

COMPUTER SCIENCE

HIGHER SECONDARY FIRST YEAR



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VOLUME II - LINUX
1,2,3 & 5 MARKS
QUESTIONS AND ANSWERS

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CHAPTER 9

LINUX

Multiple Choice Questions And Answers

1. Ken Thompson is the creator of the _____ operating system.
a) Minix **b) Unix** c) Linux d) Windows
2. Minix was created by _____ for the students of University of Helsinki.
a) Bill Gates b) Ken Thompson c) Linus Torvalds **d) Andrew S.Tannenbaum**
3. Linux was created by _____
a) Bill Gates b) Ken Thompson c) **Linus Torvalds** d) Andrew S.Tannenbaum
4. Linux was developed an effective PC version of ___ for Minix users.
a) Minix **b) Unix** c) Linux d) Windows
5. Linux operating system was developed in the year _____
a) 1991 b) 1992 c) 1993 d) 1994
6. Linux was developed from the beginning according to the ANSI standard for Unix called ____
a) POSTIX **b) POSIX** c) POSTFIX d) DOSIX
7. POSIX stands for _____
a) Portable Operating system Interface for Computer Environments
b) Portable Operating system Interface for Computer Equipments
c) Portable Operating system Interface for Connecting Environments
d) Portable Operating system Internal for Computer Environments
8. Linux is specifically designed for _____ PCs.
a) Windows-based b) Mac-based c) Unix-based **d) Intel-based**
9. There are _____ versions for each release of Linux.
a) two b) three c) four d) many
10. Two versions of Linux operating system are _____ and _____.
a) stable, trial b) stable, free c) free, trial d) trial, beta
11. The trial version of Linux operating system is also called as _____ version.
a) alpha **b) beta** c) user d) free
12. In a **n. x.y** version of Linux, the first number **n** specifies _____ number.
a) release b) developer c) **version** d) code
13. In a **n. x.y** version of Linux, if second number x is even then this is _____ version.
a) beta **b) stable** c) free d) trial
14. Linux 2.2.5, is an example for _____ version.
a) beta **b) stable** c) free d) trial
15. _____ is a boon for Linux development
a) Internet b) Programmer c) developer d) user
16. A user in Linux system normally works at a user _____
a) computer **b) terminal** c) file d) server
17. The user can login into the system by entering his / her _____ name and _____
a) login, password b) prompt, login c) file, login d) user, pwd
18. The _____ process does not allow any unauthorized person to access any of your directories or files.
a) checking b) login c) execution **d) verification**

19. The ____Directory is assigned to the user when he/she enters into the system for the first time.
a) root b) admin c) system **d) Home**
20. The Home Directory is assigned to the user when he/she enters into the system for the first time by_____
a) Network Administrator b) data Administrator
c) file Administrator **d) System Administrator**
21. Entering ____or _____at the command prompt will end your current Linux session.
a) exit, login b) exit, logout c) exit, logout **d) exit, logout**
22. A user can change his/her password with the _____ command.
a) echo b) prompt **c) passwd** d) password
23. The user can change his / her password by entering the old (current) Password with _____
a) login b) user name c) prompt **d) new password**
24. The password should not be less than_____ characters in length.
a) four b) five **c) six** d) eight
25. The root user (SA) is empowered to change the _____ of any user.
a) name **b) password** c) files d) path
26. File is a collection of _____.
a) data b) tables c) databases **d) records**
27. A record gives information about _____.
a) a user b) a file **c) an entity** d) a field
28. A record consists of _____
a) fields b) programs c) files d) databases
29. All the files are stored on the disk under one main directory called the _____directory.
a) home b) user **c) root** d) parent
30. The files are arranged under a _____structure.
a) network **b) tree** c) file d) linear
31. User directories are created under the _____directory.
a) home b) user c) root d) parent
32. The home directory is written as _____.
a) \home b) home/ **c) /home** d) home\
33. root directory is the parent of _____directory.
a) home b) user c) system d) sub
34. There is no parent for the _____ directory.
a) home b) user **c) root** d) system
35. There is no _____ for the file.
a) child b) parent c) root d) directory
36. The file name in Linux system can be up to _____ characters.
a) 254 **b) 256** c) 6 d) 265
37. The file name in Linux system should not begin with a _____
a) number b) period **c) both a and b** d) either a or b
38. If a file starts with a dot, that file is called a _____.
a) empty file b) user file c) blank file **d) dot file**
39. The dot files are used normally by the_____.
a) system b) user c) group d) application
40. In Linux, the System Administrator(SA) is also known as the _____
a) super user b) root user **c) either a or b** d) home user
41. The prompt for the root user is _____.
a) @ b) \$ **c) #** d) ~

42. _____command brings details about the files in the current directory including the hidden files.
a) ls b) ls a c) a-ls d) **ls -a**
43. The first slash (/) always represents the _____directory.
a) user b) bin c) **root** d) home
44. In Linux, the file path names are of _____ types.
a) three b) four c) five d) **two**
45. _____path name is the complete path name of a file or directory starting with root directory.
a) file b) root c) **absolute** d) relative
46. _____ path name begins with your working directory.
a) file b) root c) absolute d) **relative**
47. The command **pwd** stands for _____
a) print working directory b) present working directory
c) path of your working directory d) **all of these**
48. _____command changes the current directory to the specified directory.
a) **cd** b) md c) pwd d) ld
49. Which command is used to move to parent directory of the current directory?
a) cd b) **cd ..** c) cd~ d) cd .
50. The _____ after **cd** command denotes the path of parent directory.
a) /(slash) b) \$ c) single dot(.) d) **double dots (..)**
51. The _____ after **cd** command represents the directory itself
a) /(slash) b) \$ c) **single dot(.)** d) double dots (..)
52. There should be at least one _____ between cd and ..
a) dot(.) b) command c) / d) **blank space**
53. _____command will not show the directory on the screen.
a) **cd** b) md c) pwd d) ls
54. **cd** command without any path name always takes a user to his/her _____directory.
a) **home** b) root c) user d) bin
55. _____ sign represents full path of your home directory.
a) dollor b) **tilde** c) dot d) slash
56. _____ command is used to create a new directory.
a) md b) **mkdir** c) mdir d) makdir
57. Which command is used to remove an empty directory?
a) rmd b) rmdir c) **rmdir** d) rdm
58. _____ command is used to remove a directory, which is not empty
a) rmd b) rmdir c) rmdir d) **rm**
59. Which command is used to find out the name of the files and the subdirectories of a directory?
a) **ls** b) cd c) rmdir d) rm
60. _____ command displays files and sub-directories in the reverse order.
a) ls -a b) ls - F c) **ls - r** d) ls -s
61. _____ command shows the file type along with the name.
a) ls -a b) **ls - F** c) ls - r d) ls -s
62. _____command clears the screen.
a) tput clear b) clear c) clean d) **either a or b**
63. _____used to position the cursor on a specified row and column.
a) tput clear b) **tput cup** c) tput d) tput up
64. _____ command is used for getting help for particular command.
a) help b) echo c) **man** d) both b and c

