
- b) cat file1.txt file2.txt > new.txt
- c) mv file[12].txt new.txt
- d) ls file1.txt file2.txt | new.txt

View Answer

Answer:b

5. which of these is NOT a valid variable in bash

- a) __ (double underscore)
- b) _1var (underscore 1 var)
- c) _var_ (underscore var underscore)
- d) some-var (some hyphen var)

View Answer

6. What is the output of the following code:

```
os=Unix
echo 1.$os 2."$os" 3.'$os' 4.$os
```

- a) 1.Unix 2.Unix 3.Unix 4.Unix
- b) 1.Unix 2.Unix 3.\$os 4.Unix
- c) 1.Unix 2.Unix 3.Unix 4.\$os
- d) 1.Unix 2.\$os 3.\$os 4.\$os

View Answer

Answer:b

7. What is the return value (\$?) of this code:

```
os = Unix
[$osName = UnixName] && exit 2
[${os}Name = UnixName] && exit 3
```

- a) 0
- b) 1
- c) 2
- d) 3

View Answer

8. What is the output of the following program?

```
x = 3; y = 5; z = 10;
if [ ( $x -eq 3 ) -a ( $y -eq 5 -o $z -eq 10 ) ]
then
    echo $x
else
    echo $y
fi
```

- a) 1
- b) 3
- c) 5
- d) Error

View Answer

Answer:b

9. What is the output of the following program?

```
[ -n $HOME ]  
echo $?  
[ -z $HOME ]  
echo $?
```

- a) 0
1
- b) 1
0
- c) 0
0
- d) 1
1

View Answer

10. What is the output of the following program?

```
b =  
[ -n $b ]  
    echo $?  
[ -z $b ]  
    echo $?
```

- a) 1
1
- b) 2
2
- c) 0
0
- d) 0
1

View Answer

Answer:c

11. The expression `expr -9 % 2` evaluates to:

- a) 0
- b) 1
- c) -1
- d) 2

View Answer

Answer:c

12. The statement `z = 'expr 5 / 2'` would store which of the following values in `z`?

- a) 0
- b) 1
- c) 2
- d) 2.5
- e) 3

View Answer

Answer:c

SET I

1. UNIX uses ls to list files in a directory. The corresponding command in MS environment is:

- a. If*
- b. listdir*
- c. dir***

2. A file with extension .txt

- a. Is a text file created using vi editor*
- b. Is a text file created using a notepad***
- c. Is a text file created using word*

3. In the windows environment file extension identifies the application that created it. If we remove the file extension can we still open the file?

- a. Yes*
- b. No***

4. Which of the following files in the current directory are identified by the regular expression a?b*.

- a. afile*
- b. aab***
- c. abb***
- d. abc*
- e. axbb***
- f. abxy*

5. For some file the access permissions are modified to 764. Which of the following interpretation are valid:

- a. Every one can read, group can execute only and the owner can read and write.*
- b. Every one can read and write, but owner alone can execute.*
- c. Every one can read, group including owner can write, owner alone can execute***

6. The file's properties in Windows environment include which amongst the following:

- a. File owners' name*
- b. File size***
- c. The date of last modification***
- d. Date of file creation***
- e. The folder where it is located***

7. Which of the following information is contained in inode structure

- a. The file size*
- b. The name of the owner of the file*
- c. The access permissions for the file*
- d. All the dates of modification since the file's creation*
- e. The number of symbolic links for this file*

8. Files which are linked have as many inodes as are the links.

- a. True*
- b. False***

9. Which directory under the root contains the information on devices (/dev)

- a. /usr/bin
- b. /usr/sbin
- c. /usr/peripherals/dev
- d. /etc/dev

10. A contiguous allocation is the best allocation policy. (True / False)

11. An indexed allocation policy affords faster information retrieval than the chained allocation policy.

- a. True
- b. False

12. Absolute path names begin by identifying path from the root.

- a. True
- b. False

SET-2

1. With what can you stop a process?

- Stop
- Shutdown
- Kill**
- Delete

2. What does the command ls do? -

- Shows a calendar
- Display of the contents of a file
- Display of files and folders, present in the folder where you are**
- Opening a file

3. With what command you can see your user name?

- whoami**
- I
- pwd
- me

4. How to create a new file without opening it?

- less filename
- pico filename
- more filename
- cat filename
- touch filename**

5. How can you display a list of all files, including the hidden files?

- find all
- ls -a**

```
find -a  
all
```

6.How can you append the output of a command to a file?

```
command < file  
command <> file  
command << file  
command > file  
command >> file
```

7.What do you use to forward errors to a file? -

```
1> filename  
2> filename  
2> /dev/null  
&> filename
```

8.What command do you have to use to go to the parent directory? -

```
cd ~  
cd ..  
cd /up  
cd -
```

9.How do you delete a file? -

```
rm filename  
dl filename  
touch filename  
less filename
```

10.With what command you can see what folder you are in? -

```
place  
map  
pwd  
whereami
```

SET-III

1.How do you get help about the command "cp"?

help cp
man cp
Cp ?

