Linux – Assignment 3

1. **What is tar command? Why is it used?**

   The ‘tar’ command is a tool used in Unix-like systems to bundle files and directories together into a single archive file. It's helpful for organizing, storing, and transferring multiple files at once.

   It can also compress these archives to save space and make them easier to manage. Essentially, it's a handy way to package and organize files.

2. **Explain Regular Expressions and Grep**

   Regular expressions, often abbreviated as regex, are patterns used to match character combinations in strings. They're like search queries but more flexible and powerful. Regular expressions are used in many programming languages and tools for tasks like searching, replacing, and validating text.

   ‘grep’ is a command-line tool used in Unix-like operating systems to search for patterns in text files. It stands for "Global Regular Expression Print." You give it a regular expression pattern, and it looks through files to find lines that match that pattern, then prints those lines to the terminal. It's handy for quickly finding specific information within files or streams of text.

3. **What is the minimum number of disk partitions required to install Linux?**

   The minimum number of disk partitions required to install Linux is technically one. You can install Linux on a single partition, commonly referred to as the root partition ("/"). However, it's a common practice to create additional partitions for better organization, management, and security.

4. **How to copy a file in Linux?**

   To copy a file in Linux, you can use the ‘cp’ command followed by the name of the file you want to copy and the destination where you want to copy it.

   Here's a simple example:

   - *cp <source_file/directory> <destination_file/directory >*

5. **How to terminate a running process in Linux?**

   To terminate a running process in Linux, you can use the ‘kill’ command followed by the process ID (PID) of the process you want to terminate.

   Here's a simple example:

   - *kill <ProcessID>*

6. **How to rename a file in Linux?**

   To rename a file in Linux, you can use the ‘mv’ command followed by the current name of the file and the new name you want to give it.

   Here's a simple example:

   - *mv <old_file_name> <new_file_name>*

7. **How to write the output of a command to a file?**

   To write the output of a command to a file in Linux, you can use the > symbol followed by the name of the file you want to write to.

   Here's a simple example:

   - *command > output_file*

   Replace *command* with the command whose output you want to write to a file, and *output_file* with the name you want for the output file. If the file doesn't exist, it will be created. If it already exists, its contents will be overwritten.

8. **How to see the list of mounted devices on Linux?**

   To see the list of mounted devices on Linux, you can use the ‘mount’ command without any arguments.

   Here's a simple example:

   - *mount*

   This command will display a list of all currently mounted filesystems, including their device names, mount points, and filesystem types.

9. **How to find where a file is stored in Linux?**

   To find where a file is stored in Linux, you can use the 'locate' or 'find' command followed by the name of the file you're looking for.

   - *locate <filename>*
   - *find / -name <filename>*

10. **How to find the difference between two configuration files?**

    To find the difference between two configuration files in Linux, you can use the 'diff' command followed by the names of the files you want to compare.

    - *diff <file1> <file2>*