bash

**history**

history N print last N commands

history -a save session

history -n read new history lines

history -w f save history to f

history -p perform hist subst but don't save

history -s save resulting history substitution

history -s !123:0 !123:1-3 !125:$

history -s !1084:0-$

history -s !1082:0 !1084:3\*

history -p !1084:$:r:q !1084:3:s/a/b/ !1084:2:gs/a/b/

history -p !1084:0\*:gs/e/f/

history -p !1084:0\*:Gs/e/f/

:hrtqegs work like tcsh

**variable expansion**

${var:-default}

${var:=assign\_default}

${var:?assert\_message}

${var:+value\_if\_not\_null}

${var:offset}

${var:offset:length}

${#var} char length

${#var[@]} ${#var[\*]} array len

${!var[@]} ${!var[\*]} expand keys

for i in ${!var[2]} do ; echo ${var[$i]} ; done

${var[@]} ${var[\*]} like $@, $\* for $var

${var#grep} ${var##greedy\_grep}

${var%rgrep} ${var%rgreedy\_grep}

${var/pattern/replace\_with}

${var^^\*} uppercase per glob pattern

${var,,\*} lowercase per glob pattern

${var@Q} ${A[@]@Q} quotemeta

${var@E} ${A[\*]@E} like $'...'

**control structures**

if list; then list; elif list; fi

while list; do list; done

until list; do list; done

case word in

pattern|pattern) list ;;

\*) list ;;

esac

select name in word ; do list ; done

for (( a ; b ; c )) ; do list ; done

for name in word ... ; do list ; done

[[ conditional ]] && || == != =~ !

-eq -ne -lt -le -gt -ge -z -n -f -d

(( arithmetic ))

c1 && c2 || c3 > /dev/null 2>&1 &

{ c1 ; c2 }

$( c1 | c2 )

c1 |& c2 c1 2>&1 | c2

**specials**

name () group [redirection]

$\* $@ $# $?

$$ my pid $! Last pid

$- set flags

$(< file) builtin cat

Glob

\* ? […]

?(pattern-list) 0..1

\*(pattern-list) 0..\*

+(pattern-list) 1..\*

@(pattern-list) select

[n]<word redirect to fd n

[n]>word redirect from fd n

[n]<>word [n]<&m [n]>&m-

diff -u /dev/fd/5 /dev/fd/6