1.2 How do you list all the files that are in the current directory?

list all
ls -full
ls -a

1.3 How do you rename file "new" in file "old"?

mv new old (ie. mv old name new name)
Cp new old
Rn new old

1.4 How do you visualize the content of file "not_empty"?

type not_empty
cat not_empty
more not_empty

1.5 How do you create a new directory called "flower"?

newdir flower
mkdir flower
crdir flower

SET-IV

1) works as a command interpreter

*A) Hardware B) Kernel C) **Shell** D) CPU*

2) The major no for a floppy disk device is

*A) 1 B) 3 C) **2** D) 4*

3) chown

A) Changes the mode of operation to kernel mode
B) Creates a thread
C) Changes the users and/or group ownership of each given file
D) Creates a child process

4) lilo

A) Uninstalls the boot loader
B) Installs the boot loader

- C) Is a login utility*
- D) Invokes a daemon to logoff*

5) netdevice

- A) Provides low level access to Linux network devices**
- B) Provides low level access to Linux storage devices*
- C) Provides an interface to communicate with graphic devices*
- D) None of the other option listed for this question*

6) The process which terminates before the parent process exits, is called as

- A) Zombie*
- B) Orphan*
- C) Child**
- D) None of the other option listed for this question*

7) Context switch means

- A) Kernel switches from executing one process to another.**
- B) Process switches from kernel mode to user mode.*
- C) Process switches from user mode to kernel mode.*
- D) None of the other option listed for this question*

8)The following socket provides two way, sequenced, reliable and unduplicated flow of data with no record boundaries.

- A) Sequential packet socket*
- B) Datagram socket*
- C) Stream socket**
- D) Raw socket*

9) Identify the point(s) that is not true w.r.t. signals

- A) Signals are software generated interrupts that are sent to a process when an event happens*
- B) Signal delivery is analogous to hardware interrupts in that a signal can be blocked from being delivered in the future.*
- C) Most signals are synchronous by nature.**
- D) Most signal cause termination of the receiving process if no action is taken by the process in response to the signal.*

10) Identify the point(s) that is true wrt Semaphore

- A) Only one process at a time can update a semaphore.*
- B) All the other options listed for this question**
- C) They are often used to monitor and control the availability of system resources such as shared memory segments.*
- D) If a process with exclusive use of a semaphore terminates abnormally and fails to undo the operation or free the semaphore, the semaphore stays locked in the state the process left.*

Answer is the one typed in bold

: Which of the following features of UNIX may be used for inter process communication?

[A.](#) Signals

[B.](#) Pipes

[C.](#) Semaphore

[D.](#) All of these

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Answer: Option D

Explanation :

2: In a system, if 5 people are currently using the vi editor. then the number of corresponding processes will be

[A.](#) 1

[B.](#) 5

[C.](#) 2

[D.](#) 0

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Answer: Option B

Explanation :

3: The command `echo welcome > /dev / tty`

[A.](#) Echoes welcome in all the terminals that are switched on.

[B.](#) Echoes welcome in all the terminals that are logged on.

[C.](#) Echoes welcome only in the terminal in which it is run.

[D.](#) Both (a) and (c)

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Answer: Option D

Explanation :

/dev/tty is a synonym for the terminal you are currently using.

If echo welcome >/dev/tty, is a part of a shell. welcome will be echoed in the terminal in which the script is run, doesn't matter which terminal it is.

4: dev/null

[A.](#) Is a file

[B.](#) Has write permission for all

[C.](#) Is the UNIX built-in dustbin

[D.](#) All of these

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Answer: Option D

Explanation :

/dev/null can be called UNIX built-in dust-bin. To prevent a program from filling the monitor with garbage.

/dev/null comes in handy. Just redirect it to /dev/null. It gladly accepts garbage. It is a universal sink.