65. Which command is used to display a message on the screen?
 a) print **b) echo** c) man d) ls
66. _____ command is used to have the cursor in the same line with the message.
 a) echo - l b) echo **c) echo -n** d) echo -a
67. The general format of the a Linux command is _____
 a) option command argument **b) command option argument**
 c) command argument option d) argument command option
68. Linux is a _____ user system.
 a) single b) super **c) multi** d) root
69. In command, Option starts with a _____ sign followed by a single letter
 a) dollar **b) minus** c) hash d) dot
70. There should be no blank space between the minus sign and the _____
 a) command b) word c) files **d) letter**
71. The _____ command shows the contents of the specified file normally on the screen.
 a) ls **b) cat** c) man d) cd
72. The _____ command is just like the T pipe.
a) tee b) more c) echo d) cat
73. _____ command takes the input from the standard input, displays the content on the screen and stores the same in the file specified.
 a) cp **b) tee** c) cat d) pipe
74. The input data stream is called as the _____
a) standard input b) standard output c) standard file d) standard stream
75. Which command is used to see the contents of the file1 on the screen?
 a) \$ cat file b) \$ file1 cat file **c) \$ cat file1** d) \$ cd file1
76. _____ command is used to see the contents of the file1 on the screen page by page.
 a) \$ tee file1 b) \$ cat file c) \$ cat file1 **d) \$ more file1**
77. The redirection operator, _____ symbol achieves output redirection.
 a) < **b) >** c) << d) -
78. The redirection operator, _____ symbol achieves input redirection.
a) < b) > c) << d) -
79. _____ prevents the output from going to the screen.
 a) stream b) cat c) standard input **d) redirection operator (>)**
80. _____ operator adds the contents of the file
a) append(>>) b) append(<<) c) append(<) d) append(>)
81. _____ command appends the contents file1 to the contents of file2.
 a) \$ cat file1<<file2 **b) \$ cat file1>> file2**
 c) \$ copy file1>> file2 d) \$ cat file2>> file1
82. By default, the standard input is connected to the _____.
 a) system **b) keyboard** c) floppy d) mouse
83. _____ command without any argument takes the input from the standard input.
 a) echo b) cp **c) cat** d) ls
84. _____ character is the end-of-file character for Linux file.
a) Ctrl+D b) Ctrl+A c) Shift+D d) Alt+D
85. Which of the following command is used to get data from the file3?
 a) \$ cat >> file3 b) **\$ cat < file3** c) \$ cat < file d) \$ cat > file3
86. Redirection operator works only on _____.
 a) screen b) input c) output **d) files**

87. _____ is a storage medium to store the data whereas _____ is a program to execute a set of instructions.
 a) file, stream **b) file, command** c) command, file d) stream, file
88. _____ command takes the standard output as input and sends it to the printer.
 a) **lpr** b) ptr c) echo d) cat
89. _____ command is used to send the contents of file3 to the line printer connected with the Linux system.
 a) \$ cat file3 -lpr **b) \$ cat file3 | lpr** c) \$ cp file3 | lpr d) \$ cp file3 - lpr
90. _____ command sorts each line of the given file alphabetically and sends the sorted version to the standard output.
 a) asc b) order c) sorting **d) sort**
91. _____ command copies the standard output to a file.
 a) lpr **b) tee** c) copy d) cat
92. Which command is used to copy the contents of one file into another
 a) copy b) cat **c) cp** d) both a and b
93. The option _____ of **cp** command gets a warning from the system before overwriting a file.
 a) -c b) -r c) -o **d) -i**
94. We can also copy a directory recursively using cp command with the _____ option.
 a) -c **b) -r** c) -o d) -i
95. To delete files or directories the _____ command is used.
a) rm b) rem c) del d) mk
96. _____ command is superior to **rmdir** command.
a) rm b) mkdir c) dir d) cp
97. Which of the special character is a wildcard entry in Linux to find out the exact file name?
 a) * b) ? c) {} **d) all of these**
98. The special character _____ stands for any number of characters to find the exact file name in Linux system.
a) * b) ? c) [] d) \$
99. _____ matches only a single incomplete character in filenames
 a) * **b) ?** c) [] d) &
100. _____ gives you a set of characters to search the file with them.
 a) * b) ? **c) []** d) &
101. _____ key combination is used as left arrow to edit the command line.
a) Ctrl + B b) Ctrl + H c) Ctrl + E d) Ctrl + F
102. _____ key combination is used as right arrow to edit the command line.
 a) Ctrl + B b) Ctrl + H c) Ctrl + E **d) Ctrl + F**
103. _____ key combination is used as backspace to delete the character in command line.
 a) Ctrl + B **b) Ctrl + H** c) Ctrl + U d) Ctrl + F
104. _____ key combination deletes the entire line in Linux command line.
 a) Ctrl + B b) Ctrl + C **c) Ctrl + U** d) Ctrl + F
105. We can enter more than one command in the same line by separating them with _____
 a) + (plus) b) back slash(\) c) comma (,) **d) semicolon (;)**
106. We can enter only one command in several lines by typing a _____ each line.
 a) + (plus) **b) back slash(\)** c) comma (,) d) semicolon (;)
107. _____ command is used to move a file or directory from one location to another.
 a) mov b) cp c) rm **d) mv**
108. _____ command is used to change the name of a file or a directory.
 a) mov b) cp c) rm **d) mv**

