

## Regular Expressions

- Find a pattern in text file(s).
- Regular expressions are patterns used to match character combinations in strings.
- A regular expression pattern is composed of simple characters, or a combination of simple and special characters e.g. /abc/, /ab\*c/

## grep

- Pattern is given using regex wild-card characters.
  - Basic wild-card characters
    - \$ - find at the end of line.
    - ^ - find at the start of line.
    - [ ] - any single char in give range or set of chars
    - [^ ] - any single char not in give range or set of chars
    - . - any single character
    - \* - zero or more occurrences of previous character
  - Extended wild-card characters
    - ? - zero or one occurrence of previous character
    - + - one or more occurrences of previous character
    - {n} - n occurrences of previous character
    - {n,} - max n occurrences of previous character
    - {m,} - min m occurrences of previous character
    - {m,n} - min m and max n occurrences of previous character
    - () - grouping (chars)
    - (|) - find one of the group of characters
- Regex commands
  - grep - GNU Regular Expression Parser - Basic wild-card
  - egrep - Extended Grep - Basic + Extended wild-card
  - fgrep - Fixed Grep - No wild-card
- Command syntax
  - grep "pattern" filepath
  - grep [options] "pattern" filepath
    - -c : count number of occurrences
    - -v : invert the find output
    - -i : case insensitive search
    - -w : search whole words only
    - -R : search recursively in a directory
    - -n : show line number.

## VI Editor

- sudo apt-get install vim
- VI editor works in two modes
  - command mode

- insert mode
- press i - to go into insert mode
- press Esc - to go into command mode
- VI editor commands:
  - :w - write/save into file
  - :q - quit vi editor
  - :wq - save and quit
  - :y - to copy current line
  - :ny - to copy nth line
  - yy - to copy current line
  - nyy - copy n lines from current line
  - :m,n - copy from mth line to nth line
  - :d - to cut current line
  - :nd - to cut nth line
  - dd - to cut current line
  - ndd - cut n lines from current line
  - :m,nd - cut from mth line to nth line
  - press p - to paste copied line on next line of current line
- To do setting in vi editor
  - create file into home directory as below:

```
vim ~/.vimrc
```

- add below content into it

```
set number
set autoindent
set tabstop=4
set nowrap
```