5: The advantage of binary files over text files is that

[A.](#) It is compact

[B.](#) It can be accessed faster

[C.](#) They are more reliable

[D.](#) All of these

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Answer: Option D

6: The permission bits of a file noname. can be set to _rws_ _x_ _x by the command.

[A.](#) chmod 711 noname

[B.](#) chmod go -rw noname

[C.](#) chmod 2711 noname

[D.](#) None of the above

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Answer: Option D

Explanation :

We can use the command `chmod 711 noname`, followed by `chmod u+s noname` (use `ls -l noname` and check). Else use the single command `chmod 4711 noname`. What is this "s" anyway? Only the super user has the permission to change `/etc/passwd` file. But any user can update it through the `passwd (bin/passwd)` command. If you type `ls-l /bin/passwd` you can see the user execution bit set to s instead of x). It is because of this "s". a user can access `/etc/passwd` through the `passwd` command, for which he is not otherwise entitled to

7: `/bin/passwd` has the user execution permission set to 's' because

[A.](#) This facility assigns to the user, permissions of the program owner. temporarily

[B.](#) It should allow users who don't have write permission to `/etc/passwd` to write to it

[C.](#) `/etc/passwd` is write protected

[D.](#) All of these

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Answer: Option D

Explanation :

8: If one doesn't want anyone else to read or write to a file named `datfile`, except through a

program in a file filex , then he may use

- [A.](#) chmod u+s filex ; chmod go_rw datfile [B.](#) chmod 4711 filex ; chmod go_rw datfile
- [C.](#) chmod 4711 datfile ; chmod go_rw filex [D.](#) Both (a) and (b)

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Answer: Option D

Explanation :

9: Writing a C program that accepts input from keyboard, rather than from a file is advantageous because

- [A.](#) Keyboard is a file that is already open [B.](#) It can be used in a pipe, if it writes to stdout
- [C.](#) Both (a) and (b) [D.](#) None of the above

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Answer: Option C

Explanation :

10: Consider the following command that invokes the executable file a.out, with the following command line arguments a .out God loves you
argv([1][2])corresponds to the character

- [A.](#) e [B.](#) o
-

[C.](#) y

[D.](#) d

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Answer: Option D

11: Which of the following string functions can be used to find the last occurrence of a given character in a given string?

[A.](#) strcmp

[B.](#) strcpy

[C.](#) strchr

[D.](#) None of the above

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Answer: Option C

Explanation :

strchr() is the correct function. It returns a pointer to the last occurrence of the character specified as argument.

12: Consider the program main ()

```
{  
printf("He arose a victor from\n");  
system ("date") ;  
printf("the dark domain");  
}
```

If a.out is the executable code corresponding to the above source code, then the command a.out > out f

[A.](#) Redirects the output of date to file [B.](#) Displays the output of date on the screen
out f

[C.](#) Prints everything on the screen [D.](#) Prints the two messages on the screen

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Answer: Option A

Explanation :

13: The default permission bits of a file when it is created for the first time, is controlled by

[A.](#) chmod value [B.](#) fmask value

[C.](#) umask value [D.](#) none of the above

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Answer: Option C

Explanation :

14: Let x.c be a C source code. The command `cc x.c > y`


[A.](#) is equivalent to the command `cc x.c;mv a.out y` [B.](#) is equivalent to the command `cc -o y x.c`

[C.](#) serves no purpose [D.](#) None of the above

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Answer: Option C

Explanation :

The redirection symbol , puts everything that will otherwise be displayed in the screen,

to the named file (y here). If x.c is syntactically correct, then the command cc x.c, silently creates a.out, but what comes to the screen is nothing (other than the next prompt). So, y will be empty.

15: A file x is created with the following contents

echo today is:

date

If you type x.then

[A.](#) It echoes the message. followed by date.

[B.](#) It gives the desired output only if the execute permission of file x is set.

[C.](#) The desired output can be got by the command sh x. which works even if x has its execute permission not set.

[D.](#) Both (b) and (c)

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Answer: Option D

16: Shell script is preferable to other forms of programming because it

[A.](#) Makes programming task easier

[B.](#) Enhances portability

[C.](#) Occupies less space

[D.](#) All of these

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Answer: Option D

Explanation :

17: Choose the incorrect statements.