109. We can view the system date and time by giving the command _____
 a) time b) sys date c) **date** d) sys time
110. The command to display the weekday(sun to sat) in Linux is _____
 a) \$ date "+%d" b) \$ date "+%D" c) \$ date "+%r" d) **\$ date "+%a"**
111. Which of the following command in Linux display the month of the year in digits?
 a) \$ date "+m" b) **\$ date "+%m"** c) \$ date +%m d) \$ date "%m"
112. _____ option stands abbreviated month(jan to dec) in Linux.
 a) %m b) %M c) **%h** d) %d
113. _____ command establishes the connection between a file system on a storage device and your main directory tree.
 a) **mount** b) connect c) mont d) mout
114. In Linux, the files are organized into one perfect tree of directories beginning from _____
 a) bin b) **root** c) dev d) home
115. _____ is a special device file that connects your system to the hardware device.
 a) floppy b) directory c) **device** d) drive
116. We can unmount a file system with the _____ command
 a) mount b) **umount** c) unmount d) unmnt
117. Device files are located in the _____ directories.
 a) /bin b) root c) **/dev** d) /home
118. On Linux systems operating on PCs, the hard disk partitions have a prefix of _____
 a) hdk b) **hd** c) hr d) hard
119. _____ command mounts a floppy disk in the first floppy drive device(**fd0**) to the **/destination** directory.
 a) **# mount /dev/fd0 /destination** b) # mount /fd0 /destination
 c) # dev/fd0 /destination/mount d) # mount /dev/destination/fd0
120. Files can be copied directly by _____ command.
 a) cat b) **cp** c) tee d) more
121. The _____ command shows the contents of a big file page by page.
 a) cat b) echo c) tee d) **more**
122. \$ cat file1 _____ file2 appends the contents file1 into file2.
 a) > b) < c) **>>** d) <<
123. _____ feature can be set to prevent overwriting an existing file by the redirection operation.
 a) noclub b) **noclobber** c) clobber d) nonclobber
124. Mounting a device means _____ the connection between a file system on a storage device and your main directory tree
 a) **establishing** b) adding c) removing d) changing
125. _____ are mainly used for creating, deleting, and editing the files.
 a) Programs b) folders c) commands d) **Editors**
126. _____ Editor allows the user for one line editing only.
 a) Linux b) **Ed** c) Text d) Vi
127. _____ editor allows the user to edit text of one screen at a time.
 a) Linux b) Ed c) Text d) **Vi**
128. The Vi editor can be invoked by the _____ command
 a) :vi b) **vi** c) vee d) iv
129. The Vi editor works in _____ modes.
 a) **2** b) 3 c) 4 d) 5
130. In _____ mode all the keys on the keyboard become editing commands.
 a) login b) user c) **command** d) input

131. In the ____ mode, the keyboard behaves as a normal typewriter with the exception
a) login b) user c) command **d) input**
132. When in the command mode, the key ____ just like the **delete** key of ordinary keyboard.
a) x b) j c) y d) q
133. When you press ESC, if you hear a beep sound, you are in ____ mode.
a) login b) user **c) command** d) input
134. When you are in the command mode, _____ takes you to the line-editing mode.
a) @ **b) :** c) ! d) \$
135. By pressing ____ you will be taken to the input mode.
a) a b) i c) o **d) all of these**
136. You have to press ____ to change to the command mode.
a) ALT **b) ESC** c) ENTER d) CTRL
137. \$ vi filename. The file is saved by entering two upper case ____
a) ZZ b) DD c) EE d) SS
138. ____ inform that part of the screen is not in the file.
a) keys b) editors **c) Tildes** d) commands
139. The command _____ with a file name saves the file with the given name.
a) :s **b) :w** c) :q d) :a
140. The ____ command saves the file when the file actually exists.
a) ZZ b) QW c) WS d) SS
141. ____ will take you out of Vi editor without saving the changes.
a) :s b) :w **c) :q!** d) :q
142. We can create unnamed file as ____
a) :vi filename **b) \$vi** c) :vi d) \$vi filename
143. The ____ key is used to determine in which mode the user is currently in.
a) <CTRL> b) w **c) <ESC>** d) q
144. ____ is used to have more than one command execute as a single command
a) Command editor **b) Command substitution**
c) Command expression d) Control substitution
145. You can also use ____ instead of **h** key for left arrow.
a) ALT b) ESC **c) ENTER** d) CTRL
146. The space between the end of the line and the end of the screen is called the ____
a) end space b) command space c) input space **d) dead space**
147. ____ key combinations moves one screen forward in Vi editor.
a) Ctrl +B **b) Ctrl+F** c) Ctrl+K d) Ctrl+M
148. ____ key combinations moves one screen backward at a time in Vi editor.
a) Ctrl +B b) Ctrl+F c) Ctrl+K d) Ctrl+M
149. In Vi editor, we can go to any line by entering the line number followed by ____
a) A b) E **c) G** d) L
150. Which of the following command is used to set the word wrap margin in Vi editor?
a) :set wm b) :set =col c) set wm=col **d) :set wm=col**
151. When you press the ____ key, Vi editor places you into the input mode after the character where the cursor is currently on.
a) a b) q c) i d) c
152. When you press the ____ key, Vi editor places you into the input mode, before the character where the cursor is currently on.
a) a b) q **c) i** d) c
153. ____ key opens a new line below where the cursor is on
a) a b) q c) i **d) o**

154. _____ key places you into the input mode at the beginning of that new line in Vi editor.
a) a b) q c) i **d) o**
155. _____ key in the command mode deletes a single character.
a) a **b) x** c) i d) dd
156. The _____ command removes the entire line that the cursor is presently on.
a) a b) x c) i **d) dd**
157. Which command is used to delete 5 characters from the position of the cursor?
a) dd5 b) x5 **c) 5x** d) 5dd
158. Which command is used to erase 5 lines starting from the line where the cursor is on.
a) 5dd b) x5 c) 5x d) 5dd
159. _____ command will undo the last modification in vi editor.
a) U **b) u** c) R d) r
160. To join two lines press _____ key in vi editor.
a) C b) j **c) J** d) c
161. _____ and _____ commands moves a specified text to the desired destination.
a) ndd, p b) ndd, m c) dd,p d) dd,m
162. We can copy a line by _____ command.
a) ZZ b) YY **c) yy** d) nyy
163. Which command is used to copy n lines in Linux vi editor?
a) ZZ b) YY c) yy **d) nyy**
164. _____ allows you to search the pattern
a) / b) ? c) * **d) both a and b**
165. The _____ allows you to search the pattern forward in the text.
a) / b) ? c) * d) ~
166. The _____ allows you to search the pattern backward in the text.
a) / **b) ?** c) * d) ~
167. The _____ command allows you to change the entire contents of a line.
a) zz b) yy **c) cc** d) dd
168. _____ command allows you to change a single character where the cursor is currently on.
a) C b) c c) R **d) r**
169. _____ command allows you to overwrite text.
a) o b) r **c) R** d) r
170. The _____ command allows you to change a word
a) wc **b) cw** c) dw d) wd
171. The _____ command deletes a word.
a) wc b) cw **c) dw** d) wd
172. _____ can run on different types of processors including the older ones.
a) Window b) Linux c) Minix d) POSIX
173. _____ is a text file that contains Linux commands.
a) Shell Script b) Script c) Linux Script d) Notepad
174. The default shell of Linux is _____ shell
a) DASH b) SH **c) BASH** d) Login
175. By giving _____ command in the command prompt, a new shell is created.
a) ed b) echo **c) sh** d) script
176. We can change the File Access Permission (FAP) of the specified shell script using the command _____
a) cmode b) execute c) change **d) chmod**
177. _____ command with chmod gives the execute permission to any user.
a) x+u **b) +x** c) u+x d) +u

