

# /^ [REG]ular (EX)pressions \$/

Naser Dehghan  
Naserdehghan.com

Car  
Carpet  
Careful  
Carnival  
Carriageway

4



Zeal

Zero

Zone

Zoom

email@outlook.com

mymail@gmail.com

yourmail@yahoo.com

11

09351286757

09134535621

09127865322

09211535412

# grep

- print lines matching a pattern

# egrep = grep -E

- Interpret PATTERN as an extended regular expression

# grep -P

- Interpret the pattern as a Perl-compatible regular expression

```
grep -E 'regex' file.txt
```

```
ls | grep -P '^\\..*
```

```
grep -o -P 'regex' file.txt
```

# sed

- stream editor for filtering and transforming text

# sed -E PATTERN

- use extended regular expressions in the script

*s/find/replace/g*

sed -e 's/:/-/g' /etc/passwd

# Vim

find

```
:g/PATTERN
```

Find and replace

```
:s/find/replace/g
```

# *programming languages*

Java

JavaScript

C

C++

C#

Perl

Python

Ruby

PHP

Sed

Go

& ...

book

book

bookshop

checkbook

foo@book.com

www.book.com

DOT

b.t

bat

but

bet

bit

b0t

b t

b\$t

b@t

Whitespace & not a whitespace

\s

\S

I am naser

A b 1

^%\$#@!\* &

Character set

[aeiou]

glib jocks vex dwarves!

Aquelous

You are awesome!

negated set

[^aeiou]

g|lib| jock|k|s| \vex| |d|war|ves|!

A|queous

You are awesome!.

range

[g-S]

abcdefghijklm

nopqrstuvwxyz

range

[4-8]

01234|5|6|7|89

43-76 ?

Wrong

[43-76]

Right

4[3-9]||[5-6][0-9]||7[0-6]

range

[a-eh-mp-v]

a|b|c|d|e f g h|i||j|k||l|m

n o p | q | r | s | t | u | v w x y z

Matches 1 or more

[a-zA-Z]+

Matches 0 or more

[a-zA-Z]\*

b[a-zA-Z]+

b[a-zA-Z]\*

b  
be  
bea  
bear  
bears

b  
be  
bea  
bear  
bears

optional

colou?r

color

colour

-----  
alternation

b(a|e|i)d

bad

bud

bod

bed

bid

quantifier

b\w{2,3}



Max length

Min length

b

be

bea

bear

bears

Beginning

`^\w+`

she sells seashells

End

`\w+\$`

she sells seashells

Word boundary

`s\b`

she sells seashells

`\bs`

she sells seashells

Not word boundary

`s\B`

she sells seashells

`\Bs`

she sells seashells

Capturing group

(ma)+

ma

mam

mama

mamam!

Positive lookahead

(?=ABC)

Negative lookahead

(?!ABC)

\d(?=px)

\d(?!.px)

1pt  
2px  
3em  
4px

1pt  
2px  
3em  
4px

Positive lookbehind

(?<=ABC)

Negative lookbehind

(?<!ABC)

(?<=data):\w+

data:100  
date:1396  
data:naser  
Date:2017

(?<!data):\w+

data:100  
date:1396  
data:naser  
Date:2017

Back reference

(\w)a\1

hah

dad

bad

dab

gag

gab

1...9

The diagram shows a regular expression pattern: <([a-zA-Z]+)\*.\*>. A curved arrow originates from the start of the first character class ([a-zA-Z]+) and points to the opening angle bracket of the entire pattern. A small open circle is at the end of the arrow. To the right of the pattern, there is a vertical line with a diagonal stroke, followed by the number 1.

<([a-zA-Z]+)\*.\*>

<a href="http://google.com">Google</a>

<span> Welcome </span>

Non-capturing group

(?:ABC)

---

(?:hi)(ma)\1

---

himahi

himama

`^(0[1-9]|1[0-2])[\/](0[1-9]|12)\d|3[01])[\/](19|20)\d{2}$`

06/24/2017

13/27/2016

10/29/1850

07/35/1995

The  
end