- | | |
|--------------------------------------------------------------|---------------------------------------------------------|
| <u>A.</u> Shell scripts can accept arguments | <u>B.</u> Shell scripts are interpreted |
| <u>C.</u> Shell is a programming language | <u>D.</u> Shell scripts are compiled |

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Answer: Option D

Explanation :

18: Files that store data in the same format as used in program are called

- | | |
|----------------------------------------|---------------------------------------|
| <u>A.</u> binary files | <u>B.</u> Source file |
| <u>C.</u> Text file | <u>D.</u> Core |

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Answer: Option A

Explanation :

19: To allow only one user to work with a particular file at a particular time, one has to use

- | | |
|-------------------------------------|-------------------------------------------|
| <u>A.</u> Semaphore | <u>B.</u> Critical region |
|-------------------------------------|-------------------------------------------|
-

[C.](#) Locking

[D.](#) Dedicated mode

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Answer: Option C

Explanation :

20: Which of the following remarks about realloc are true?

[A.](#) It allocates memory of required size that need not be contiguous

[B.](#) It may shift the existing block

[C.](#) It can work only with an existing block of memory

[D.](#) Both (b) and (c)

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Answer: Option D

21: The differences between malloc() and calloc() are:

[A.](#) Malloc is used for dynamic allocation of memory, while calloc can't be used for that purpose

[B.](#) Malloc needs only one argument. while calloc needs two.

[C.](#) unlike malloc, calloc allocates memory and initializes it to 0.

[D.](#) Both (b) and (c)

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Answer: Option D

Explanation :

22: The file that stores an integer as a sequence of characters is a

[A.](#) Text file

[B.](#) Data file

[C.](#) Binary file

[D.](#) Core file

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Answer: Option A

Explanation :

23: If cat x. prints garbage. then x is probably a

[A.](#) Data file

[B.](#) Binary file

[C.](#) Text file

[D.](#) Source file

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Answer: Option B

Explanation :

24: Which of the following file names can be found in more than one directoy?

[A.](#) passwd

[B.](#) bin

[C.](#) date

[D.](#) Both (a) and (b)

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Answer: Option D

Explanation :

passwd - /etc/passwd and /bin/passwd
bin - usr/bin and /bin

25: /bin

- [A.](#) Is a bucket for storing information [B.](#) Has files in binary code
[C.](#) is a directory [D.](#) Both (b) and (c)

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Answer: Option D

26: The main reasons for the success of pipes are

- [A.](#) The availability of many filter programs [B.](#) UNIX treats devices as files
[C.](#) It provides a 2-way communication channel [D.](#) Both (a) and (b)

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Answer: Option D

Explanation :

27: Which of the following are not filter programs?

- [A.](#) date [B.](#) sort
-

[C.](#) cat

[D.](#) grep

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Answer: Option A

Explanation :

28: Redirection in pipes can be achieved by using

[A.](#) >

[B.](#) >>

[C.](#) tee

[D.](#) lpr

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Answer: Option C

Explanation :

29: Choose the correct statements.

[A.](#) The symbols > and | are both processed by shell [B.](#) > can be used to direct output to a named file

[C.](#) | can be used to direct output to programs [D.](#) All of above

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Answer: Option D

Explanation :

30: The command **who sort - file1 > file2**

- | | | | |
|--------------------|---------------------|--------------------|--------------------------------------------------|
| A. | Results in an error | B. | Sorts the contents of file1 and puts it in file2 |
| C. | Both (a) and (b) | D. | None of the above |

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Answer: Option D

Explanation :

31: If the command **cat x** is executed after successfully executing the command **time sort filename > x**, then

- | | | | |
|--------------------|-----------------------------------------|--------------------|-----------------------------------------------------------------|
| A. | only the time details will be displayed | B. | only the sorted contents of the file filename will be displayed |
| C. | an error message will be displayed | D. | None of the above |

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Answer: Option B

Explanation :

The time command uses stderr, instead of stdout to display its results. As a result of this, what is redirected to x is just the output of sort filename command and not the time details. The time details will be displayed in the screen, since screen by default is the stderr

32: Which of the following information is not present in an **i-node**

[A.](#) Contents of the the

[B.](#) Name of the file

[C.](#) Size of the file

[D.](#) Both (a) and (b)

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Answer: Option D

Explanation :

33: The system identifies a file by its

[A.](#) name

[B.](#) absolute path

[C.](#) Both (a) and (b)

[D.](#) Mode number

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Answer: Option D

Explanation :

34: The system identifies the end of a file by the

[A.](#) EOF character

[B.](#) file size

[C.](#) i-node number

[D.](#) Both (a) and (b)

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Answer: Option B

Explanation :

35: The command line argument `a.out x 'a b' "c d"`

[A.](#) is acceptable

[B.](#) is acceptable if the double quotes are replaced by single quotes

[C.](#) is acceptable if the single quotes are replaced by double quotes

[D.](#) none of the above

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Answer: Option A

36: Which of the following metacharacters will be recognized by the shell, even if it comes within double quotes?

