```lisp
; vim: ts=2 sw=2 et:
(defpackage :small (:use :cl))
(in-package :small)
(defstruct our
  (help
"sbcl --script lib.lisp [OPTIONS
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Lets have some fun.")
  (options
    '((b    "-b" "asda" 23)
       (p    "-p" "asda" 2)
       (help "-h" "asda" nil)
       (license "-l" "asda" nil)
       (file "-f" "asda" "asdas")
       (seed "-s" "random number seed" 10019)
       (todo "-t" "start up action" "")
       (q    "-q" "asda" 1000)))
  (copyright "
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OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."))

(defvar *config* (make-our))
(defmethod print-object ((o our) s)
  (format s "~a~%~%OPTIONS:~%" (our-help o))
  (dolist (x (our-options o))
    (format s " ~5a ~30a = ~a~%" (second x) (third x) (fourth x))))

;;;; macros ------------------------------------------------------------------
(defmacro aif (test yes &optional no)
  "Anaphoric if (traps result of conditional in 'it')."
  `(let ((it ,test)) (if it ,yes ,no)))

(defmacro whale (expr &body body)
  "Anaphoric while (traps result of conditional in 'a')."
  `(do ((a ,expr ,expr)) ((not a)) ,@body))

(defmacro ? (s x &rest xs)
  "Nested access to slots."
  (if (null xs) `(slot-value ,s ',x) `(? (slot-value ,s ',x) ,@xs)))

(defmacro $ (x &optional (our *config*))
  "Access  a config variable name."
  `(fourth (assoc ',x (our-options ,our))))

(defmacro with-csv ((lst file &optional out) &body body)
  "File row iterator."
  `(progn (csv ,file #'(lambda (,lst) ,@body)) ,out))

;;;; random  ---------------------------------------------------------
(defun randf (&optional (n 1.0))
  (setf ($ seed)  (mod (* 16807.0d0 ($ seed)) 2147483647.0d0))
  (* n (- 1.0d0 (/ ($ seed)                    2147483647.0d0))))

(defun randi (&optional (n 1))
  (floor (* n (/ (randf 1000000.0) 1000000))))

;;;; strings -----------------------------------------------------------------
(defun trim (x)
  "Remove whitespace front and back."
  (string-trim '(#\Space #\Newline #\Tab) x))

(defun num?(x)
  "Return a number, if you can. Else return trimmed string."
  (let ((y (ignore-errors (read-from-string x))))
    (if (numberp y) y (let ((x (trim x)))
                        (if (equal x "?") #\? x)))))

(defun subseqs (s &optional (sep #\,) (n 0))
  "Separate string on 'sep'."
  (aif (position sep s :start n)
    (cons (subseq s n it) (subseqs s sep (1+ it)))
    (list (subseq s n))))

;;;; operating system ----------------------------------------------------
(defun args ()
  "Return list of command line arguments."
  #+clisp (cdddr (cddr (coerce (EXT:ARGV) 'list)))
  #+sbcl  (cdr sb-ext:*posix-argv*))

(defun csv (file &optional (fn #'print))
  "Send to 'fn' one list from each line."
  (with-open-file (str file)
    (loop (funcall fn
         (subseqs (or (read-line str nil) (return-from csv)))))))

(defun cli (&optional (our (make-our)) (lst (args)))
  "Maybe update 'our' with data from command line."
  (labels ((cli1 (flag x) (aif (member flag lst :test #'equalp)
                               (cond ((equal x t)   nil) ; flip boolean
                                     ((equal x nil) t)   ; flip boolean
                                     (t              (or (num? (second it)) x)))
                               x)))
    (dolist (x (our-options our) our)
      (setf (fourth x) (cli1 (second x) (fourth x))))))

;;;; -------------------------------------------------------------------------
(defvar *tests* nil)
(defvar *fails* 0)

(defmacro deftest (name params  doc  &body body)
  `(progn (pushnew  ',name *tests*)
          (defun ,name ,params ,doc ,@body)))

(defun demos (&optional what)
  (dolist (one *tests*)
    (let ((doc (documentation one 'function)))
      (when (or (not what) (eql one what))
        (setf *config* (cli (make-our)))
        (multiple-value-bind (_ err)
          (ignore-errors (funcall one))
          (incf *fails* (if err 1 0))
          (if err
            (format t "~&~a [~a] ~a ~a~%" "FAIL" one doc err)
            (format t "~&~a [~a] ~a~%"    "PASS" one doc))))))

(defun make () (load "lib"))

(deftest _while(&aux (x '(1 2 3)))
  (whale (pop x) (print a)))

(deftest _csv()
  (let (head)
    (with-csv (line "../data/auto93.csv")
      (if head
        (format t "~s~%" (mapcar #'reads line))
        (setf head line)))))

;;;; ------------------------------------------------------------------------
(setf *config* (cli (make-our)))
(if ($ :help) (print *config*))
(if ($ :license) (princ (our-copyright *config*)))
```