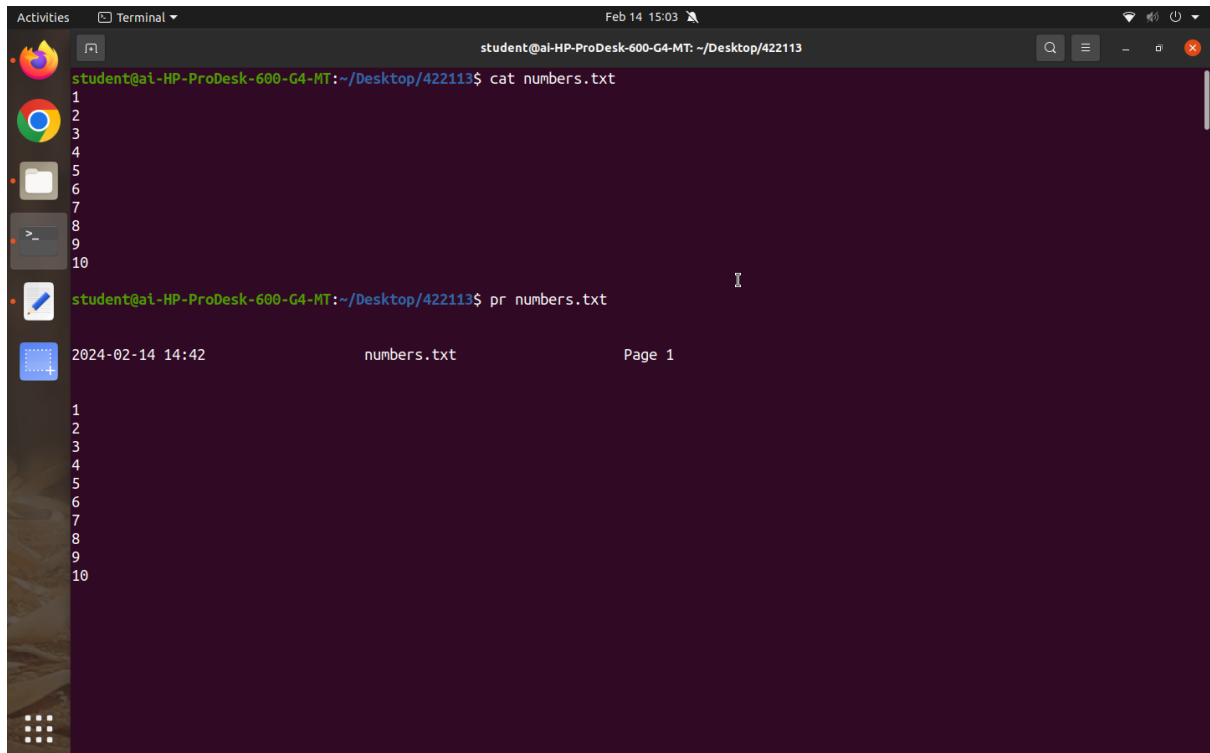


# UNIX AND SHELL SCRIPTING LAB

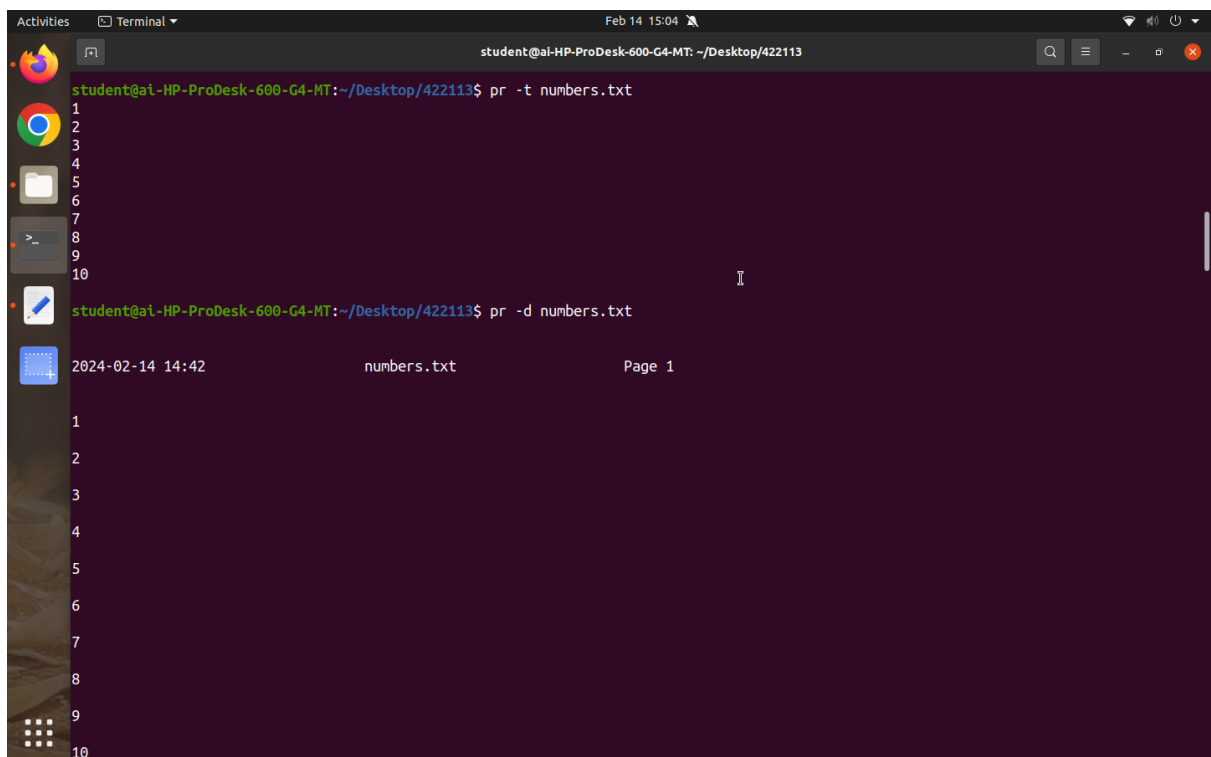
## ASSIGNMENT-1

REVANTH REDDY AVUTHU \_422113\_ "A"

Cat and pr commands:

A terminal window titled 'student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113' showing the execution of the 'cat numbers.txt' command. The output displays a list of numbers from 1 to 10. The terminal interface includes a sidebar with application icons and a top status bar with system information.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cat numbers.txt
1
2
3
4
5
6
7
8
9
10
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$
```

A terminal window titled 'student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113' showing the execution of the 'pr -t numbers.txt' and 'pr -d numbers.txt' commands. The output displays a list of numbers from 1 to 10, formatted with a header and a footer. The terminal interface includes a sidebar with application icons and a top status bar with system information.

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ pr -t numbers.txt
1
2
3
4
5
6
7
8
9
10
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ pr -d numbers.txt
2024-02-14 14:42          numbers.txt          Page 1
1
2
3
4
5
6
7
8
9
10
```

```
student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ pr --version
pr (GNU coreutils) 8.30
Copyright (C) 2018 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <https://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Written by Pete TerMaat and Roland Huebner.
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ pr --help
Usage: pr [OPTION]... [FILE]...
Paginate or columnate FILE(s) for printing.

With no FILE, or when FILE is -, read standard input.

Mandatory arguments to long options are mandatory for short options too.
+FIRST_PAGE[:LAST_PAGE], --pages=FIRST_PAGE[:LAST_PAGE]
    begin [stop] printing with page FIRST_[LAST_]PAGE
-COLUMN, --columns=COLUMN
    output COLUMN columns and print columns down,
    unless -a is used. Balance number of lines in the
    columns on each page
-a, --across
    print columns across rather than down, used together
    with -COLUMN
-c, --show-control-chars
    use hat notation (^G) and octal backslash notation
-d, --double-space
    double space the output
-D, --date-format=FORMAT
    use FORMAT for the header date
-e[CHAR[WIDTH]], --expand-tabs[=CHAR[WIDTH]]
    expand input CHARs (TABs) to tab WIDTH (8)
-F, -f, --form-feed
    use form feeds instead of newlines to separate pages
    (by a 3-line page header with -F or a 5-line header
    and trailer without -F)
-h, --header=HEADER
    use a centered HEADER instead of filename in page header,
```

```
-h, --header=HEADER
    use a centered HEADER instead of filename in page header,
    -h "" prints a blank line, don't use -h""
-i[CHAR[WIDTH]], --output-tabs[=CHAR[WIDTH]]
    replace spaces with CHARs (TABs) to tab WIDTH (8)
-J, --join-lines
    merge full lines, turns off -W line truncation, no column
    alignment, --sep-string[=STRING] sets separators
-l, --length=PAGE_LENGTH
    set the page length to PAGE_LENGTH (66) lines
    (default number of lines of text 56, and with -F 63).
    implies -t if PAGE_LENGTH <= 10
-m, --merge
    print all files in parallel, one in each column,
    truncate lines, but join lines of full length with -J
-n[SEP[DIGITS]], --number-lines[=SEP[DIGITS]]
    number lines, use DIGITS (5) digits, then SEP (TAB),
    default counting starts with 1st line of input file
-N, --first-line-number=NUMBER
    start counting with NUMBER at 1st line of first
    page printed (see +FIRST_PAGE)
-o, --indent=MARGIN
    offset each line with MARGIN (zero) spaces, do not
    affect -w or -W, MARGIN will be added to PAGE_WIDTH
-r, --no-file-warnings
    omit warning when a file cannot be opened
-s[CHAR], --separator[=CHAR]
    separate columns by a single character, default for CHAR
    is the <TAB> character without -w and 'no char' with -w.
    -s[CHAR] turns off line truncation of all 3 column
    options (-COLUMN|-a -COLUMN|-n) except -w is set
-S[STRING], --sep-string[=STRING]
    separate columns by STRING,
    without -S: Default separator <TAB> with -J and <space>
    otherwise (same as -S " "), no effect on column options
-t, --omit-header
    omit page headers and trailers;
    implied if PAGE_LENGTH <= 10
-T, --omit-pagination
    omit page headers and trailers, eliminate any pagination
    by form feeds set in input files
```

```
Activities Terminal Feb 14 15:05 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113

-T, --omit-pagination      omit page headers and trailers, eliminate any pagination
                           by form feeds set in input files
-v, --show-nonprinting     use octal backslash notation
-W, --width=PAGE_WIDTH     set page width to PAGE_WIDTH (72) characters for
                           multiple text-column output only, -s[char] turns off (72)
-W, --page-width=PAGE_WIDTH set page width to PAGE_WIDTH (72) characters always,
                           truncate lines, except -J option is set, no interference
                           with -S or -s
--help                    display this help and exit
--version                 output version information and exit

GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Full documentation at: <https://www.gnu.org/software/coreutils/pr>
or available locally via: info '(coreutils) pr invocation'
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ pr -5 numbers.txt

2024-02-14 14:42          numbers.txt          Page 1

1           4           6           8          10
2           5           7           9
3
```

