# Pattern Matching.

→ ## Wildcard Pattern Matching

Given a text and wildcard pattern, the ~~wild~~ wildcard pattern matching algorithm finds if wildcard pattern is matched with text.

? = Matches any single character.
* = Matches any sequence of character

### Example

```
Text = "baabab"
Pattern = "*** * ba *xxx ab , output : true
Pattern = " baa? ab", output: true
Pattern = "a* ab", output: False
```

## Meta characters

These are the special & characters that are first interpreted by the shell before passing the same to command. They are also known as shell wildcard

> — used for output redirection

>> — / used for output redirection to append.

< — input redirection

<< — used for input redirection and also

known as here document

\* = Match any number of character

? = Match one character

[ ] = Match range of character

⇒ > Syntax

echo "Hello" > test1.txt

⇒ >> System

~~etho~~ echo "welcome back">> test1.txt

This will append the line to the existing file

⇒ \* Syntax

ls m\*

output
: mod1   mod2   mod3  ..
mod n.

⇒ ? ? Syntax          Example
                  1.txt     12.txt   13.txt

ls

output

ls ?.txt
1.text.

# [ ]. Syntax

mod 1    mod 3    mod 5
mod 2    mod 4    mod 6.

⇒    ls mod[1-3]

mod 1    mod 2    mod 3

⇒    ls mod[!1-3]

mod 4    mod 5    mod 6.

## Filters

Filters are programs that take plain text as standard input, transforms it into a meaningful format.

⇒ ## Cat.

Cat [path].

Cat test1.txt
Hello welcome to my world.

⇒ ## head

head [path].
head test1.txt

Hello.
world          } By default it prints 10 line
RVCE
MCA.

head -n 5 test1.txt

Hello
world

RVCE
MLA
Mysuru.

⇒ Tail.

Tail is same as head, but instead
of printing from top, it print before
from the revers order.

Tail test1.txt

mysuru
mLA
RVCE
welcome
Hello

⇒ WC -
wc gives the number of lines
words and characters in the file

Cat test1.txt.
Hello
welcome
RVCE
mLA
mysuru

wc test1.txt.
5. 5. 25.

## - grep

grep is used to search a particular
word or information in text file

Cat test1.txt
Rohan is a boy
Dhanush is a dog.

☆ grep rohan test1 txt

Output:
Rohan is a boy.

☆ Cat test1.txt | grep Dhanush

Dhanush is a dog.

## - nl

It is used to number the lines.

Syntax
Cat test1.txt
Rohan is a boy
Dhanush is a dog.

Example
nl test1.txt

Output
1. rohan is a boy
Dhanush is a dog.