NETWORKING & SYSTEM ADMINISTRATION LAB

Experiment No.: 7

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Date: 21-04-2022

Aim

Familiarization of Linux Commands – Part 07

Procedure

1. **Read [variable name]:** Read the content mentioned in the console into a mentioned variable. E.g., read name.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ read name
This is my name.
student@S35:~/Documents/Sanio MCA - Sem 02$ echo $name
This is my name.
student@S35:~/Documents/Sanio MCA - Sem 02$
```

2. **locate [filename / directory name]:** This command is used to locate/find the file or directory from the mentioned location.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ ls
 04-04-2022   emp.txt  'Experiment 03'  'Experiment 07'  'Linux Commands.docx'   marvel-part2.txt   marvel.txt   sample.txt
student@S35:~/Documents/Sanio MCA - Sem 02$ locate marvel.txt
/home/student/Documents/Sanio MCA - Sem 02/marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$ locate lab_cycle_3.py
/home/mca/Downloads/lab_cycle_3.py
/home/student/Documents/Sanio MCA - Sem 01/09-12-2021/lab_cycle_3.py
student@S35:~/Documents/Sanio MCA - Sem 02$
```

   a) **locate -i [filename]:** This command is used to locate/find the mentioned file or directory from the specified after ignoring the case.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ ls
 04-04-2022   emp.txt  'Experiment 03'  'Experiment 07'  'Linux Commands.docx'   marvel-part2.txt   marvel.txt   sample.txt
student@S35:~/Documents/Sanio MCA - Sem 02$ locate -i Marvel.txt
/home/student/Documents/Sanio MCA - Sem 02/.marvel.txt.swo
/home/student/Documents/Sanio MCA - Sem 02/.marvel.txt.swp
/home/student/Documents/Sanio MCA - Sem 02/marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```

3. **find [filename]:** This command is used to find the file from only from the current directory and shows the file name if the file exists.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ ls
 04-04-2022   emp.txt  'Experiment 03'  'Experiment 07'  'Linux Commands.docx'   marvel-part2.txt   marvel.txt   sample.txt
student@S35:~/Documents/Sanio MCA - Sem 02$ find emp.txt
emp.txt
student@S35:~/Documents/Sanio MCA - Sem 02$ find emp1.txt
find: 'emp1.txt': No such file or directory
student@S35:~/Documents/Sanio MCA - Sem 02$
```

4. **grep "text" [filename]:** This command lets you search through all the text in a given file and displays the text containing line.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ ls
 04-04-2022   emp.txt  'Experiment 03'  'Experiment 07'  'Linux Commands.docx'   marvel-part2.txt   marvel.txt   sample.txt
student@S35:~/Documents/Sanio MCA - Sem 02$ cat emp.txt
Sanad 30000
Denvin 45000
Kevel 24000
Samiksha 34000
Calvin 36000
student@S35:~/Documents/Sanio MCA - Sem 02$ grep Kevel emp.txt
Kevel 24000
student@S35:~/Documents/Sanio MCA - Sem 02$ grep username emp.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```

a) **grep –i "text" [filename]:** This command is used to search the mentioned text from the specified file ignoring the case sensitivity.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$ grep -i "english" sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
```

b) **grep -v "text" [filename]:** This command helps to search lines from the files which doesn't contains the mentioned text.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$ grep -v "originally" sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
```

c) **cat [filename] | grep "text":** This command is used to print whole content of that line that contains the mentioned text along with the highlighted mentioned text from the file.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt | grep "beautiful"
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
```

d) **grep -A1 "text" [filename]:** This command helps to print the line that contains the mentioned text just like the previous command as well as print the line after the selected line.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$ grep -A1 "based" sample.txt
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
student@S35:~/Documents/Sanio MCA - Sem 02$
```

e) **grep -B1 "text" [filename]:** This command helps to print the line that contains the mentioned text just like the previous command as well as print the line before the selected line.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$ grep -B1 "based" sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
student@S35:~/Documents/Sanio MCA - Sem 02$
```

