

File created: 19-Feb-2021 14:31:33 {DSK}<Users>kaplan>Local>medley3.5>git-medley>sources>TWODINSPECT  
OR.;6

changes to: (FNS TWODINSPECT.ARRANGEWINDOWS RIGHTW.REPAINTFN TWODINSPECT.SCROLLFN GET-RIGHTW  
ONEDINSPECT.SCROLLFN)

previous date: 11-Aug-2020 11:22:30 {DSK}<Users>kaplan>Local>medley3.5>git-medley>sources>TWODINSPECTOR.;2

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

::  
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## (RPAQQ TWODINSPECTORCOMS

(; Substrate for two-dimensional inspectors. Used in inspecting arrays.

(COMS ;; Added by yabu.fx, for SUNLOADUP without DWIM. They compute load time constants, and must come first in the file.

(FNS \CREATE.TWODINSPECTOR.TITLEMENU \CREATE.TWODINSPECTOR.SETMENU  
\CREATE.TWODINSPECTOR.INSPECTMENU)

:: Oned-inspector

(FNS ONEDINSPECTW.CREATE GET-ONED-DISPLAYW ONEDINSPECT.ARRANGEWINDOWS ONEDINSPECT.REPAINTFN  
ONEDINSPECT.PRINTELEMENT ONEDINSPECT.RESHAPEFN ONEDINSPECT.MAKEREGIONS ONEDINSPECT.BUTTONEVENTFN  
ONEDINSPECT.COPYBUTTONFN ONEDINSPECT.SCROLLFN ONEDINSPECT.CLOSEFN ONEDINSPECT.REDISPLAY  
ONEDINSPECT.REPLACE ONEDINSPECT.SELECTITEM ONEDINSPECT.SELECTPROP ONEDINSPECT.ADJUSTSELECTION  
ONEDINSPECT.PROPWIDTH ONEDINSPECT.VALUEWIDTH ONEDINSPECT.DEFAULT.TITLECOMMANDFN  
ONEDINSPECT.DEFAULT.VALUECOMMANDFN ONEDINSPECT.SETELT)

:: Twod-inspector

(FNS TWODINSPECTW.CREATE GET-TWOD-DISPLAYW GET-CORNERW TWODINSPECT.ARRANGEWINDOWS TWODINSPECT.REPAINTFN  
TWODINSPECT.PRINTELEMENT TWODINSPECT.RESHAPEFN TWODINSPECT.MAKEREGIONS TWODINSPECT.BUTTONEVENTFN  
TWODINSPECT.COPYBUTTONFN TWODINSPECT.DOWINDOWCOMFN TWODINSPECT.SCROLLFN TWODINSPECT.CLOSEFN  
TWODINSPECT.REDISPLAY TWODINSPECT.REPLACE TWODINSPECT.SELECTITEM TWODINSPECT.SELECTROWPROP  
TWODINSPECT.SELECTCOLUMNPROP TWODINSPECT.ADJUSTSELECTION TWODINSPECT.DEFAULT.TITLECOMMANDFN  
TWODINSPECT.DEFAULT.VALUECOMMANDFN TWODINSPECT.SETELT TWODINSPECT.ROWPROPWIDTH  
TWODINSPECT.COLUMNWIDTHS TWODINSPECT.COLUMNWIDTH TWODINSPECT.TOTALWIDTH)

:: Right window fns

(FNS GET-RIGHTW RIGHTW.REPAINTFN RIGHTW.RESHAPEFN RIGHTW.BUTTONEVENTFN RIGHTW.ADJUSTSELECTION)

:: Top window fns

(FNS GET-TOPW TOPW.REPAINTFN TOPW.RESHAPEFN TOPW.ADJUSTSELECTION TOPW.BUTTONEVENTFN)

:: Title window fns

(FNS GET-TITLEW TITLEW.REPAINTFN TITLEW.BUTTONEVENTFN)

:: Utilites

(FNS ONED.TRACKCURSOR TWOD.TRACKCURSOR INSPECT.INVERTSELECTION INSPECT.INVERTREGION  
INSPECT.FLIPSELECTION)  
(INITVARS INSPECTORFONT)  
(GLOBALVARS INSPECTORFONT)  
(DECLARE%: DOEVAL@COMPILE DONTCOPY (RECORDS INSPECT.SELECTION ONED.SELECTION TWOD.SELECTION))  
(INITRECORDS ONED.SELECTION TWOD.SELECTION)  
(DECLARE%: DONTVAL@LOAD DOEVAL@COMPILE DONTCOPY (LOCALVARS . T))))

:: Substrate for two-dimensional inspectors. Used in inspecting arrays.

