



Regular Expression in grep

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Prerequisite: [grep](#)

Basic Regular Expression

Regular Expression provides an ability to match a “string of text” in a very flexible and concise manner. A “string of text” can be further defined as a single character, word, sentence or particular pattern of characters.

Like the shell’s wild-cards which match similar filenames with a single expression, grep uses an expression of a different sort to match a group of similar patterns.

- **[]**: Matches any one of a set characters
- **[] with hyphen**: Matches any one of a range characters
- **^**: The pattern following it must occur at the beginning of each line
- **^ with []**: The pattern must not contain any character in the set specified
- **\$**: The pattern preceding it must occur at the end of each line
- **.** (**dot**): Matches any one character
- **** (**backslash**): Ignores the special meaning of the character following it
- *****: zero or more occurrences of the previous character
- **(dot)***: Nothing or any numbers of characters.

Examples

(a) **[]**: Matches any one of a set characters

1. **\$grep “New[abc]” filename**

It specifies the search pattern as :

Newa , Newb or Newc

2. **\$grep “[aA]g[ar][ar]wal” filename**

It specifies the search pattern as

Agarwal , Agaawal , Agrawal , Agrrwal

agarwal , agaawal , agrawal , agrrwal

(b) Use [] with hyphen: Matches any one of a range characters

1. **\$grep "New[a-e]" filename**

It specifies the search pattern as

Newa , Newb or Newc , Newd, Newe

2. **\$grep "New[0-9][a-z]" filename**

It specifies the search pattern as: New followed by a number and then an alphabet.

New0d, New4f etc

(c) Use ^: The pattern following it must occur at the beginning of each line

1. **\$grep "^san" filename**

Search lines beginning with san. It specifies the search pattern as

sanjeev ,sanjay, sanrit , sanchit , sandeep etc.

2. **\$ls -l |grep "^d"**

Display list of directories only

3. **\$ls -l |grep "^-"**

Display list of regular files only

(d) Use ^ with []: The pattern must not contain any character in the set specified

1. **\$grep "New[^a-c]" filename**

It specifies the pattern containing the word "New" followed by any character other than an 'a', 'b', or 'c'

2. `$grep "^[^a-z A-Z]" filename`

Search lines beginning with a non-alphabetic character

(e) Use `$`: The pattern preceding it must occur at the end of each line

```
$ grep "vedik$" file.txt
```

(f) Use `.` (dot): Matches any one character

```
$ grep "..vik" file.txt
```

```
$ grep "7..9$" file.txt
```

(g) Use `\` (backslash): Ignores the special meaning of the character following it

1. `$ grep "New\\.\\[abc\\]" file.txt`

It specifies the search pattern as `New.[abc]`

2. `$ grep "S\\.K\\.Kumar" file.txt`

It specifies the search pattern as

`S.K.Kumar`

(h) Use `*`: zero or more occurrences of the previous character

```
$ grep "[aA]gg*[ar][ar]wal" file.txt
```

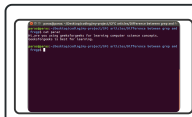
(i) Use `(dot).*`: Nothing or any numbers of characters.

```
$ grep "S.*Kumar" file.txt
```

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