

## Task 4: Using grep to Search within Files

### Objective

Utilize the grep command to search text within files and redirect the output to another file.

### Task Description

Search for all occurrences of the word "Linux" in the file LinuxHistory.txt and redirect the matching lines to a new file named LinuxInstances.txt.

### Command Used

```
grep "Linux" LinuxHistory.txt > LinuxInstances.txt
```

### Explanation

The grep command searches for lines containing the word Linux in the given file. The output redirection operator (>) saves the result into LinuxInstances.txt instead of displaying it on the terminal.

### Verification Command

```
cat LinuxInstances.txt
```

### Expected Output

The LinuxInstances.txt file will contain all lines from LinuxHistory.txt that include the word Linux.

### Screenshot Section

#### 1. Execution of grep command & output verification using cat command

```
student@student-virtual-machine:~$ cd 25SUB4508_56133/
student@student-virtual-machine:~/25SUB4508_56133$ ll
total 28
drwxrwxr-x  4 student student 4096 Dec 20 11:24 ./
drwxr-x--- 26 student student 4096 Dec 18 16:05 ../
drwxrwxr-x  2 student student 4096 Dec 18 16:30 day_06/
dr-xr-xr-x  2 student student 4096 Dec 16 12:53 day_09/
-rw-rw-r--  1 student student 309 Dec 17 12:47 first_nano.cpp
-rw-rw-r--  1 student student   0 Dec 16 15:47 hello.cpp
-rw-rw-r--  1 student student 1148 Dec 17 16:51 LinuxHistory.txt
-rwxr-xr-x  1 student student   0 Dec 16 15:32 test_1.txt*
-rw-rw-r--  1 student student 147 Dec 17 12:50 test_2.txt
student@student-virtual-machine:~/25SUB4508_56133$ grep "Linux" LinuxHistory.txt > LinuxInstances.txt
student@student-virtual-machine:~/25SUB4508_56133$ cat LinuxInstances.txt
Origins of Linux:
- 1991: Linux was created by Linus Torvalds, a Finnish computer science student, who wanted to develop a free and open-source operating system as a hobby.
- Linux Kernel: The first version, Linux 0.01, was released on September 17, 1991. It was minimalistic but had the potential to grow into a full operating system.
- Collaboration: Torvalds released the Linux kernel under the GNU General Public License (GPL), allowing programmers worldwide to contribute to its development.
- GNU Project: The combination of the Linux kernel and the GNU tools (from the Free Software Foundation) formed the complete GNU/Linux operating system.
GNU/Linux Philosophy:
- Open Source: Linux is open-source, allowing anyone to contribute to its development.
- Community and Collaboration: Linux thrives on a global community of developers and users working together to improve the system.
student@student-virtual-machine:~/25SUB4508_56133$
```

## External References

- Linux Operating System
- Terminal / Shell
- grep command
- cat command
- Text editor (nano / vi)
- Microsoft Word / LibreOffice Writer

## Conclusion

This task demonstrates how grep can efficiently search text within files and redirect results for documentation or further processing.