Head command:

```
Activities Terminal Feb 14 15:05 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113

student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cat names.txt
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chalthanya
Rakesh

student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head names.txt
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chalthanya
Rakesh

student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head -n 5 names.txt
Revanth
Rahul
Aditya
Vivek
Harish

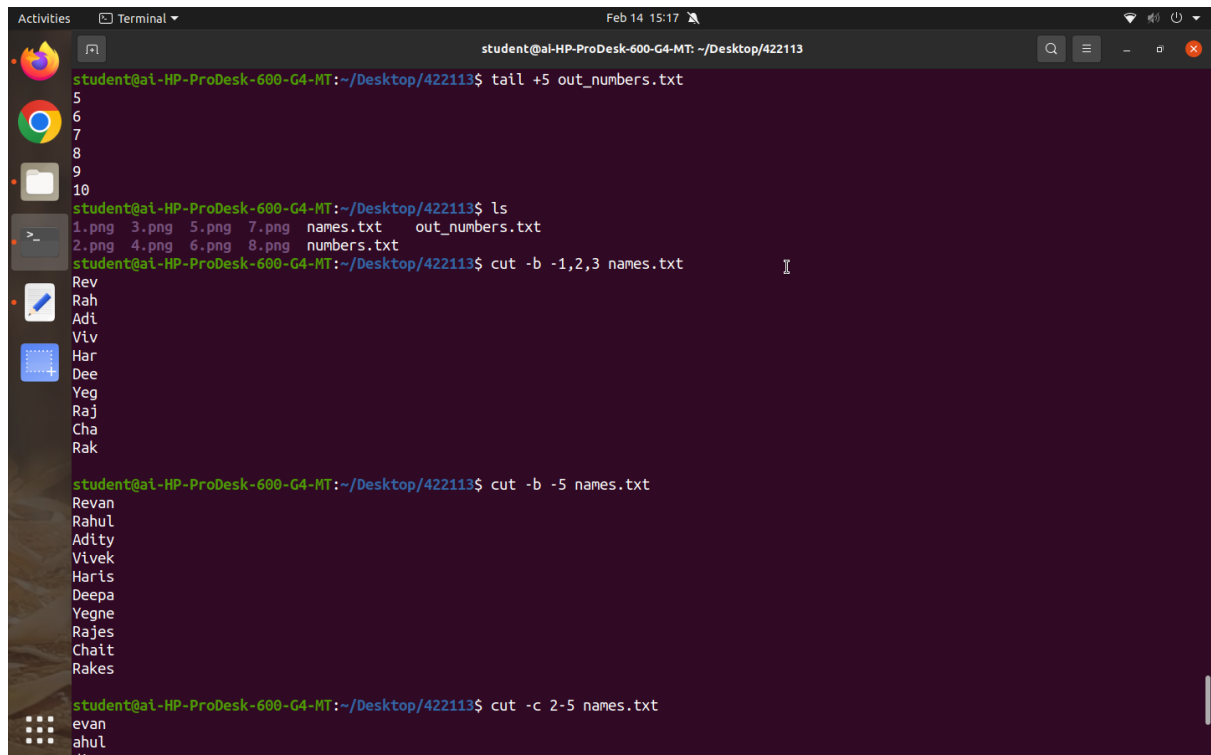
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head -c 25 names.txt
Revanth
Rahul
Aditya

Vstudent@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head -v names.txt
==> names.txt <==
Revanth
Rahul
```

```
Activities Terminal Feb 14 15:06 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
Vls student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head -v names.txt
==> names.txt <==
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chaitanya
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head number.txt names.txt
head: cannot open 'number.txt' for reading: No such file or directory
==> names.txt <==
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chaitanya
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head numbers.txt names.txt
==> numbers.txt <==
1
2
3
4
5
6
7
8
9
10
```

```
Activities Terminal Feb 14 15:08 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head numbers.txt names.txt
==> numbers.txt <==
1
2
3
4
5
6
7
8
9
10
==> names.txt <==
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chaitanya
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ head numbers.txt > out_numbers.txt
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cat out_numbers.txt
1
2
3
4
5
6
7
8
9
10
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$
```