:: Added by yabu.fx, for SUNLOADUP without DWIM. They compute load time constants, and must come first in the file.

(DEFINEQ

### (\CREATE.TWODINSPECTOR.TITLEMENU

[LAMBDA NIL  
(create MENU  
ITEMS \_ ' ("Refetch" 'REFETCH "Refetch the datum")  
( "IT \_ Datum" 'IT "Bind IT to the inspected datum")

### (\CREATE.TWODINSPECTOR.SETMENU

[LAMBDA NIL  
(create MENU  
ITEMS \_ ' ("IT \_ Selection" 'IT "Bind IT to the value of the selected entry")  
( "Set" 'SET "Set the selected entry")

### (\CREATE.TWODINSPECTOR.INSPECTMENU

[LAMBDA NIL  
(create MENU  
ITEMS \_ ' ("Inspect" 'INSPECT "Inspect the value of the selected entry")  
( "IT \_ Selection" 'IT "Bind IT to the value of the selected entry")  
( "Set" 'SET "Set the selected entry")

)

:: Oned-inspector

(DEFINEQ

**(ONEDINSPECTW.CREATE**

[LAMBDA (DATUM PROPS FETCHFN STOREFN VALUECOMMANDFN PROPCOMMANDFN TITLE TITLECOMMANDFN WHERE TOPRIGHT) ; Edited 6-Apr-87 17:03 by job

:: If where is a window, it may be the result of a previous call, so try to reuse all windows

```

(PROG ((PROFILE (MAKE-INSPECTOR-PROFILE))
      [FONT (OR INSPECTORFONT (DEFAULTFONT 'DISPLAY)
        [TITLEFONT (OR (DSPFONT NIL WindowTitleDisplayStream)
          '(HELVETICA 8 MRR)
        DISPLAYWINDOW RIGHTWINDOW TITLEWINDOW GLEFT GBOTTOM GWIDTH GHEIGHT WINDOWGROUP)
      (WITH-INSPECTOR-ENV PROFILE (if (LITATOM PROPS)
        then (SETQ PROPS (APPLY* PROPS DATUM)))
        ; DISPLAYWINDOW is the central and main window of the group
        (SETQ DISPLAYWINDOW (GET-ONED-DISPLAYW WHERE DATUM FETCHFN STOREFN VALUECOMMANDFN
          PROPCOMMANDFN TITLECOMMANDFN PROPS PROFILE FONT))
        ; RIGHTWINDOW records the ROWPROPS
        (SETQ RIGHTWINDOW (GET-RIGHTW DISPLAYWINDOW FONT))
        ; TITLEWINDOW will only hold a title
        (SETQ TITLEWINDOW (GET-TITLEW DISPLAYWINDOW TITLE TITLEFONT DATUM))
        ; Put up the window group
        (if (NOT (POSITIONP TOPRIGHT))
          then (LET ((REGION (if (WINDOWP WHERE)
            then (WINDOWPROP WHERE 'REGION)
            elseif (REGIONP WHERE)
            then WHERE)))
            (if REGION
              then (SETQ GLEFT (fetch (REGION LEFT) of REGION))
                (SETQ GBOTTOM (fetch (REGION BOTTOM) of REGION))
                (SETQ GWIDTH (fetch (REGION WIDTH) of REGION))
                (SETQ GHEIGHT (fetch (REGION HEIGHT) of REGION))
              elseif (POSITIONP WHERE)
              then (SETQ GLEFT (fetch (POSITION XCOORD) of WHERE))
                (SETQ GBOTTOM (fetch (POSITION YCOORD) of WHERE))
            (SETQ WINDOWGROUP (ONEDINSPECT.ARRANGEWINDOWS DISPLAYWINDOW RIGHTWINDOW TITLEWINDOW GLEFT
              GBOTTOM GWIDTH GHEIGHT TOPRIGHT))

          :: Display the group
          (ONEDINSPECT.RESHAPEFN DISPLAYWINDOW)
          (RIGHTW.RESHAPEFN RIGHTWINDOW)
          (TITLEW.REPAINTFN TITLEWINDOW)

          :: then establish reshapefns for windows in group
          (WINDOWPROP DISPLAYWINDOW 'RESHAPEFN (FUNCTION ONEDINSPECT.RESHAPEFN))
          (WINDOWPROP RIGHTWINDOW 'RESHAPEFN (FUNCTION RIGHTW.RESHAPEFN))
          (WINDOWPROP TITLEWINDOW 'RESHAPEFN (FUNCTION TITLEW.REPAINTFN)))

          :: finally return the group
          (RETURN WINDOWGROUP])