f) **grep -C1 "text" [filename]:** This command helps to print the line that contains the mentioned text just like the previous command as well as print the both the lines i.e., before & after the selected line.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ cat sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
The Bible, for example, is a translation. But they are all well known in English today, and many of them express beautiful thoughts.
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$
student@S35:~/Documents/Sanio MCA - Sem 02$ grep -C1 "based" sample.txt
These are short, famous texts in English from classic sources like the Bible or Shakespeare.
Some texts have word definitions and explanations to help you. Some of these texts are written in an old style of English. Try to understand t
hem, because the English that we speak today is based on what our great, great, great, great grandparents spoke before!
Of course, not all these texts were originally written in English.
student@S35:~/Documents/Sanio MCA - Sem 02$
```

5. **df:** This command is used to access the system disk space usage.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ df
Filesystem     1K-blocks     Used Available Use% Mounted on
udev             3988824        0   3988824   0% /dev
tmpfs             803864     1904    801960   1% /run
/dev/sda6      114460828 40291776  68311672  38% /
tmpfs            4019320        0   4019320   0% /dev/shm
tmpfs               5120        4      5116   1% /run/lock
tmpfs            4019320        0   4019320   0% /sys/fs/cgroup
/dev/loop4          1024     1024         0 100% /snap/gnome-logs/81
/dev/loop9        144128   144128         0 100% /snap/gnome-3-26-1604/98
/dev/loop0           256      256         0 100% /snap/gtk2-common-themes/13
/dev/loop7           768      768         0 100% /snap/gnome-characters/761
/dev/loop3          2688     2688         0 100% /snap/gnome-calculator/920
/dev/loop14       207872   207872         0 100% /snap/vlc/1397
/dev/loop5           768      768         0 100% /snap/gnome-characters/741
/dev/loop2        540928   540928         0 100% /snap/pycharm-community/274
/dev/loop11          128      128         0 100% /snap/bare/5
/dev/loop26          256      256         0 100% /snap/gtk2-common-themes/9
/dev/loop8         63488    63488         0 100% /snap/core20/1376
/dev/loop32        46080    46080         0 100% /snap/gtk-common-themes/1440
/dev/loop13         2560     2560         0 100% /snap/gnome-calculator/884
/dev/loop1        302848   302848         0 100% /snap/vlc/2344
/dev/loop15       168832   168832         0 100% /snap/gnome-3-28-1804/161
/dev/loop17        56960    56960         0 100% /snap/core18/2344
/dev/loop23        63488    63488         0 100% /snap/core20/1405
/dev/loop6        224256   224256         0 100% /snap/gnome-3-34-1804/72
/dev/loop18        66816    66816         0 100% /snap/gtk-common-themes/1519
/dev/loop19       144128   144128         0 100% /snap/gnome-3-26-1604/104
/dev/loop20       400768   400768         0 100% /snap/gimp/383
/dev/loop21         2688     2688         0 100% /snap/gnome-system-monitor/169
/dev/loop22          640      640         0 100% /snap/gnome-logs/106
/dev/loop10       113408   113408         0 100% /snap/core/12821
/dev/loop12        56960    56960         0 100% /snap/core18/2284
/dev/loop28       254848   254848         0 100% /snap/gnome-3-38-2004/99
/dev/loop31         2688     2688         0 100% /snap/gnome-system-monitor/174
/dev/loop27       224256   224256         0 100% /snap/gnome-3-34-1804/77
/dev/loop29       164096   164096         0 100% /snap/gnome-3-28-1804/116
/dev/loop24       253952   253952         0 100% /snap/gnome-3-38-2004/87
```

a) **du -m:** Used to access the reports of the space in megabytes.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ df -m
Filesystem     1M-blocks  Used Available Use% Mounted on
udev               3896      0      3896   0% /dev
tmpfs               786      2       784   1% /run
/dev/sda6        111779  39348     66711  38% /
tmpfs              3926      0      3926   0% /dev/shm
tmpfs                 5      1         5   1% /run/lock
tmpfs              3926      0      3926   0% /sys/fs/cgroup
/dev/loop4            1      1         0 100% /snap/gnome-logs/81
/dev/loop9          141    141         0 100% /snap/gnome-3-26-1604/98
/dev/loop0            1      1         0 100% /snap/gtk2-common-themes/13
/dev/loop7            1      1         0 100% /snap/gnome-characters/761
/dev/loop3            3      3         0 100% /snap/gnome-calculator/920
/dev/loop14         203    203         0 100% /snap/vlc/1397
/dev/loop5            1      1         0 100% /snap/gnome-characters/741
/dev/loop2          529    529         0 100% /snap/pycharm-community/274
/dev/loop11           1      1         0 100% /snap/bare/5
/dev/loop26           1      1         0 100% /snap/gtk2-common-themes/9
/dev/loop8           62     62         0 100% /snap/core20/1376
/dev/loop32          45     45         0 100% /snap/gtk-common-themes/1440
/dev/loop13           3      3         0 100% /snap/gnome-calculator/884
/dev/loop1          296    296         0 100% /snap/vlc/2344
/dev/loop15         165    165         0 100% /snap/gnome-3-28-1804/161
/dev/loop17          56     56         0 100% /snap/core18/2344
/dev/loop23          62     62         0 100% /snap/core20/1405
/dev/loop6          219    219         0 100% /snap/gnome-3-34-1804/72
/dev/loop18          66     66         0 100% /snap/gtk-common-themes/1519
/dev/loop19         141    141         0 100% /snap/gnome-3-26-1604/104
/dev/loop20         392    392         0 100% /snap/gimp/383
/dev/loop21           3      3         0 100% /snap/gnome-system-monitor/169
/dev/loop22           1      1         0 100% /snap/gnome-logs/106
```

6. **du:** This command is used to see/check the space usage of the current directory.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ du
608     ./Experiment 07/Outputs
612     ./Experiment 07
32      ./Experiment 03/Outputs
36      ./Experiment 03
8       ./04-04-2022/Outputs
20      ./04-04-2022
732     .
student@S35:~/Documents/Sanio MCA - Sem 02$
```

7. **wc [filename]:** Used for counting purpose and is used to find the number of lines, number of words, number of characters and number of bytes.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ wc marvel.txt
 9 14 84 marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```

a) **wc -i [filename]:** Used to list of number of lines.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ wc -l marvel.txt
9 marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```

b) wc -w [filename]: Used to list of the number of words.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ wc -w marvel.txt
14 marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```

c) wc –c [filename]: Used to list of the number of words.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ wc -c marvel.txt
84 marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```

d) wc -m [filename]: Used to list of number of bytes.

```
student@S35:~/Documents/Sanio MCA - Sem 02$ wc -m marvel.txt
84 marvel.txt
student@S35:~/Documents/Sanio MCA - Sem 02$
```