178. The _____ command gives the owner of the file the execute permission.
 a) x+u b) +x c) **u+x** d) +u
179. _____ are placeholders to store values in Linux Shell Scripts.
 a) commands b) constants c) strings d) **variables**
180. All Linux variables are treated as _____.
 a) expressions b) identifiers c) scripts d) **character strings**
181. Which of the following cannot be included in variable name?
 a) ! b) & c) blank space d) **All of these**
182. When declaring a variable, there must be no space on either side of the _____ operator.
 a) plus(+) b) dot (.) c) slash (/) d) **assignment**
183. The _____ symbol is used to refer the contents of a variable.
 a) + b) & c) **\$** d) #
184. Which command simply prints the string on the screen?
 a) print b) **echo** c) tee d) cd
185. _____ command serves as a prompt for the user.
 a) more b) **echo** c) tee d) cat
186. On execution, _____ command waits for the user to enter a value for the variable.
 a) cat b) input c) **read** d) echo
187. The _____ command is used to evaluate arithmetic expressions
 a) **exp** b) wc c) echo d) let
188. _____ will be treated as multiplicative operator in **exp** command.
 a) /x b) \x c) * d) /*
189. The command _____ lets you do arithmetic calculation and compare two values.
 a) **let** b) expr c) read d) cmp
190. The _____ command does arithmetical calculations more efficiently
 a) **let** b) expr c) read d) cmp
191. _____ can be used to store the output of a command in a variable.
 a) Control substitution b) **Command substitution**
 c) Command expression d) Output substitution
192. _____ key used to extract data from the command.
 a) percent(%) b) back slash (\) c) slash (/) d) **grave accent (~)**
193. _____ symbol extracts the date part alone in the format mm/dd/yy.
 a) %+d b) %+m c) **+%d** d) +%m
194. The graphical interface for Linux is the _____, _____.
 a) **KDE, GNOME** b) KDE, BASH c) GOME, KDE d) BASH, GNOME
195. Which of the following is not a distributor of Linux?
 a) Red Hat b) Mandrake c) Caldera d) **Microsoft**

TWO MARKS QUESTIONS AND ANSWERS

1. What are the two versions of Linux operating system?

- There are two versions for Linux:
 - i) Stable version
 - ii) Trial (or beta) version
- In a **n. x .y** version, the first number **n** specifies **version number**.
- If second number **x** is **even** then this is **stable** otherwise it is a beta version.
- **Example:** Linux 2.2.5 (x = 2, So this is stable version)

2. Write short notes on POSIX.

Linux was developed according to the ANSI standard for Unix is called as **Portable Operating system Interface for Computer Environments (POSIX)**.

3. Who is the super user?

- In Linux, the **System Administrator (SA)** is known as the root user or super user.
- He / She is primarily responsible for the smooth functioning of the system.
- The SA creates /home directories for the users
- The SA also takes backups to prevent loss of data due to system breakdown.
- The prompt for the root user is #

4. How will you know a hidden file name?

–a option with **ls** will list all the files and the sub-directories including the hidden files. We can combine the options –a and –l in any one of the following ways **–al, –la, –a -l or –l –a**.

Example:

```
[student@localhost student]$ ls -a
```

5. What are the two types of a file path name?

1. Absolute path name - complete path name of a file or directory starting with root directory
2. Relative path name - A relative path name begins with your working directory.

6. How will you know your working directory?

- To show the working directory, **pwd** command should be given at the \$ prompt.
- **pwd** means **print working directory** or **path** of your **working directory** or the **present working directory**.

7. How will you create a directory?

- **mkdir** (make directory) command is used to create a new directory.
- To move to the newly created directory, you have to make use of **cd** command.

Example:

```
[student@localhost student]$ mkdir marklist
```

8. What are the essential conditions to remove a directory using rmdir command?

The essential conditions to remove a directory using **rmdir** are:

- 1) The directory should be empty
- 2) The directory should not be the current directory.

9. How will you sort your files by size?

We can sort the files by size using the command **ls -s**.

Example:

```
[student@localhost student] $ ls -s
```

10. Write short notes on tee command.

tee command does double the work of the **cat** command. The **tee** command takes the input from the standard input, displays the content on the screen (just like **cat** command) and stores the same in the file specified.

11. Explain the function of man.

- If we want a help for some command, we have to use the command **man** (manual).
- We can also specify the level of help we need from **man**
- The level number should be specified in between **man** and the **command**

Example:

\$ man ls

12. What is the use of more command?

more command is used to see the contents of a file on the screen page by page.

Example:

\$ more file1

The output is:

It is a fun.

13. What is the use of Standard Input?

- Many Linux commands receive data from the **Standard Input**.
- The standard input is connected to either a device or to a file.
- By default the standard input is connected to the keyboard.
- The characters typed into the keyboard are taken to the standard input, which are then directed to the command.

14. What is the use of append(>>) operator?

The **append (>>) operator** adds the contents of the file, appearing left side of ">>" operator to the file appearing to the right side of the same operator, at the end of the existing material.

Example:

\$ cat file1 >> file2

appends the contents file1 to the contents of file2.

15. How will you execute a file in a floppy disk with the help of SA?

System administrator (SA) is the only one to use floppy disk and CD-ROM in the system and takes backups to prevent loss of data due to system breakdown.

16. What is the difference between the commands rm-r and rmdir?

rm-r	rmdir
It removes a directory along with its sub directories. Example: \$ rm -r alpha1	It removes a directory only which is empty. Example: \$ rmdir alpha1

17. How will you display your name like My name is x ?

echo command is used to display a message on the screen.

Example:

\$ echo " My name is x"

18. How will you delete a directory along with its sub directories?

rm command with the option **-r** or **-R** (for recursion) is used to delete a directory along with its sub directories.

Example:

\$ **rm -r** alpha1

- The above command removes alpha1 directory along with its subdirectories.

