33a -Pipe-Redirection Mechanism '|'
Pipe '|' redirects from STDOUT to STDIN of another program.

eg.   `ls -la` │ `less`
        `pstree` │ `less`

eg.
`ls -la | sort -k5n | less` : sorted by column 5(size) in numeric

- ## 33b - Redirection of standard input(STDIN) standard output(STDOUT) and standard error(STDERR)

  `< Filename`   Redirect <u>Standard input</u> - reads characters from file as if coming from the keyboard.

  `<<END Text to redirect.... END`
                    Redirect <u>Standard input</u> - reads characters from text as if coming from the keyboard. In this example, the text is read and send into the STDIN till the word END is encountered.

  `> Filename`   Redirect <u>only Standard output</u> to a file: if file exists, it is replaced. Errors are still sent to the standard output.

  `>> Filename`   Redirect <u>only Standard output</u> and append to File. Errors are still sent to the standard output.

  `1> Filename`   Same as `> Filename`

  `2> Filename`   Redirect <u>only errors</u> to file

  `&> Filename`   Redirect Standard <u>output</u> and <u>errors</u> to file
  `2>&1 > Filename` Redirect Standard <u>output</u> and <u>errors</u> to file(same as above)

  eg.   `ls -la > directory_list`

  - **Having both: saving to file and displaying to the console:**

    │**tee** `<Filenamename>`
    │**tee** `-a(append) <Filenamename>`

  eg1.
  `ls -la | tee Filenamename | less`

  eg2. (Saving sorted lists)

```
cd /home/user1
echo ----------------- .X  Filename----------- > list1
ls -la | grep '\.X' | tee -a list1
echo ----------------- .x  Filename----------- >> list1
ls -la | grep '\.x' | sort -k 5n | tee -a list1
less list1
```