**Editing Files with Nano Editor**

To launch nano, you can either just type nano at the command prompt, optionally followed by a filename (in this case, if the file exists, it will be opened in edition mode). If the file does not exist, or if we omit the filename, nano will also be opened in edition mode but will present a blank screen for us to start typing.

1. Ctrl + G: brings up the help menu with a complete list of functions and descriptions:Ctrl + X: exits the current file. If changes have not been saved, they are discarded.
2. Ctrl + R: lets you choose a file to insert its contents into the present file by specifying a full path.
3. Ctrl + O: saves changes made to a file. It will let you save the file with the same name or a different one. Then press Enter to confirm.
4. Ctrl + X: exits the current file. If changes have not been saved, they are discarded.
5. Ctrl + R: lets you choose a file to insert its contents into the present file by specifying a full path.
6. Ctrl + K: cuts the current line.
7. Ctrl + U: paste.
8. Ctrl + C: cancels the current operation and places you at the previous screen.
9. Ctrl + F and Ctrl + B move the cursor forward or backward, whereas Ctrl + P and Ctrl + N move it up or down one line at a time, respectively, just like the arrow keys.
10. Ctrl + space and Alt + space move the cursor forward and backward one word at a time.
11. Ctrl + \_ (underscore) and then entering X,Y will take you precisely to Line X, column Y, if you want to place the cursor at a specific place in the document.

**Editing Files with Vim Editor**

Vim is an improved version of vi, a famous text editor in Linux that is available on all POSIX-compliant \*nix systems, such as RHEL 7.

1. To save changes made to a file, run any of the following commands from command mode and it will do the trick:

:wq!

:x!

ZZ (yes, double Z without the colon at the beginning)

2. To exit discarding changes, use :q!. This command will also allow you to exit the help menu described above, and return to the current file in command mode.

3. Cut N number of lines: type Ndd while in command mode.

4. Copy M number of lines: type Myy while in command mode.

5. Paste lines that were previously cutted or copied: press the P key while in command mode.

6. To insert the contents of another file into the current one:

:r filename

7. To insert the output of a command into the current document:

:r! command

**Analyzing Text with Grep and Regular Expressions**

1. grep [to find] [file name] = helps to find the word or letter in the given file.
2. grep -E “[to find] [to find]… [to find]” [file name] = helps to find multiple words in the given file.
3. grep -i [to find] [file name] = helps to find word in the given file but it ignores case sensitivity.
4. grep “[to find] | [to find] |[to find]|… [to find]” [file name] = is used to find multiple words in a given file
5. grep "^[a-zA-Z0-9+\_.-][+@[a-zA-Z0-9.-]+$](mailto:+@[a-zA-Z0-9.-]+$)" [file name] = is used to find valid email address in the given file

^ stands for starts with

[a-zA-Z0-9+\_.-] stands for it can consist of a-z small and capital letters, 0-9 numbers, + (sign), \_ (sign), . (sign), - (sign).

@ matches itself.

[]+ stands for it will have at least one or more of this combination.

$ stands for ends with.

1. **REGEX [Regular Expression]**

Used for pattern or string matching.

[abc] a,b or c

[^abc] any character except abc

[a-z] a to z

[A-Z] A to Z

[a-zA-Z] a to z, A-Z

[0-9] 0 to 9

[ ]? Occurs 0 or 1 time

[ ]+ Occurs 1 or more time

[ ]\* Occurs 0 or more time

[ ]{n} Occurs n times

[ ]{n,} Occurs n or more times

[ ]{x,y} Occurs at least x times but less than y times

**REGEX metacharacters**

\d [0-9]

\D [^0-9]

\w [a-zA-Z\_0-9]

\W [^\w]

POSIX character classes.

|  |  |
| --- | --- |
| **Character Class** | **Matches…** |
| [[:alnum:]] | Any alphanumeric [a-zA-Z0-9] character |
| [[:alpha:]] | Any alphabetic [a-zA-Z] character |
| [[:blank:]] | Spaces or tabs |
| [[:cntrl:]] | Any control characters (ASCII 0 to 32) |
| [[:digit:]] | Any numeric digits [0-9] |
| [[:graph:]] | Any visible characters |
| [[:lower:]] | Any lowercase [a-z] character |
| [[:print:]] | Any non-control characters |
| [[:space:]] | Any whitespace |
| [[:punct:]] | Any punctuation marks |
| [[:upper:]] | Any uppercase [A-Z] character |
| [[:xdigit:]] | Any hex digits [0-9a-fA-F] |
| [:word:] | Any letters, numbers, and underscores [a-zA-Z0-9\_] |