19. Write short notes on output redirection operator.

The output redirection operator (>) redirects the contents of the left hand side file (that is the file name before the ">" symbol) to the file in the right hand side (that is the file name after the ">" symbol).

Example:

\$ **cat** file1 > file2

20. Distinguish between pipes and redirection.

Redirection	Pipes
Redirection simply places output in a file	Pipes send the output to another command
Redirection operator works only on files and standard input or output	The pipe receives the data from the command, placed before the pipe and sends the data as input to the command placed after the pipe
The redirection symbol is "<" or ">"	The piping symbol is the vertical bar " ".

21. List the keys used to edit the text in a command line.

- left arrow (or ctrl + B)
- right arrow (or ctrl + F)
- Back space (ctrl + H)
- Delete key
- Ctrl + U , to delete the entire line

22. What is the use of Editors? List the Linux editors

Editors are mainly used for creating, deleting, and editing the files.

Linux editors:

- Ed Editor
- Vi Editor

23. Differentiate Ed and Vi Editors of Linux.

Ed Editor	Vi Editor
Ed allows the user for one line editing only	Vi editor allows the user to edit text of one screen at a time
Ed editor is not widely used.	Vi editor is still widely used

24. What are the two purposes of Editor for using keyboard?

- To specify editing commands
- To receive character input.

25. What are the two modes of Vi editor?**i) The command mode:**

In command mode all the keys on the keyboard become editing commands.

ii) The input mode:

In the input mode, the keyboard behaves as a normal typewriter with the exception

26. What is Shell Script?

- A shell script is a text file that contains Linux commands.
- We can create a file by using any of the standard editors such as **Vi editor**
- Shell scripts allow input/output operations and manipulation of variables

27. How do you create a variable in Linux?

Syntax for creating a variable:

```
<variable_name>=<value>
```

Examples:

```
name=SooryaHSS
name='SooryaHSS'
name="SooryaHSS"
number=7
```

- There must be no space on either side of the assignment operator (=)

28. How do you refer the content of a variable?

- The \$ symbol is used to refer the contents of a variable.
- \$ is known as reference operator

Examples:

```
$var2=$var1
$a=$b
```

29. What is the use of echo and read command?

echo: The **echo** command simply prints the string on the screen.

read: The **read** command is used to read a value for the variable

Example:

```
echo "Please enter your name"
read name
```

30. What is the use of command substitution?

To extract data from a command, we should place the command within backward quote (`). Command substitution can also be used to store the output of a command in a variable.

Example:

```
$ var1=`expr $var1 + 20`
```

31. How do you search the text in Vi Editor?

- We can search any pattern within the text.
- To find out the occurrence of a particular word or any pattern, we have to use either / or ?
- The (/) allows you to search the pattern, forward in the text.
- The ? allows you to search the pattern backward in the text.

THREE MARKS QUESTIONS AND ANSWERS

1. How will you change your current password?

A user can change his/her password with the **passwd** command.

Steps:

- i) the user enters his/her password
- ii) User enters the current password
- iii) User enters the new password
- iv) User re-enters the new password
- v) The New password is updated successfully

Example:

```
[student@localhost student]$ passwd
Changing password for student (current ) password: plusone
New password: eleventh
Retype new password: eleventh
passwd: all authentication tokens updated successfully
```

2. What are the rules that you should follow when you change your password?

- i) The password should not be less than six characters in length.
- ii) When changing a password, the new password should differ from the old password by at least three positions
- iii) The password should be different from the user's Login name
- iv) The new password cannot be the same as the old password.
- v) It is ridiculous to change the password with same password.
- vi) Since the SA can execute control over the entire system, SA can change the password of any user of the Linux system

3. What are the rules should be followed to create a file?

The file name,

- i) may contain characters, underscores, numbers, periods and commas.
- ii) can be up to 256 characters.
- iii) should not have a number as the first character.
- iv) should not begin with a period.
- v) should not contain slash, question mark and asterisk.
- vi) should not duplicate command names

4. What are the privileges of the root user?

- The System Administrator(SA) is primarily responsible for the smooth functioning of the system.
- The SA creates /home directories for the users
- He/she does the service to groups of users for the system.
- He/she is the only one to use floppy disk and CD-ROM in the system
- The SA also takes backups to prevent loss of data due to system breakdown.

5. What is the use of echo command?

- **echo** command is used to display a message to the user.
- The message will be displayed on the screen and the cursor will be on the next line.
- If we want to have the cursor in the same line with the message, then we should use the **-n** option with the **echo** command.

Example:

```
$ echo " Please enter your name"
$ echo -n "Please enter your name"
$ echo -n Please enter your name
```

6. What is the use of Input Redirection operator (<)?

- The data is normally sent to the standard input through the keyboard.
- We can make the standard input to receive data from files also.
- This is made possible by the **redirection input operator**.

Example:

```
$ cat < file3
```

- The redirection operator sends the contents of **file3** into the **standard input**.
- Then the **cat** command reads the standard input and displays the contents of file3 on the screen.

7. How do you move a file or a directory? (OR) What is the use of mv command?

The **mv** (move) command is used

1. to move a file or directory from one location to another.
2. to change the name of a file or a directory.

Syntax:

```
mv [options ] <source> <destination>
```

Example:

```
$ mv temp temporary
```

- the **temp** directory is renamed into a **temporary** directory

```
$ mv file1 /home/student/file1
```

- **file1** can be moved from the current directory to **/home/student** directory

8. Distinguish between mv and cp commands.

mv command	cp command
mv command is used to move a file or directory from one location to another	cp command is used to copy a file or directory from one location to another
Used to change the name of a file or a directory	Used to change the contents of a file
No file is created while moving a file.	New file may be created while copying a file.
Syntax: mv [options] <source> <destination>	Syntax: cp [options] <source file/s> <destination directory/file>
Example: \$ mv file1 /home/student/file1	Example: \$ cp file1 file2

9. How can you copy a directory along with all files in the directory?

We can also copy a directory recursively using **cp** command with the **-r** option.

Example:

```
$ cp -r alpha alpha1
```

- This command copies all the files and sub-directories of the **alpha** directory to the **alpha1** directory recursively.
- If directory **alpha1** exists already, all the contents are put inside the directory.
- If **alpha1** does not exist it will be created and all the files and the sub-directories are stored.

10. What is the difference between cat and more command?

cat command	more command
If the file is lengthy, we can see only the last page of the file in cat command	we can see the contents of the file page-by-page in more command
Example: \$ cat file1	Example: \$ more file1

11. Write short notes on tee command.

- The **tee** command copies the standard output to a file.
- It will split into two copies.
- Normally, one of them is redirected to the file appearing after the tee command and the other goes to the screen.
 \$ **cat** file5 | **tee** file6
- The sorted contents of the file can be copied into another file and also displayed on the screen.