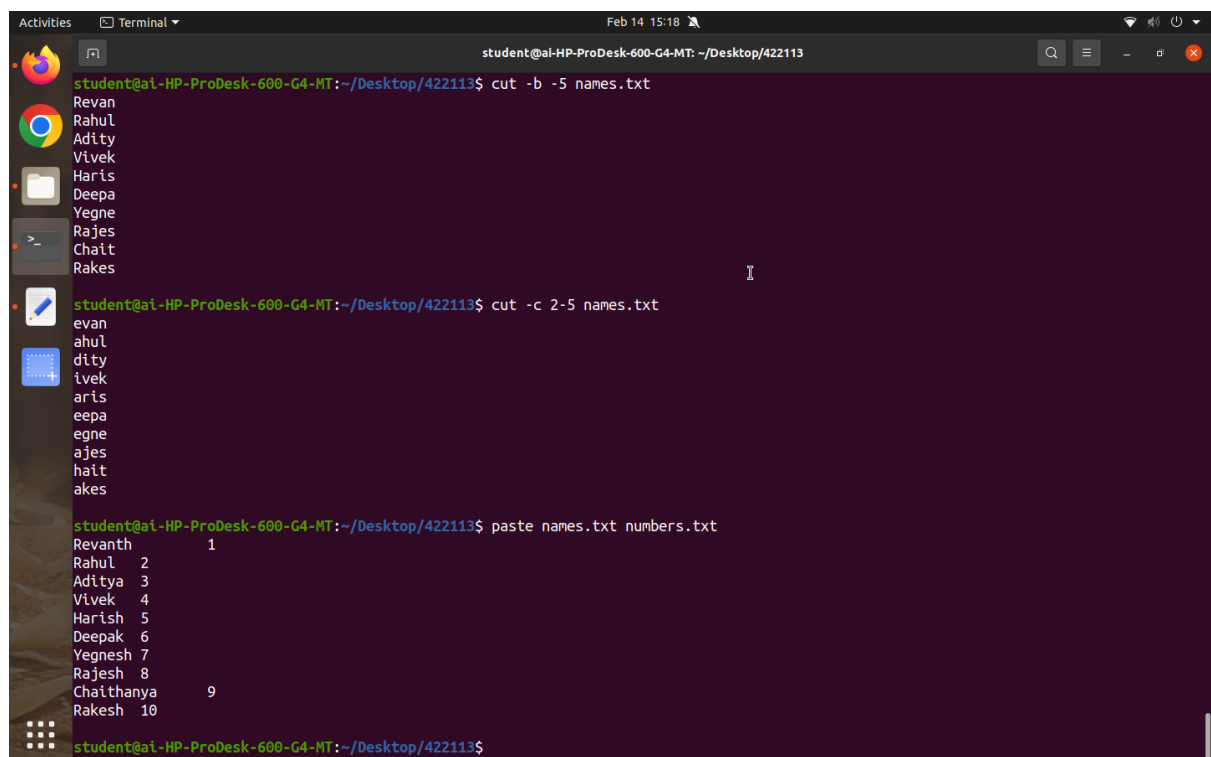
tail and cut commands:



A terminal window titled 'student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113' showing the following commands and output:

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ tail +5 out_numbers.txt
5
6
7
8
9
10
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ ls
1.png 3.png 5.png 7.png names.txt out_numbers.txt
2.png 4.png 6.png 8.png numbers.txt
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cut -b -1,2,3 names.txt
Rev
Rah
Adi
Viv
Har
Dee
Yeg
Raj
Cha
Rak
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cut -b -5 names.txt
Revan
Rahul
Aditya
Vivek
Harish
Deepa
Yegnesh
Rajesh
Chait
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cut -c 2-5 names.txt
evan
ahul
```

Paste command:



A terminal window titled 'student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113' showing the following commands and output:

```
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cut -b -5 names.txt
Revan
Rahul
Aditya
Vivek
Harish
Deepa
Yegnesh
Rajesh
Chait
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cut -c 2-5 names.txt
evan
ahul
ditya
ivek
arish
eepa
egne
ajes
hait
akes
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ paste names.txt numbers.txt
Revanth      1
Rahul        2
Aditya       3
Vivek        4
Harish       5
Deepak       6
Yegnesh      7
Rajesh       8
Chaitanya    9
Rakesh      10
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$
```

Sort and uniq commands:

```
student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ paste -d "," numbers.txt names.txt numbers.txt
1|Revanth,1
2|Rahul,2
3|Aditya,3
4|Vivek,4
5|Harish,5
6|Deepak,6
7|Yegnesh,7
8|Rajesh,8
9|Chalthanya,9
10|Rakesh,10
1,
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ paste -s -d ":" numbers.txt names.txt numbers.txt
1:2:3:4:5:6:7:8:9:10:
Revanth :Rahul:Aditya :Vivek:Harish:Deepak:Yegnesh:Rajesh:Chalthanya:Rakesh:
1:2:3:4:5:6:7:8:9:10:
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ sort names.txt
Aditya
Chalthanya
Deepak
Harish
Rahul
Rajesh
Rakesh
Revanth
Vivek
Yegnesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cat names.txt
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chalthanya
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ sort -r names.txt
sort: cannot read 'r': No such file or directory
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$
```

```
student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ sort -r names.txt
Yegnesh
Vivek
Revanth
Rakesh
Rajesh
Rahul
Harish
Deepak
Chalthanya
Aditya
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cat colors.txt
Red
Red
Black
Black
Black
Black
Blue
Grey
White
Red
Blue
Pink
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ uniq colors.txt
Red
Black
Blue
Grey
White
Red
Blue
Pink
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ uniq -c colors.txt
2 Red
4 Black
1 Blue
```

```
student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
Black
Black
Black
Blue
Grey
White
Red
Blue
Pink
Red
Black
Blue
Grey
White
Red
Blue
Pink
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ uniq colors.txt
Red
Black
Blue
Grey
White
Red
Blue
Pink
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ uniq -c colors.txt
 2 Red
 4 Black
 1 Blue
 1 Grey
 1 White
 1 Red
 1 Blue
 1 Pink
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ uniq -d colors.txt
Red
Black
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ uniq -u colors.txt
Blue
Grey
White
Red
Blue
Pink
```

grep command:

```
student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113
REVANTH
RAHUL
ADITYA
VIVEK
HARISH
DEEPAK
YEGNESH
RAJESH
CHAITHANYA
RAKESH
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ echo "HELLO WORLD" | tr -d H
ELLO WORLD
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ echo "my ID is 422113" | tr -d [:digit:]
my ID is
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ cat names.txt
Revanth
Rahul
Aditya
Vivek
Harish
Deepak
Yegnesh
Rajesh
Chaithanya
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep -i "Ra" names.txt
Rahul
Rajesh
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep -c "Ra" names.txt
3
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep -w "Ra" names.txt
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep -o "Ra" names.txt
Rahul
```

```
Activities Terminal Feb 14 15:44 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113

student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep -o "Ra" names.txt
Rahul
--
Rajesh
--
Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep -n "Ra" names.txt
2:Rahul
8:Rajesh
10:Rakesh
student@ai-HP-ProDesk-600-G4-MT:~/Desktop/422113$ grep --help
Usage: grep [OPTION]... PATTERNS [FILE]...
Search for PATTERNS in each FILE.
Example: grep -i 'hello world' menu.h main.c
PATTERNS can contain multiple patterns separated by newlines.

Pattern selection and interpretation:
-E, --extended-regexp PATTERNS are extended regular expressions
-F, --fixed-strings PATTERNS are strings
-G, --basic-regexp PATTERNS are basic regular expressions
-P, --perl-regexp PATTERNS are Perl regular expressions
-e, --regexp=PATTERNS use PATTERNS for matching
-f, --file=FILE take PATTERNS from FILE
-i, --ignore-case ignore case distinctions in patterns and data
--no-ignore-case do not ignore case distinctions (default)
-w, --word-regexp match only whole words
-x, --line-regexp match only whole lines
-z, --null-data a data line ends in 0 byte, not newline

Miscellaneous:
-s, --no-messages suppress error messages
-v, --invert-match select non-matching lines
-V, --version display version information and exit
--help display this help text and exit

Output control:
-m, --max-count=NUM stop after NUM selected lines
-l, --list-files print the file names of files with output lines
```