```

**(GET-ONED-DISPLAYW**

[LAMBDA (WHERE DATUM FETCHFN STOREFN VALUECOMMANDFN PROPCOMMANDFN TITLECOMMANDFN PROPS PROFILE FONT) ; Edited 6-Apr-87 14:57 by job

```

(LET [(DISPLAYWINDOW (if (WINDOWP WHERE)
  then WHERE
  else (CREATEW (CREATEREGION 0 0 100 100)
    NIL 2 T])
      (WINDOWPROP DISPLAYWINDOW 'REPAINTFN (FUNCTION ONEDINSPECT.REPAINTFN))
      (WINDOWPROP DISPLAYWINDOW 'RESHAPEFN (FUNCTION CLEARW))
      (WINDOWPROP DISPLAYWINDOW 'SCROLLFN (FUNCTION ONEDINSPECT.SCROLLFN))
      (WINDOWPROP DISPLAYWINDOW 'BUTTONEVENTFN (FUNCTION ONEDINSPECT.BUTTONEVENTFN))
      (WINDOWPROP DISPLAYWINDOW 'COPYBUTTONEVENTFN (FUNCTION ONEDINSPECT.COPYBUTTONFN))
      (WINDOWPROP DISPLAYWINDOW 'CLOSEFN (FUNCTION ONEDINSPECT.CLOSEFN))
      (DSPRIGHTMARGIN MAX.SMALLP DISPLAYWINDOW)
      (DSPFONT FONT DISPLAYWINDOW)
      (WINDOWPROP DISPLAYWINDOW 'DATUM DATUM)
      (WINDOWPROP DISPLAYWINDOW 'FETCHFN FETCHFN)
      (WINDOWPROP DISPLAYWINDOW 'STOREFN STOREFN)
      (WINDOWPROP DISPLAYWINDOW 'VALUECOMMANDFN (OR VALUECOMMANDFN (FUNCTION
        ONEDINSPECT.DEFAULT.VALUECOMMANDFN)))
      (WINDOWPROP DISPLAYWINDOW 'ROWPROPCOMMANDFN PROPCOMMANDFN)
      (WINDOWPROP DISPLAYWINDOW 'TITLECOMMANDFN (OR TITLECOMMANDFN (FUNCTION
        ONEDINSPECT.DEFAULT.TITLECOMMANDFN)))
      (WINDOWPROP DISPLAYWINDOW 'ROWPROPS PROPS)
      (WINDOWPROP DISPLAYWINDOW 'ROWPROPSPACE " ")
      (WINDOWPROP DISPLAYWINDOW 'VALUEWIDTH (ONEDINSPECT.VALUEWIDTH DATUM PROPS FETCHFN FONT))
      (WINDOWPROP DISPLAYWINDOW 'VALUESPACE " ")
      (WINDOWPROP DISPLAYWINDOW 'PROFILE PROFILE)
    DISPLAYWINDOW])

```

(ONEDINSPECT.ARRANGEWINDOWS

[LAMBDA (DISPLAYWINDOW RIGHTWINDOW TITLEWINDOW TOTALLEFT TOTALBOTTOM TOTALWIDTH TOTALHEIGHT TOPRIGHT)
; Edited 11-Aug-2020 11:21 by rmk:
; Edited 6-Apr-87 15:08 by jop

:: RMK: Save the ROWPROPWIDTH for future right-adjusting of the right (props) window
:: REGION should be the total available area