12. Write short notes on standard input and output stream in Linux system.

In Linux all files are arranged as a continuous stream of bytes.

i) standard input:

- The input data stream is called as **standard input**.
- If we input the data, the data are converted into the data stream of continuous set of bytes.
- Normally the standard input is connected to the key board.
- We can redirect the standard input to the floppy disk etc

ii) standard output:

- The **standard output** is also data stream of continuous set of bytes.
- Normally the standard output is connected to the printer
- Standard output can also be redirected to a storing device such as CD, floppy

13. How do you view the system date and time?

- We can view the system date and time by giving the command **date** after \$ prompt.

Example:

```
$ date
Tue Nov 14 10:10:10 EST 2017
```

- The options of **data** command are specified within double-quotes.
- They must begin with a +symbol

Example:

```
$ date "+%m"
14
```

```
$ date "+%D"
14/11/17
```

```
$ date "+%T"
10:10:10
```

14. List some common file-handling commands used in Linux.

Some common file-handling commands are:

- **cat** - Displays the contents of files
- **more** - Displays the contents of specified file page by page
- **tee** - Displays the contents of the file on the screen and copies into the specified file
- **pipe** - Takes data from one command to another command.
- **>operator** - Takes data to the file.
- **< operator** - Takes data from the file to the command.
- **cp** - Makes copies of files
- **rm** - Removes a file or directory.
- **mv** - Moves or renames files and directories.

15. List the keys used for cursor movement in Vi editor

Key	Cursor movement
h	Left arrow
l	Right arrow
j	Down arrow
k	Up arrow
ctrl+B	moves one screen backward
ctrl+F	moves one screen Forward
G	move to the end of a file

16. What are the keys used to delete the text in Vi Editor?

Key	Deleting
x	deletes a single character
dd	removes the entire line
5x	deletes 5 characters from the position of the cursor
5dd	deletes 5 lines starting from the line where the cursor is on
Enter	To break a line
J	To join two lines

17. How do you move or copy a text in Vi Editor?**Moving:**

- **n**dd command is used to to move a certain part of the text. (**n** is number of lines)
- The deleted lines will be placed in the buffer.
- Move the cursor where you want to move the text, Press **p**.

Copying:

- We can copy a line by **yy** command
- **nyy** command copies n number of lines
- Move the cursor till the desired destination and press **p** key

18. How do you change the entire content of a line in Vi Editor?

- The **cc** command allows us to change the entire contents of a line.
- First it erases the line and changes to the input mode.
- So, we can enter the fresh line and then press ESC key.
- It is the combination of **dd** and **o**.

- The **r (replacement)** command allows us to change a single character
- The **R (Replacement)** command allows us to overwrite text
- The command **cw** allows us to change a word.
- The command **dw** deletes a word.

19. What is a variable? List the rules for creating Linux variables.

Variables are placeholders to store values. All Linux variables are treated as character strings.

Rules for creating Variable:

- The variable name in shell script may consist of alphabetic characters, the underscore and a number.
- It can not include the exclamation mark (!), the ampersand (&) or the blank space.
- The number should not be the first character.
- It should not be of unreasonable length.
- Command names should not be used as variable names.
- **Valid script variable names:** file1, bookshell, book_shell, a+b, rs-paise
- **Invalid script variable names:** a + b, a!b, ab&, a=b

20. How do you execute a Shell Script?

- By giving **sh** command in the command prompt, a new shell is created.
- This new shell is known as the **sub-shell** or the **child shell** of the current shell

\$ **sh** file_name

- To run a shell script directly at the \$ prompt, we can change the File Access Permission (FAP) of the specified shell script by granting the **execute** permission.

\$ **chmod u+x** filename

\$ filename

- The **+x** command with **chmod** gives the execute permission to any user.
- The **u+x** command gives the execute permission to the owner

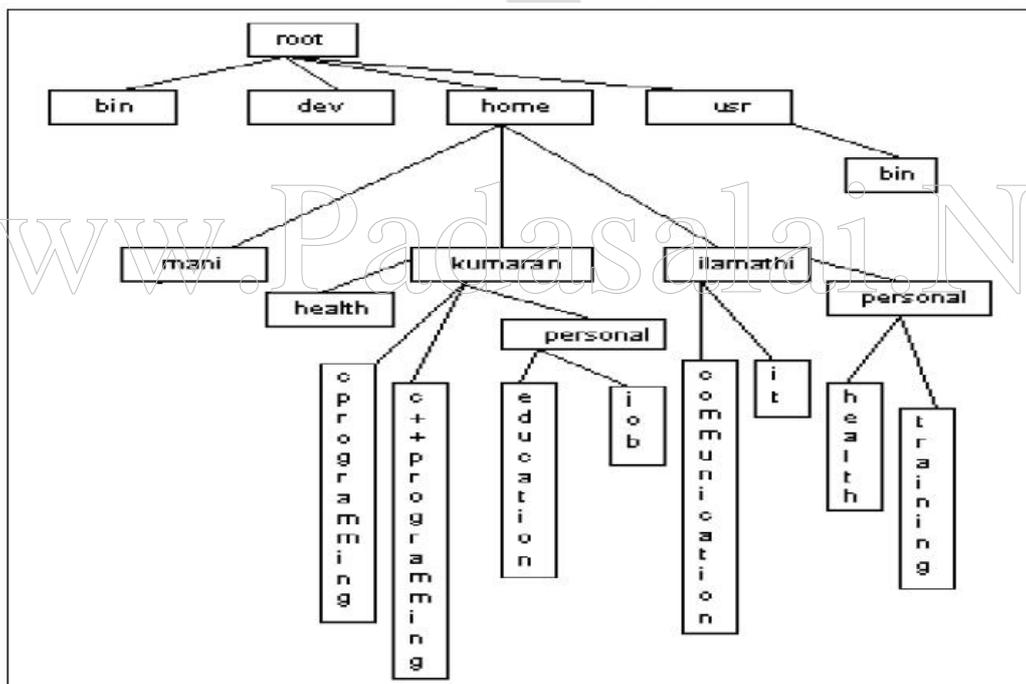
21. What is the difference between expr and let command?

expr command	let command
The expr command is used to evaluate arithmetic expressions.	let lets you do arithmetic calculation and compare two values
\$ is used to refer the value of the variable.	let command evaluates any variable without \$
expr needs blank space before and after the operator	let needs no blank space either before or after the operator
* will be treated as multiplicative operator.	The operator * should not be entered as *

FIVE MARKS QUESTIONS AND ANSWERS

1. Explain Linux File System in brief.

- All the information in the computer can be stored in a file.
- **File** is a collection of **records**.
- A **record** consists of **fields**.
- Collection of files is called as a **directory**. The collection of same type of files is placed in a directory
- All the files are stored on the disk under one main directory called the **root** directory.
- The **files** are arranged under a **tree structure**.
- The **leaf** represents the **file**, the **branches** represent **directories** or **sub-directories**
- The root directory has been further sub-divided into directories such as **bin, boot, home, usr, etc, lib, dev, tmp**.
- **User directories** are created under the **home** directory.
- The home directory is written as **/home**.
- **root** directory is the **parent** of home directory.
- There is no parent for the root directory. There is no child for the file.