[A.](#) \$

[B.](#) *

[C.](#) ?

[D.](#) None of the above

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Answer: Option A

Explanation :

37: lint should be used

[A.](#) before compilation

[B.](#) to analyze a C code

[C.](#) after compilation

[D.](#) Both (a) and (b)

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Answer: Option D

Explanation :

lint can throw light on many things, which the compiler generally overlooks. So, potential errors can be spotted and the program is debugged, even before compilation. Hence the answer is (d)

38: Environment variables can be accessed by

- | | | | |
|--------------------|-----------------|--------------------|--------------|
| A. | system programs | B. | C programs |
| C. | shell scripts | D. | All of these |

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Answer: Option D

Explanation :

39: Which of the following are character special files

- | | | | |
|--------------------|----------|--------------------|--------------|
| A. | Terminal | B. | Printer |
| C. | Modem | D. | All of these |

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Answer: Option D

Explanation :

40: If one exports a variable

- [A.](#) Variables placed in the environment by a child process are not inherited by the parent process [B.](#) It is passed to all its descendant processes
- [C.](#) It dies when the shell that created it dies [D.](#) All of these

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Answer: Option D

46: The first thing that is searched when a command references a file is it

- [A.](#) i-node [B.](#) i-node number
- [C.](#) permission setting [D.](#) none of the above

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Answer: Option B

Explanation :

Suppose you enter a command like `cp x y`. Unlike the user, who uses the name to identify and differentiate files, the system uses i-node number to uniquely identify a file. Any file name has an associated i-node number. In UNIX, different files can have the same name. But the associated i-node number will be different. The filename---i-node correspondence can be found in the directory which has to be the first one that is to be searched, as nothing can be done to a file without knowing its i-node number.

47: cc command sequentially invokes

- A. preprocessor, compiler and link editor

B. compiler and link editor

C. preprocessor, compiler, assembler and link editor

D. compiler, assembler and link editor

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Answer: Option C

Explanation :

48: Among the directory entries, i-node and the file contents. which will be changed when a file is updated?

- A. Only directory entry and tile contents B. Only i-node and file contents
- C. All the three D. None of the above

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Answer: Option B

Explanation :

Directory entries have two fields. One for the file name and the other for the i-node number. The i-node has many fields for storing all the information about the file, except the file name

and the actual content of the file. The content of the file will be in a separate place. So, the details of any file will be spread over these three places. When a file is updated its name and i-node number will remain the same. Only the contents and some fields in the i-node (like file size, time of last access, etc.) need to be changed. Hence the answer

49: The cc command

- [A.](#) Can take more than one argument [B.](#) Can act on files with . or . o extension
- [C.](#) Creates . o files by default when more than one argument with .,- extension is present [D.](#) If provided with more than one argument, immediately terminates if the first argument fails to compile successfully

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Answer: Option C

Explanation :

50: The mv command changes

- [A.](#) Only the directory entry [B.](#) Only the directory entry and i-node
- [C.](#) Only the i-node number [D.](#) None of the above

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Answer: Option A

51: If 7 terminals are currently logged on. then the command

date ; who | wc -l, displays

[A.](#) date followed by 7

[B.](#) date followed by 8

[C.](#) date followed by 1

[D.](#) an error message

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Answer: Option A

Explanation :

52: Choose the correct answers if the command `ls -l /dev/mt0` display's

brw-rw_ _ _ _ 1 root 3, 0 Apr18 1:05 mt0

[A.](#) The 'b' indicates that it is a special file

[B.](#) mt0 indicates that it is a tape drive

[C.](#) The 'b' indicates that data transfer is done in blocks

[D.](#) All of these

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Answer: Option D

Explanation :

For regular (ordinary) files the first character (i.e. b here), will be just a underscore. For directories d. for character special files 'c' and 'b' for a block read special file. The last column will have lp for line printer. hp for disk drives. tty for terminals etc. The 3 in 3 , denotes the major device number and - minor device number. That is. this system denotes tape drives by 3 and 0 to single out a particular tape drive from the many tape drives, the system may have.

