Name: Atul Kumar Reg.No: 12102801
Roll No: RD2110B79 Course code: CAP448
Instructor: Dr. Yasir Iqbal Assignment: 02

Q1. Discuss steps of file creation and editing the file.

Ans: Linux file system considers everything as a file in Linux; whether it is text file, compiled program, directories etc. Linux files are case sensitive, so file1.txt and File1.txt will be considered as two different files. There are various ways to create a file in Linux like:-

① Using cat command: It is the most universal command for creating a file.
Syntax: cat > test.txt (filename)

② Using touch command: By using touch command we can create a empty file or multiple empty file.
Syntax: touch <filename>

③ Using echo command: It is also used to create a file, but we should specify the file content on the command line.

Syntax: echo "file content" > filename

→ Linux file system allows us to operate various operations on files like create, edit, rename, remove.

For editing a file in linux we can use editor commands like:

① VI editor: It is the most widely used text editor in Linux

Syntax: vi <filename>

Example: vi test.txt

Now our test.txt file is open but it is in normal mode (reading mode) If we want to edit contents of file first press i (insert mode) and write whatever you want and for saving the file first we have to press esc key and then press :wq (for save and exit). Now our file content is edited and save successfully.

② Nano editor: It is also used to edit a file in Linux.

Syntax: nano <filename>
Example: nano test.txt

The above command will open the test.txt file. To edit the test.txt file, move the cursor and enter the desired text and press ctrl+O keys to save the file and press ctrl+X keys to exit from the editor.

③ gedit editor: It is also used to edit a file in Linux.

Syntax: gedit <filename>
Example: gedit test.txt

The above command will open the test.txt file. To edit the test.txt file, move the cursor and enter the desired text and click on save button and close the file by clicking on cross button in the top right-corner.

Q2. Discuss the special characters of Linux

Ans: There are many special characters of Linux:

(1) ~ (Tilde): The tilde (~) is shorthand for our home directory. Wherever we are in the filesystem, we can use this command to go to our home directory.

eg: cd ~

(2) . (single dot): A period (.) represents the current directory. For example if you want to run a script from the current directory, we would call it like: ./script.sh

(3) .. (double dot): The double dot represents the parent directory of our current one.

eg: cd ..

(4) / (forward slash): We can use this command to move to the root directory quickly.

eg: cd /

⑤ #(hash): We can use hash symbol for comment line.

eg: #This will be ignored by the Bash

⑥ ?(Question mark): It represents exactly one character.

eg: ls text?.txt

⑦ *(asterisk): It is used to stand any sequence of characters, including no characters.

eg: ls badge*

⑧ ;(semicolon): We can use it for type as many commands as we can.

eg: ls > count.txt; wc -l count.txt;
rm count.txt

⑨ &(ampersand): It is used for Background process.

eg: gedit file1.txt &

⑩ |(pipe): It is used for filters.

eg: cat file1|grep ^a|sort -r

Q3. Discuss how to pass the parameters to functions and how to return the value.

Ans: A shell function is nothing but a set of one or more commands/ statements that act as a complete routine.

→ Each function must have a unique name.

→ Shell functions have their own commands line argument or parameters.

→ Use shell variable $1, $2, .. $n to access argument passed to the function.

Function with parameter

```
mca() #function name
{
echo "Hello MCA $1 $2"
}
mca Atul Kumar #invoke function
 ↓     ↓     ↓
function arg1  arg2
 name
```

Output

Hello MCA Atul Kumar.

→ Function with parameter and return type.

```
mca() #function declared
{
echo "Hello MCA $1 $2"
    return 420 # return type
}
mca Atul Kumar
var = $?
echo "Return is $var"
```

Output

Hello MCA Atul Kumar
Return is 420