Linux Directory Structure

2. Explain the different types of user in Linux system?

- i) The System Administrator or the Root User
- ii) File Owner
- iii) Group Owner
- iv) Other Users

i) The System Administrator:

- In Linux, the System Administrator (SA) is known as the root user or super user.
- He / She is primarily responsible for the smooth functioning of the system.
- The SA creates /home directories for the users
- He/she is the only one to use floppy disk and CD-ROM in the system
- The SA also takes backups to prevent loss of data due to system breakdown.
- The prompt for the root user is #

ii) File Owner

- The user who creates a file is said to be the owner of that file.
- The owner of a file can perform any operation on that file such as copying, deleting, and editing.

iii) Group Owner

- A group of people who work on a single project should share their files for efficiency.
- The files are created in the group leader's /home directory.
- All the members of the group share their files.
- This group of people is called group users.

iv) Other Users

- All the users of the system who are not members of a particular group are referred to as Other Users

3. How do you change the current directory? Explain.

- The **cd** (change directory) command changes the current directory to the specified directory.
- **cd** command will not show the directory on the screen.
- To show the directory, **pwd** command should be given at the \$ prompt.

Example:

```
[student@localhost student] $ pwd
```

```
/home/student
```

```
[student@localhost student] $ cd/usr/bin
```

```
/usr/bin
```

- The **double dots** (..) denote the path of **parent** directory.
- The **single dot** (.) represents the directory itself.
- There should be a blank space between **cd** and ..

Example:

```
[student@localhost bin] $ cd ..
```

```
[student@localhost/usr] $ pwd
```

```
/usr
```

- The **cd** command without any path name always takes a user to his/her home directory.

Example:

```
[student@localhost bin] $ cd
```

```
[student@localhost/usr] $ pwd
```

```
/home/student
```

- If a user moves from the current directory(for example **/usr/bin**) to another directory(for example **personal** directory), the combination of **tilde** (~) **sign** and **/personal** is used.

Example:

```
[student@localhost bin] $ ~/personal
```

```
[student@localhost/usr] $ pwd
```

```
/home/student/personal
```

4. How will you display the files, directories and subdirectories? Explain with options.

- **ls** command is used to find and display the files, directories and subdirectories.

Example:

```
[kumaran@localhost kumaran] $ ls /home/kumaran
healthprogramming      cplusplusprogramming  personal
```

```
[kumaran@localhost kumaran] $ ls -F
health /      cprogramming      cplusplusprogramming  personal /
```

- The common options available with **ls** command are:

Option	Function
-a	Lists all the files including hidden files.
-F	Shows the file type along with the name ('/' is added at the end of each directory).
-R	Lists Working Directory as well as all sub-directories.
-r	Displays files and sub-directories in the reverse order.
-s	Sorts by file size.
-A	Displays the files of almost all directories except the . and .. directories

5. What does **cat** command do? Write and discuss all the variations of **cat** command.

- i) **cat** command shows the contents of the specified file normally on the screen.

```
$ cat file1 - displays the contents of file1 on the screen.
$ cat file1 > file2 - the contents of the file1 is copied into the file 2.
```

- ii) The **cat** command without any argument takes the input from the standard input. We have to enter the data for **cat** command through keyboard

```
$ cat (Input from the keyboard)
```

- iii) **cat** command with output redirection(>) operator:

```
$ cat > file3
```

The typed message will be redirected to the **cat** command.

Ctrl+D

```
$ cat file3
```

The typed in material will be redirected to the **cat** command. \$

- iv) **cat** command with input redirection(<) operator:

- The redirection operator sends the contents of **file3** into the **standard input**.
- Then the **cat** command reads the standard input and displays the contents of **file3** on the screen.

```
$ cat < file3
```

- v) If the standard input is to be redirected to receive its data **from file3**, and the standard output is to be redirected to place its data **in file4**, you have to give the following command.

```
$ cat < file3 > file4
```

6. How will you copy contents file1 into file2 in different ways?

- **cp(copy)** command is used to copy the contents from one file into another.

Syntax:

```
$ cp [options] <source file/s> <destination directory/file>
```

- To copy the contents of the file1 into file6. The command is:
\$ **cp** file1 file6
- **file1** is the source file and **file6** is the destination file.
- The **cp** command copies the contents of source file after creating destination file.
- If the destination file already exists then the existing file is destroyed then a new file with same name is created
- Option **-i** in the **cp** command is used for getting a warning from the system before overwriting.

Example:

```
$ cp -i file1 file2
overwrite file2 ? n $
```

- We can also copy a directory recursively using **cp** command with the **-r** option.

Example:

```
$ cp -r alpha alpha1
```

7. List the Wildcard entries and their purpose.

Wildcard entries will help us to find out the exact file or folder name. Linux provides some special characters *, ?, [] as wildcard entries.

- To list out the files which start with **ch** or end with **.c**, the special character ***** will be used.

Example

```
$ ls
main.c fact.c swap.c char1 char2.ex doc1 doc2

$ ls ch*
char1 char2.ex

$ ls *.c
main.c fact.c swap.c
```

- The special character ***** stands for any number of characters.
\$ **rm** *
- The question mark **?** matches only a single incomplete character in filenames.
\$ **ls** char?
- The bracket **[]** gives a set of characters to search the file with them.
\$ **ls** doc[12]
doc1 doc2
- System lists the files that start with doc and end with either 1 or 2
\$doc[1-5] doc[a-g]
- System may search for **doc1, doc2, doc3, doc4, doc5**.
- Similarly system may search for **doca, docb, docc, docd, doce, docf, docg**.