53: Choose the correct statements.

- [A.](#) id x .o is a valid command (assume x . o exists) [B.](#) cc x. s is a valid command (assume x . s exists)
- [C.](#) Both (a) and (b) [D.](#) None of these

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Answer: Option C

Explanation :

54: cat/dev/tty

- [A.](#) Throws garbage onto the terminal 1. [B.](#) Just echoes what you type. line by line
- [C.](#) Terminates if one types control at the beginning of a line [D.](#) Both (b) & (c)
-

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Answer: Option D

Explanation :

First, the i-node number corresponding to `idevi tty` (i.e. the terminal currently used) is procured. Then the i-node is accessed. From it, the system understands, it is a character special file. So, whatever you type, if followed by 'n' will be echoed in the terminal. Typing control d, also flushes the buffer contents to tty. But unlike 'control d' is not transmitted. So, if you type `ab (Ad) cd (Ad)` first `ab` will be immediately transmitted, then `cd` will be transmitted. Whenever you press control d, then what you have typed between the previous control d (or from the start of the current line) to the current control d will be transmitted. So, if you type two control d consecutively or a single control d, at the beginning of a line then you are telling it to transmit, but nothing is there to be transmitted. So, the command gets terminated.

55: The header files used in C programs are usually found in

[A.](#) `/bin/include`

[B.](#) `usr/bin/include`

[C.](#) `/dev/ include`

[D.](#) `iusr/include`

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Answer: Option A

56: The command `pwd` displays `/x/y`. After executing the command `chmod u -x`, which of the following commands will not work?

[A.](#) pwd

[B.](#) is

[C.](#) chmod u+x

[D.](#) All of the above

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Answer: Option D

Explanation :

57: A C program should be compiled with -g option (like cc -g x . c) to use

[A.](#) proof

[B.](#) make

[C.](#) lprof

[D.](#) sdb

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Answer: Option D

Explanation :

58: The difference between a pipe and a regular file is that

[A.](#) Unlike a regular file, pipe is not a file.

[B.](#) The data in a pipe is transient. unlike the contents of a regular file

- [C.](#) Pipes forbid random accessing, while regular files do [D.](#) Both (b) and (c) allow this

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Answer: Option D

Explanation :

59: Choose the correct statements.

- [A.](#) The default linking arrangement for cc is dynamic [B.](#) Dynamically linked programs save disk storage
- [C.](#) Dynamically linked programs enhances shareability of library routines [D.](#) All of these

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Answer: Option D

Explanation :

60: Context switch changes the process mode from

- [A.](#) user to kernel mode [B.](#) kernel to user mode
-

[C.](#) kernel mode to the kernel process [D.](#) Both (a) and (b)

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Answer: Option D

61: File x.c has 5 lines of code. The command
date | tee abc | sort - x.c | wc -l, displays

[A.](#) 5 [B.](#) 6
[C.](#) 0 [D.](#) an error message

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Answer: Option B

Explanation :

62: Which of the following comments about the signals system call are true?

[A.](#) It takes up two arguments [B.](#) The first argument is an integer

[C.](#) The second argument is a pointer to a function [D.](#) All of the above

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Answer: Option D

Explanation :

63: lint can analyze the named source code for

- | | |
|------------------------------------------|------------------------------------|
| A. inconsistent usage | B. non portability |
| C. suspicious constructs | D. All of these |

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Answer: Option D

Explanation :

64: Which of the following characteristics of the original process are preserved when, the exec system call is executed

- | | |
|--------------------------------------------------|-----------------------------------|
| A. The current working directory | B. The open files |
| C. PID & PPID | D. All of these |
-

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Answer & Explanation

Answer: Option D

Explanation :

65: Which of the following remarks about lex are true?

[A.](#) It generates a C program

[B.](#) It produces a C code that consumes more memory than a C program that can be written separately to accomplish the same task

[C.](#) It produces a C' code that executes slower than a C program that can be written separately to accomplish the same task

[D.](#) All of these

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Answer & Explanation

Answer: Option D

Explanation :

The purpose of lex is to generate a 'C' function yylex, that will recognize any pattern that is given as input to lex, as a regular expression. Also, it can perform the specified action (like deleting, printing, changing to some other pattern, enciphering, etc.) when the specified pattern is matched. It does this by converting regular expression into a non deterministic finite state automata- then a finite state automata—then reduces the number of states in it. lex is a program generator, which means we can write our own code, which functions the same as the lex output. Since lex applies a general set of rules to achieve this, what it

generates will not make efficient use of memory and is slower too. Yet it is a powerful tool.that simplifies the programmer's job.