```
Activities Terminal Feb 14 15:44 student@ai-HP-ProDesk-600-G4-MT: ~/Desktop/422113

-b, --byte-offset print the byte offset with output lines
-n, --line-number print line number with output lines
--line-buffered flush output on every line
-H, --with-filename print file name with output lines
-h, --no-filename suppress the file name prefix on output
--label=LABEL use LABEL as the standard input file name prefix
-o, --only-matching show only nonempty parts of lines that match
-q, --quiet, --silent suppress all normal output
--binary-files=TYPE assume that binary files are TYPE;
TYPE is 'binary', 'text', or 'without-match'
-a, --text equivalent to --binary-files=text
-I equivalent to --binary-files=without-match
-d, --directories=ACTION how to handle directories;
ACTION is 'read', 'recurse', or 'skip'
-D, --devices=ACTION how to handle devices, FIFOs and sockets;
ACTION is 'read' or 'skip'
-r, --recursive like --directories=recurse
-R, --dereference-recursive likewise, but follow all symlinks
--include=GLOB search only files that match GLOB (a file pattern)
--exclude=GLOB skip files that match GLOB
--exclude-from=FILE skip files that match any file pattern from FILE
--exclude-dir=GLOB skip directories that match GLOB
-L, --files-without-match print only names of FILES with no selected lines
-l, --files-with-matches print only names of FILES with selected lines
-c, --count print only a count of selected lines per FILE
-T, --initial-tab make tabs line up (if needed)
-Z, --null print 0 byte after FILE name

Context control:
-B, --before-context=NUM print NUM lines of leading context
-A, --after-context=NUM print NUM lines of trailing context
-C, --context=NUM print NUM lines of output context
-NUM same as --context=NUM
--color[=WHEN], use markers to highlight the matching strings;
--colour[=WHEN] WHEN is 'always', 'never', or 'auto'
-U, --binary do not strip CR characters at EOL (MSDOS/Windows)
```



```
Activities Terminal Feb 14 15:44 student@al-HP-ProDesk-600-G4-MT: ~/Desktop/422113

-a, --text equivalent to --binary-files=text
-I equivalent to --binary-files=without-match
-d, --directories=ACTION how to handle directories;
ACTION is 'read', 'recurse', or 'skip'
-D, --devices=ACTION how to handle devices, FIFOs and sockets;
ACTION is 'read' or 'skip'
-r, --recursive like --directories=recurse
-R, --dereference-recursive likewise, but follow all symlinks
--include=GLOB search only files that match GLOB (a file pattern)
--exclude=GLOB skip files that match GLOB
--exclude-from=FILE skip files that match any file pattern from FILE
--exclude-dir=GLOB skip directories that match GLOB
-L, --files-without-match print only names of FILES with no selected lines
-l, --files-with-matches print only names of FILES with selected lines
-c, --count print only a count of selected lines per FILE
-T, --initial-tab make tabs line up (if needed)
-Z, --null print 0 byte after FILE name

Context control:
-B, --before-context=NUM print NUM lines of leading context
-A, --after-context=NUM print NUM lines of trailing context
-C, --context=NUM print NUM lines of output context
-NUM same as --context=NUM
--color[=WHEN],
--colour[=WHEN] use markers to highlight the matching strings;
WHEN is 'always', 'never', or 'auto'
-U, --binary do not strip CR characters at EOL (MSDOS/Windows)

When FILE is '-', read standard input. With no FILE, read '.' if
recursive, '-' otherwise. With fewer than two FILES, assume -h.
Exit status is 0 if any line (or file if -L) is selected, 1 otherwise;
if any error occurs and -q is not given, the exit status is 2.

Report bugs to: bug-grep@gnu.org
GNU grep home page: <http://www.gnu.org/software/grep/>
General help using GNU software: <https://www.gnu.org/gethelp/>
student@al-HP-ProDesk-600-G4-MT: ~/Desktop/422113$
```