8. Explain in brief how contents of a file is send using Pipes.

- The **pipe** receives the data from the command, placed before the pipe and sends the data as input to the command placed after the pipe.
- The piping symbol is the vertical bar “|”.

\$ cat file3 | lpr

- The contents of file3 are sent to the line printer(**lpr**) connected with the Linux system currently.
- To print a file (say file3) along with line number on the printer:

\$ cat -n file3 | lpr (or)

\$ cat -n file3 | more

- To see the contents of more than one file:
\$ cat -n file1 file2 file3 | more
- **sort** command sorts each line of the given file alphabetically and sends the sorted version to the standard output.

\$ sort file3 | more

9. What are the options available with date command?

OPTION	FUNCTION
%d	Day of the month(in digits)
%m	Month of the year (in digits)
%y	Year(last two digits)
%D	Date as mm/dd/yy
%H	Hour(00 to 23)
%M	Minutes(00to 59)
%S	Seconds(00 to 59)
%T	Time as HH:MM:SS
%a	Abbreviated weekday(sun to sat)
%h	Abbreviated month(jan to dec)
%r	Time in the AM/PM notation

10. Explain mount and umount commands.

mount:

- Establishing the connection between a file system on a storage device and your main directory tree is called **mounting the device**.
- Mounting the device is done with the **mount** command
- **mount** command should take two arguments:
 - (i) storage device such as floppy disk, through which Linux accesses the file system,
 - (ii) directory in the file structure to which the new file system is attached.

Syntax:

mount device destination

Example:

mount /dev/fd0 /admin

- Device files are located in the /dev directories
- They usually have abbreviated names, ending with the number of device.

Example:

fd0 - first floppy drive attached to your system.
fd1 - the second floppy drive attached to your system.
hda2 - the second partition on the first hard drive.

umount:

- umount command is used to unmount(remove) the devices from the system before we shut down.
- We can never unmount a file system that you are currently working in.

Syntax:

umount device (or destination)

Example:

umount /dev/fd0
 # **umount /admin**

11. Explain mounting and formatting of Floppy disks and CD-ROMs.

i) Mounting Floppy disks:

If you want to access the contents of a file on a floppy disk, first of all you should **mount** it. **mount** command is used to mount the floppy in the system.

Example:

mount /dev/fd0 /mnt/floppy

- If you want to replace a floppy disk by another one, you have to unmount the floppy in **/dev/fd0** and then explicitly mount the new floppy as follows:

umount /dev/fd0
 or
 # **umount /mnt/floppy**
 and
 # **mount /mnt/floppy**

- **mkfs** (make formatings) command formats a floppy.

ii) Mounting CD-ROMs:

To mount a CD-ROM disk, the OpenLinux system has the directory **/mnt/cdrom**

mount /mnt/cdrom

- If we want to change a CD-ROM disk by another one, first we have to unmount the existing CD-ROM disk and then mount the new CD-ROM as follows:

umount /mnt/cdrom

- We can interchange the CD-ROM.

mount /mnt/cdrom

- If we want to mount a CD-ROM to another directory, we have to include the device name in the mount command. For example, the device name for CD-ROM is **/dev/hdc**.

mount /dev/hdc /destination.

12. Explain how to do you create, save, edit and quit a File in Vi.**i) Creating a File:**

- We can create unnamed file as follows:

\$ vi

- To create a new file or edit an existing file with name **student**,

\$ vi student

- Press **a**, **i** or **o** to take to the **input mode**
- After entering the data, press **ESC** to change to the **command mode**.

ii) Saving the File:

- Press **ZZ** to save the file and then control exits the Vi editor, to return to the Linux shell.
- **:w** with a file name saves the file

iii) Quit the Editor:

- **:q** command is used to quit the Vi editor
- **:q!** command is used to quit the Vi editor without saving the changes.

13. List the features of Linux system.**Reliability:**

- Linux is a highly reliable system.
- Linux servers are not shut down for years together.
- Normally operating failures are unknown to Linux systems.

Backward Compatibility:

- Linux has excellent support for older hardware.
- It can run on different types of processors
- It can run the commands of its earlier version successfully.

Simple Upgrade and Installation:

- The installation procedure of most Linux versions is menu driven and easy.

Suitable to any machine:

- Suitable Linux version can run on any machine available now.
- This allows low investment for the hardware.
- The users, who have low configuration machines, prefer to use Linux OS compared to other OSs that require higher configurations.

GUI Interface:

- The graphical interface for Linux is the KDE, GNOME.
- It is divided into two sub systems consisting of a server and a client.
- The KDE, GNOME provides nearly all the comforts of the Windows 98 system.

Multiple Distributors:

- There are multiple distributors for Linux.
- Each one provides one's own added facilities.
- Some distributors of Linux are Red Hat, Caldera, Mandrake, Debian, and Slackware.

No Virus Attack:

- Virus is the most dreaded word in the Computer industry
- Linux is said to be free of any virus attack.

Security Features:

- Linux provides excellent security features.
- This is the reason why many Internet Service Providers (ISPs) switch over to Linux systems.

Can Support a High User Load:

- Linux can support a large number of users working simultaneously.

Development Libraries:

- Linux offers an excellent platform for many development languages like C++ and Perl.

14. Explain how do you evaluate arithmetic expressions in Shell Script? (OR)**What is the use of expr command? Explain.**

- The **expr** command is used to evaluate arithmetic expressions.
- The output of **expr** command is sent to the standard output
- The **expr** command supports +, - and /.
- * will be treated as multiplicative operator (*).

Example:

```
$ expr 10 + 5
$a=3
$b=2
$ expr $a + $b
```

- The above example will display 5 on the screen. There must be a space on either side of the operator (+).

- **\$ expr 1 / 2** and will display 0 and not 0.5
- **\$ expr 0.5 / 2** is an error. Since the decimal point will be treated as **dot**
- If the output is stored in a variable, we can use command substitution.

Example:

```
$ var1=5
$ var1=`expr $var1 + 20`
would assign 25 to var1.
```

15. What is the use of let command? Explain.

The command **let** is used to do arithmetic calculation and compare two values. The **let** operator stands for either the arithmetic or the relational operator

Syntax:

```
$ let <value1><operator><value2>
```

Example:

```
$ let pr=5*10
echo "The product is $pr"
```

The product is 50

To leave blank space/spaces before and after the operator, we should enclose the entire operation within quotes.

Example:

```
$ let "pr = 5 * 10"
echo "The product is $pr"
```

The product is 50

The following assignments are also possible in script programming by using the **let** command.

```
let a=0
let a=a+1
```