66: Which of the following programs are not interactive?

[A.](#) passwd

[B.](#) date

[C.](#) grep

[D.](#) Both (b) & (c)

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Answer: Option D

Explanation :

67: lex can be used for

[A.](#) Text processing

[B.](#) Code enciphering

[C.](#) Compiler construction

[D.](#) All of these

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Answer: Option D

Explanation :

68: The number of errors in the following shell script

```
echo How are you?  
read $answer  
is
```

[A.](#) 0

[B.](#) 1

[C.](#) 2

[D.](#) 3

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Answer: Option C

Explanation :

Two mistakes. First is the ?. It is a meta character. So. when the shell encounters ?, it will try for a match, with the files in the current directory. made up of just one character. Use \?, to suppress the special meaning of ?. \$answer means the value of the variable answer. Since you are reading the value of the variable answer, it should be read answer.

69: The read in the previous question is a

[A.](#) Library function

[B.](#) System call

[C.](#) Shell command

[D.](#) None of the above

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Answer: Option C

Explanation :

70: If lex .1 is a lex code then

[A.](#) The command lex lex .1 invokes lex to act on lex .1 [B.](#) The command lex lex.1 writes its output to the file lex.yy.c

[C.](#) lex.yy.c has the definition of the function yylex [D.](#) All of these

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Answer: Option D

71: Choose the correct statements.

[A.](#) Any process has an associated owner ID and group ID [B.](#) Effective ID defines who you are for the duration of a process

[C.](#) Real ID defines who you are for the duration of a process [D.](#) Both (a) & (b)

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Answer: Option D

Explanation :

72: No shell script can take input from

- | | |
|-----------------------------------------------|-----------------------------------------------------------------------------------|
| A. stdin | B. the output of the previously executed command redirected to it |
| C. the shell holds the script | D. none of the above |

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Answer: Option D

Explanation :

There is a facility that allows shell scripts to take input from its own contents. e.g.. `grep$1<`

73: The command `cc x.c && a.out`

- | | |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| A. is equivalent to <code>cc x.c ; a . out</code> | B. means execute a . out only when x . c compiles successfully |
| C. means execute a . out only if <code>cc x .c</code> returns a value 0 to the system | D. Both (b) & (c) |

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Answer: Option D

Explanation :

cc x . c ; a . out - means execute the command cc x . c and then a . out. If x . c fails to compile successfully, then if there is any executable file a . out, it will be executed. So, execution of a . out, has nothing to do with the outcome of cc x . c. In the case of cc x.c && a . out , a . out will be executed only if x . c compiles successfully (i.e. returns 0 as the exit status).

74: Which of the following shell script's looping features does not recognize the break command?

[A.](#) while

[B.](#) until

[C.](#) for

[D.](#) None of the above

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Answer: Option D

Explanation :

75: Shell script

[A.](#) Needs no compilation

[B.](#) Enhances portability

[C.](#) Is not good in arithmetic operations

[D.](#) All of these

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Answer: Option D

76: The desirable features of a new shell script you write is that

- [A.](#) It should take its input from stdin [B.](#) It does some cleaning up operation, on termination
- [C.](#) It should not accept command line arguments [D.](#) Both (a) & (b)

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Answer: Option D

Explanation :

77: Which of the following shell commands displays the contents of each of the command line arguments one by one

- [A.](#) cat \$• [B.](#) cat "\$@"
- [C.](#) Both (a) & (b) [D.](#) cat "\$•"

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Answer: Option C

Explanation :

78: The disadvantage of a pipe is that

- | | | | |
|---------------------------|-------------------------------------------|---------------------------|------------------------------------------------|
| <u>A.</u> | It is a one way communication channel | <u>B.</u> | It dies along with the process that created it |
| <u>C.</u> | It can't be shared by unrelated processes | <u>D.</u> | All of these |

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Answer: Option D

Explanation :

79: The state of signals are

- | | | | |
|---------------------------|-------------------------------|---------------------------|-----------------------------------|
| <u>A.</u> | preserved across a fork call | <u>B.</u> | not preserved across an exec call |
| <u>C.</u> | preserved across an exec call | <u>D.</u> | Both (a) & (b) |

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Answer: Option D

Explanation :

80: Which of the following options for the shell command test should be followed by the file descriptor"

[A.](#) r

[B.](#) d

[C.](#) The data type of all fields in all file

[D.](#) s

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Answer: Option C

81: Which of the following displays the exit status of the last executed command?

