1. Given the following content in a file named data.txt:
My name is Morgan.
I am 22 years old.
My hobbies are bird-watching, journaling, running, and learning new languages.
In my free time, I love to volunteer at local shelters.

Which command should you use to count the number of words in the file?

Answers

1. wc data.txt

2. w data.txt

3. c data.txt

4. wc -n data.txt

2. Given the following content in a file named data.txt:
My name is Jamie.
I am 30 years old.
My hobbies are cooking, gardening, knitting, and doing puzzles.
In my free time, I love to go on long walks and listen to podcasts.

To list the lines containing the word "My", which command(s) can you use?

Answers

1. grep 'My' data.txt

2. egrep 'My' data.txt

3. grep -v 'My' data.txt

4. both a and b

3. Given the following content in a file named data.txt:
My name is Alex.
I am 25 years old.
My hobbies are painting, hiking, swimming, and playing guitar.
In my free time, I love to travel and explore new places.

List the lines that start with the letter "I".

Answers

1. grep '^I' data.txt

2. grep 'I%' data.txt

3. grep '%I' data.txt

4. grep '$I' data.txt

4. Given the following content in a file named data.txt:
My name is Sophia.
I am 20 years old.
My interests include writing poetry, playing piano, cycling, and experimenting with new recipes.
When I'm not studying, I like to visit museums and attend cultural festivals.

List the lines that end with the period ".".

Answers

1. grep "\.$" data.txt

2. grep "/.$" data.txt

3. grep ".\$" data.txt

4. grep ".$/" data.txt

5. Given the following content in a file named data.txt:
My name is Ava.
I am 24 years old.

My hobbies are yoga, painting landscapes, playing board games, and collecting vintage records.
During my downtime, I enjoy visiting local farmers' markets and attending yoga retreats.

List only the first two lines.

Answers

1. head -2 data.txt

2. head -n 2 data.txt

3. head 2 data.txt

4. both a and b

6. Given the following content in a file named data.txt:
My name is Noah.
I am 19 years old.
I love skateboarding, graphic design, playing video games, and studying astronomy.
In my leisure time, I often go skateboarding with friends and watch documentaries.

List only the last three lines.

Answers

1. tail -n 3 data.txt

2. tail -3 data.txt

3. tail 3 data.txt

4. both a and b

7. Which of the below indicates a regular file?

Answers

1. (d)

2. (-)

3. (b)

4. (l)

