

Day- 6

NAME	M. Manjunath	TOTAL MARKS
CLASS	SUBJECT	LSS
ROLL No. 56	DATE	

→ Regular Expressions

* Regular expressions are special characters which help search data and matching complex patterns. Regular expressions are shortened as 'regex' or 'regexp'.

* Types of Regular Expressions

1. Basic Regular expression:

Listed below are some of basic Regex.

Symbol	Description
.	replaces any character
^	matches start of string
\$	matches end of string
*	matches up zero or more times the preceding character
\	Represent special characters
?	matches up exactly one character

Example: \$ cat sample

apple

bat

ball

ant

Pant

people

taste

• To search for content containing letter 'a'

\$ cat sample | grep a

apple

bat

ball

ant

Rajguru Gold

- '^' matches start of a string. let's search for contents that starts with a
\$ cat sample | grep ^a
apple
ant

∴ Only lines that start with a are filtered

- '\$' matches end of a string
\$ cat sample | grep t
bat
ant
eat
pant
taste

select only those lines that end with t using \$
\$ cat sample | grep t\$
bat
ant
eat
pant

2. Interval regular expressions :

These expressions tell us about the number of occurrences of a character in a string.

Expression	Description
{n}	Matches the preceding character appearing 'n' times exactly
{n,m}	Matches preceding character appearing 'n' times but not more than m
{n,}	Matches preceding character only when it appears 'n' times / more

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Example:

- We want to check that in apple 'p' appears exactly 2 times in a string one of the others.
 \therefore \$ cat sample | grep -E p\{2\}
apple

3.) Extended Regular Expressions:

These regular expressions contain combination of more than one expression.

Expression	Description
\+	Matches one or more occurrence of previous character
\?	Matches zero or one occurrence of the previous character

Example:

suppose we want to filter out lines where character 'a' precedes character 't'

```
$ cat sample | grep "a\+t"
bat
eat
```