(PROG ((ROWPROPS (WINDOWPROP DISPLAYWINDOW 'ROWPROPS))
(ROWPROPSPACE (WINDOWPROP DISPLAYWINDOW 'ROWPROPSPACE))
(VALUEWIDTH (WINDOWPROP DISPLAYWINDOW 'VALUEWIDTH))
(VALUESPACE (WINDOWPROP DISPLAYWINDOW 'VALUESPACE))
TOTALRIGHT TOTALTOP DWHEIGHT DWWIDTH TITLEHEIGHT RWIDTH DWLEFT DWBOTTOM ROWPROPWIDTH)
[SETQ TITLEHEIGHT (HEIGHTIFWINDOW (FONTPROP TITLEWINDOW 'HEIGHT)
NIL
(WINDOWPROP TITLEWINDOW 'BORDER)
(SETQ ROWPROPWIDTH (ONEDINSPECT.PROPWIDTH (WINDOWPROP DISPLAYWINDOW 'ROWPROPS)
DISPLAYWINDOW))
[SETQ RWIDTH (WIDTHIFWINDOW (IPLUS (STRINGWIDTH ROWPROPSPACE RIGHTWINDOW)
ROWPROPWIDTH)
(WINDOWPROP RIGHTWINDOW 'BORDER)
(if (NULL TOTALHEIGHT)
then [SETQ DWHEIGHT (IMIN 500 (HEIGHTIFWINDOW (ITIMES (FONTPROP DISPLAYWINDOW 'HEIGHT)
(LENGTH ROWPROPS))
NIL
(WINDOWPROP DISPLAYWINDOW 'BORDER)
(SETQ TOTALHEIGHT (IPLUS TITLEHEIGHT DWHEIGHT))
else (SETQ DWHEIGHT (IDIFFERENCE TOTALHEIGHT TITLEHEIGHT))
(if (NULL TOTALWIDTH)
then [SETQ DWWIDTH (IMIN 200 (WIDTHIFWINDOW (IPLUS VALUEWIDTH (STRINGWIDTH VALUESPACE
DISPLAYWINDOW))
(WINDOWPROP DISPLAYWINDOW 'BORDER)
(SETQ TOTALWIDTH (IPLUS RWIDTH DWWIDTH))
else (SETQ DWWIDTH (IDIFFERENCE TOTALWIDTH RWIDTH))
[if (POSITIONP TOPRIGHT)
then (SETQ TOTALRIGHT (fetch (POSITION XCOORD) of TOPRIGHT))
(SETQ TOTALTOP (fetch (POSITION YCOORD) of TOPRIGHT))
elseif (AND TOTALLEFT TOTALBOTTOM)
then (SETQ TOTALRIGHT (IPLUS TOTALLEFT (SUB1 TOTALWIDTH)))
(SETQ TOTALTOP (IPLUS TOTALBOTTOM (SUB1 TOTALHEIGHT)))
else (LET ((REGION (GETBOXREGION TOTALWIDTH TOTALHEIGHT NIL NIL NIL "Position Inspector window")))
(SETQ TOTALTOP (fetch (REGION TOP) of REGION))
(SETQ TOTALRIGHT (fetch (REGION RIGHT) of REGION))
[SETQ DWLEFT (DIFFERENCE TOTALRIGHT (SUB1 (PLUS DWWIDTH RWIDTH))
(if (ILESSP DWLEFT 0)
then (SETQ DWLEFT 0)
(SETQ DWWIDTH (DIFFERENCE (ADD1 TOTALRIGHT)
RWIDTH)))
[SETQ DWBOTTOM (DIFFERENCE TOTALTOP (SUB1 (PLUS DWHEIGHT TITLEHEIGHT))
(if (LESSP DWBOTTOM 0)
then (SETQ DWBOTTOM 0)
(SETQ DWHEIGHT (DIFFERENCE (ADD1 TOTALTOP)
TITLEHEIGHT)))