8. Multiple processes accessing the same resource at the same time is known as ...

Answers

1. Critical Section

2. Deadlock

3. Race Condition

4. Mutex

9. A code block to be executed by only one process at a time is referred to as ...

Answers

1. Critical Section

2. Deadlock

3. Semaphore

4. Critical Section

10. These two operations, wait operation and signal operation, are supported by ...

Answers

1. Synchronization

2. Deadlock

3. Semaphore

4. Mutex

11. Which of the following allows n number of processes to access the resource at a time?

Answers

1. Counting Semaphore

2. Binary Semaphore

3. Both a and b

4. None of the above

12. In Linux, swap area is created in the form of ...

Answers

1. file

2. partition

3. directory

4. segments

13. Which of the following VI editor commands is used for 'save and quit'?

Answers

1. :w

2. :q

3. :wq

4. :d

14. Which of the following VI editor commands is used to 'cut the current line'?

Answers

1. yy

2. dd

3. nyy

4. Ndd

15. In shell script, which file condition returns true 'if file is a regular file'?

Answers

1. -e file

2. -f file

3. -d file

4. -r file

16. In shell script, which of the following is used to read a value from a variable?

Answers

1. $

2. #

3. @

4. &

17. In shell script, which of the following is used to print all values in an array arr=(1,2,3,4,5)?

Answers

1. ${arr[*]}

2. ${arr[@]}

3. ${arr[&]}

4. both a and b

18. Which shell script is executed when a new shell starts?

Answers

1. .bashrc

2. .profile

3. .kornshell

4. None of the above

19. Which of the following is correct for 'exp1 -ne exp2'?

Answers

1. True if not equal

2. False if not equal

3. True if equal

4. None of the above

20. What will be the output of the shell script below?
a1=10;
a2=10;
res=$((a1!=a2))
echo $res

Answers

1. 0

2. false

3. 10

4. True

21. What will be the output of the shell script below?
a1=10;
a2=20;
res=$((a1=a2))
echo $res

Answers

1. 20

2. false

3. 10

4. 0

22. Which of the following is the smallest unit of memory management?

Answers

1. Byte

2. Word

3. Page

4. Frame

23. The page table in a virtual memory system is used to:

Answers

1. Store the content of each page

2. Map virtual addresses to physical addresses

3. Keep track of free memory pages

4. Manage the cache

24. A page fault occurs when:

Answers

1. The requested page is not in the memory

2. A process attempts to access an invalid memory location

3. The paging file is full

4. There is an error in the page table

25. A deadlock occurs when:

Answers

1. A process is waiting indefinitely for an event that will never happen

2. A process is running in an infinite loop

3. A process is unable to release its resources

4. None of the above

26. In UNIX/Linux systems, an inode contains information about which of the following attributes of a file?

Answers

1. File type, size, and data

2. File type, size, permissions, and timestamps

3. File name, size, and data

4. File name, permissions, and data

27. Which command in UNIX/Linux can be used to view the inode information of a file?

Answers

1. ls -l

2. stat

3. cat

4. inode

28. Which of the following is NOT typically found in the super block of a file system?

Answers

1. Capacity of the partition

2. Number of free inodes

3. Bootloader program

4. Number of used data blocks

29. The Least Recently Used (LRU) page replacement algorithm replaces:

Answers

1. The page that has been used least recently

2. The page that has been used most recently

3. The page that is used the most frequently

4. The oldest page in memory

30. Which page replacement algorithm may replace a page that is currently in use, leading to suboptimal performance in some cases?

Answers

1. FIFO

2. Optimal

3. LRU

4. NRU

31. What are "logical pages" in the context of a kernel space?

Answers

1. Pages that can be swapped in and out

2. Pages whose physical addresses remain constant and are never swapped out

3. Pages that belong to user space processes

4. Pages that are not used by any process

32. A "page fault" occurs when:

1. A page is accessed that is not currently in physical memory

2. A process tries to access a protected memory area

3. The operating system fails to allocate a new page

4. A page is swapped out to disk

33. Thrashing can be mitigated by:

1. Increasing the number of logical pages

2. Reducing the page size

3. Increasing the physical memory or optimizing the page replacement algorithm

4. Increasing the number of user space processes

34. In Linux, a process that has no parent process because the parent has terminated is called:

1. Zombie process

2. Orphan process

3. Daemon process

4. Init process

35. In terms of context switching, threads are:

1. More expensive than processes

2. Less expensive than processes

3. Equally expensive as processes

4. Not possible to switch

36. When a new thread is created, it:

Answers

1. Shares the same stack with the parent thread

2. Shares the same process ID as the parent thread

3. Has its own stack but shares global variables and heap with the parent thread

4. Runs in a different memory space from the parent thread

37. In Linux, the 'init' process has which PID (Process ID)?

Answers

1. 0

2. 1

3. 2

4. 3

38. Which file is typically used to configure settings for the VIM editor?

Answers

1. ~/.vimconfig

2. ~/.vimsettings

3. ~/.vimrc

4. ~/.vim

39. Which symbol is used to comment a line in a shell script?

Answers

1. //

2. #

3. %

4. $

40. Which loop statement would you use to iterate over a list of items in a shell script?

Answers

1. for item in list; do commands; done

2. foreach item in list; do commands; done

3. while item in list; do commands; done

4. loop item in list; do commands; done