[A.](#) echo \$4

[B.](#) echo \$\$

[C.](#) echo \$?

[D.](#) echo \$!

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Answer: Option C

Explanation :

82: Which of the following file names cannot be displayed if la ls* is run?

[A.](#) .x

[B.](#) ?x

[C.](#) Both (a) & (b)

[D.](#) hidden

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Answer: Option C

Explanation :

- is a metacharacter that matches with any file in the current directory. other than those starting with a .(dot) .?x can't be a file name. If you try to create such a tile, say with vi ?x command,? will be interpreted as a metacharacter, and so expanded by shell, if matched.

83: Which of the following initiates the sequence of events that ultimately allows a user to login?

[A.](#) clri

[B.](#) sync

[C.](#) login

[D.](#) init

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Answer: Option D

Explanation :

84: `getc (stdin)`

- [A.](#) results in run time error [B.](#) results in syntax error
- [C.](#) is equivalent to `get char ()` [D.](#) none of the above

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Answer: Option C

Explanation :

`stdin` is a pointer to the standard input file (i.e. keyboard by default) which is available to any program in open mode. So. `getc(stdin)` is syntactically correct and means reading from a keyboard which is what `getchar ()` does. In fact `getc ()` is implemented as a macro (rather than as a function)

85: Which of the following is not the work of a C-preprocessor?

- [A.](#) Macro expansion [B.](#) File inclusion
- [C.](#) Conditional compilation [D.](#) None of the above

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Answer: Option D

86: Choose the correct statement

- [A.](#) To read successive characters from an open file . getchar and scan f can be used interchangeably [B.](#) To read successive characters from an open file. getchar and read can be used interchangeably
- [C.](#) The read system call reads from the buffer [D.](#) None of the above

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Answer: Option A

Explanation :

All the library i /o functions (like getchar, scanf , gets etc.) use the same intermediate buffer and share the same file pointer. So, they can be interleaved in any order to access consecutive characters in a file without causing any inconsistency. Unlike them. system calls (like read and write) directly manipulate the file. So, mixing system calls and library function will have undesired consequence

87: The following program

```
main()
{
close(1);
print("How R U?");
}
```

- [A.](#) is syntactically incorrect [B.](#) results in a run-time error
- [C.](#) will wait indefinitely, if executed [D.](#) none of the above
-

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Answer: Option D

Explanation :

The close statement closes the file, whose File descriptor is 1, i.e., stdout. So, printf will fail. So, the program immediately terminates.

88: Choose the correct remarks

[A.](#) exit and return can be used interchangeably

[B.](#) Use of return terminates the program

[C.](#) Use of exit terminates the program

[D.](#) exit returns a value to the system

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Answer: Option D

Explanation :

: UNIX was developed by

[A.](#) Bell Labs

[B.](#) Berkley Software Group

[C.](#) California University

[D.](#) American Defence Academy

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Answer: Option A

Explanation :

2: Chocolate Chip is

[A.](#) A latest Intel product

[B.](#) Another name for BSD 4.2 Version

[C.](#) Another name for System V

[D.](#) Another name for System III

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Answer: Option B

Explanation :

3: Pick the incorrect statements

[A.](#) Shell is a command interpreter

[B.](#) Shell is the interface between user and kernel.

[C.](#) System can't work without a shell.

[D.](#) Shell is a program.

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Answer: Option C

Explanation :

4: UNIX is

- | | |
|----------------------------------------|---------------------------------------------------------|
| A. A multi-user system | B. Name of a file in the root directory |
| C. A multi-task system | D. All of these |

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Answer: Option D

Explanation :

5: Which of the following statements best explains a process?

- | | |
|-----------------------------------------------------------------|------------------------------------------------------------|
| A. It is a program. | B. It is a program in execution. |
| C. It is an instance of a program in execution. | D. It is a program that uses system calls. |

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Answer: Option C

Explanation :

6: Kernel is not involved

[A.](#) When a read operation is done

[B.](#) When a pressed key is echoed on to the screen

[C.](#) In resource allocation

[D.](#) None of the above

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Answer: Option D

Explanation :
