Perl Text-processing language

Input files or STDIN → `-n / -p loop` → **$_** current line → `-a / -F` → **@F** split fields → `your code` → **Output** print or -i →

CONCEPTS

Start scripts with use strict; use warnings; (or use v5.36;) and declare every variable with my.

Sigils

Sigil	Holds	Element access
`$x`	scalar	$x
`@a`	array	$a[0]
`%h`	hash	$h{key}
`&f`	sub	f(...)
`\@a`	reference	$r→[0]

Only double-quoted strings interpolate variables and escapes; single quotes are literal.

Context decides results: an array in scalar context gives its length, in list context its elements.

ONE-LINERS

`perl -e '<code>'`
Run code given on the command line

`perl -ne '<code>'`
Run code once per input line

`perl -pe '<code>'`
Per line, then print $_

`perl -i[.bak] -pe '<code>' <file>`
Edit files in place

ONE-LINERS (cont.)

`perl -l`
Chomp input lines, add \n to print

`perl -a -F<sep>`
Split each line into @F

VARIABLES AND DATA

`my $x = <value>;`
Declare a lexical scalar

`my @a = (<1>, <2>, <3>);`
Declare an array

`my %h = (<k> ⇒ <v>);`
Declare a hash

`$a[0] / $a[-1]`
First / last element

`scalar @a / $#a`
Element count / last index

`push @a, <x> / pop @a`
Add / remove at the end

`$h{<k>}`
Hash element

`keys %h / values %h`
All keys / all values

`exists $h{<k>} / delete $h{<k>}`
Test for / remove a key

`sort { $a ⟺ $b } @a`
Numeric sort

VARIABLES AND DATA (cont.)

`map { <expr> } @a`
Transform each element

STRINGS AND OPERATORS

`"Hi $name @{[ f() ]}"`
Interpolate variables and expressions

`==  ≠  <  >  ⟺`
Numeric compare

`eq  ne  lt  gt  cmp`
String compare

REGEX

`$s =~ /<re>/`
Test for a match

`$s =~ s/<re>/<new>/g`
Substitute all

`($a,$b) = $s =~ /(\d+)-(\d+)/`
Capture into variables

`$1 $2 $&`
Capture groups, whole match

`my @all = $s =~ /<re>/g`
All matches in list context

`/i  /x  /m  /s`
Ignore case, extended, multiline, dot-all

CONTROL FLOW AND SUBS

`if (<c>) {...} elsif (<c>) {...} else {...}`
Conditional

`<stmt> if <c>; / <stmt> unless <c>;`
Postfix conditional

`for my $x (@a) {...}`
Loop over a list

`while (<c>) {...}`
Loop on a condition

`next / last / redo`
Skip / exit / repeat iteration

`sub <name> { my ($a,$b) = @_; return ...; }`
Define a sub

FILES AND I/O

`open(my $fh, '<', $f) or die "$!";`
Open for reading

`open(my $fh, '>', $f) / '>>'`
Open for write / append

`while (my $l = <$fh>) {...}`
Read line by line

`print $fh "text\n";`
Write to a handle

FILES AND I/O (cont.)

`-e -f -d -r -s $path`
File tests: exists, file, dir, readable, size

MODULES AND CPAN

`use <Module>;`
Load a module

`cpanm <Module>`
Install from CPAN

`perldoc <Module>`
Read module docs

RECIPES

Sum a column

```
perl -lane '$s += $F[2]; END { print $s }' <file>
```

Rename across many files

```
perl -i.bak -pe 's/\bfoo\b/bar/g' *.txt
```

Word frequency

```
perl -lne '$c{$_}++ for /\w+/g; END { print "$c{$_} $_" for sort keys %c }' <file>
```

Minimal script skeleton

```
use v5.36;
open(my $fh, '<', shift) or die $!;
while (<$fh>) {
    print if /error/i;
}
```