*Locate

→ The locate utility program performs a search while taking advantage of previously constructed database of files and directories on your system, matching all entries that contain a specified character string.

→ To get a shorter (and possibly more relevant) list, we can use grep program as a filter. grep will print only the lines that contain one or more specified string, as in

```
$ locate zip | grep bin
```

→ which will list all the files and directory with both zip and bin in their name.

* Wild cards and matching Filenames

→ You can search for a file name containing specific character using wildcards.

wildcard	Result
?	matches any single character
*	matches any string of characters
[set]	matches any character in set of characters for example [adf] will match any occurrence of a, d, f
[!set]	matches any characters not in the set of characters

* Using find

→ when no arguments are given, find lists all files in the current directory and all of its subdirectories.

→ Commonly used options to shorten the list include -name (only list files with certain pattern in their name)

→ -inname (also ignore the cases of filename)

→ -type (which will restrict the result to files of a certain specified type, such as d for directory, l for symbolic link, or f for a regular file etc)

Searching for files and directories named gcc:

```
$ find /usr -name gcc
```

↑ Present directory

Searching only for directories named gcc:

```
$ find /usr -type d -name gcc
```

Searching only for regular files named gcc:

```
$ find /usr -type f -name gcc
```

*Using Advanced find options

→ -exec option is used to match your search criteria.

→ To find and remove all files that ends with .swp:

```
$ find -name "*.swp" -exec rm {} ';'
```

→ The {} is a placeholder that will be filled with all file names that result from the find expression

→ Please note that you have to end the command with either ";" this or \; this Both are fine.

→ one can also use the -ok option which behaves the same as -exec

→ expect find will Prompt you Permission before executing the command.

* Finding File Based on Time and Size

→ To find files based on time

$ find |-ctime 3

→ Here -ctime is when the inode metadata (file ownership , Permission etc).

→ Last ~~changed~~ accessed | last read (-atime)

→ modified | last written (-mtime)

→ The number is number of days and can be expressed either a number (n) that means exactly that value.

→ +n which means greater than that numer.

→ -n which " smaller " " "

→ There are similar options for times in minutes (as in -cmin , -amin , mmin).

* To find files based on sizes.

$ find | -size 0

→ Note that size here is in 512 byte blocks by default.

-> You can also specify bytes (c), kilobytes (k), megabytes (M), Gigabytes (G).

-> exact number -> n

greater then -> +n

smaller then -> -n

$ find / -size +1om -exec command {} ';'