:: put up the window group

(WINDOWPROP DISPLAYWINDOW 'MINSIZE (CONS 0 0))
(SHAPEW DISPLAYWINDOW (CREATEREGION DWLEFT DWBOTTOM DWWIDTH DWHEIGHT))
; Need to set the Minsize BEFORE reshaping else we catch the
; default minsize
(WINDOWPROP RIGHTWINDOW 'MINSIZE (CONS RWIDTH 0))
(WINDOWPROP RIGHTWINDOW 'MAXSIZE (CONS RWIDTH MAX.SMALLP))
(WINDOWPROP RIGHTWINDOW 'ROWPROPWIDTH ROWPROPWIDTH)
(SHAPEW RIGHTWINDOW (CREATEREGION [ADD1 (fetch (REGION RIGHT) of (WINDOWPROP DISPLAYWINDOW 'REGION)]
DWBOTTOM RWIDTH DWHEIGHT))
(ATTACHWINDOW RIGHTWINDOW DISPLAYWINDOW 'RIGHT)
(WINDOWPROP TITLEWINDOW 'MINSIZE (CONS 0 TITLEHEIGHT))
(WINDOWPROP TITLEWINDOW 'MAXSIZE (CONS MAX.SMALLP TITLEHEIGHT))
(SHAPEW TITLEWINDOW (CREATEREGION DWLEFT [ADD1 (fetch (REGION TOP)
(WINDOWPROP DISPLAYWINDOW 'REGION)
TOTALWIDTH TITLEHEIGHT))
(ATTACHWINDOW TITLEWINDOW DISPLAYWINDOW 'TOP)
(RETURN DISPLAYWINDOW))

(ONEDINSPECT.REPAINTFN

[LAMBDA (WINDOW WINDOWREGION) ; Edited 19-Apr-90 10:41 by mitani
(if (NULL WINDOWREGION)

then (SETQ WINDOWREGION (DSPCLIPPINGREGION NIL WINDOW))
(PROG ((TOP (fetch (REGION TOP) of WINDOWREGION))
(BOTTOM (fetch (REGION BOTTOM) of WINDOWREGION))
(FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
(DATUM (WINDOWPROP WINDOW 'DATUM))
(VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
(ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
STARTPROP LASTPROP STARTVERTMARKS)
(for PROP on ROWPROPS as MARK on VERTMARKS until (ILESSP (CAR MARK)
TOP)

```

    finally (SETQ STARTPROP PROP)
             (SETQ STARTVERTMARKS MARK))
  (for PROP on STARTPROP as MARK in STARTVERTMARKS until (ILESSP MARK BOTTOM) finally (SETQ LASTPROP PROP))
  [if STARTPROP
    then (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
          (bind [DESCENT _ (SUB1 (FONTPROP WINDOW 'DESCENT)] for PROP on STARTPROP as VMARK
                in STARTVERTMARKS repeatuntil (EQ PROP LASTPROP)
                do (ONEDINSPECT.PRINTELEMENT (APPLY* FETCHFN DATUM (CAR PROP))
                                              VMARK DESCENT WINDOW)
                (INSPECT.INVERTSELECTION WINDOW])

```

(ONEDINSPECT.PRINTELEMENT

```

[LAMBDA (ELT BOTTOM SUBDESCENT WINDOW)
 (MOVETO 0 (IPLUS BOTTOM SUBDESCENT)
 WINDOW)
 (PRIN2 ELT WINDOW)]

```

; Edited 19-Apr-90 10:42 by mitani

(ONEDINSPECT.RESHAPEFN

```

[LAMBDA (WINDOW)
 (CLEARW WINDOW)
 (PROG [(SELECTION (WINDOWPROP WINDOW 'SELECTION)
 (ONEDINSPECT.MAKEREGIONS WINDOW)
 (ONEDINSPECT.ADJUSTSELECTION WINDOW)
 (ONEDINSPECT.REPAINTFN WINDOW)])

```

(\* jop%: " 6-Oct-85 18:34")

(ONEDINSPECT.MAKEREGIONS

```

[LAMBDA (WINDOW)
 ;; Sets up windowprops and activeregions
 (PROG ((ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
 (VALUEWIDTH (WINDOWPROP WINDOW 'VALUEWIDTH))
 (VALUESPACE (WINDOWPROP WINDOW 'VALUESPACE))
 (WINDOWHEIGHT (WINDOWPROP WINDOW 'HEIGHT))
 (LF (DSPLINEFEED NIL WINDOW))
 VERTMARKS)
 (if (NULL VALUEWIDTH)
   then (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
         (SETQ VALUEWIDTH (ONEDINSPECT.VALUEWIDTH (WINDOWPROP WINDOW 'DATUM)
                                                  ROWPROPS
                                                  (WINDOWPROP WINDOW 'FETCHFN)
                                                  WINDOW))
         (WINDOWPROP WINDOW 'VALUEWIDTH VALUEWIDTH)))
   ; VERTMARKS mark endpoints
   (SETQ VERTMARKS (for I from 1 to (LENGTH ROWPROPS) as MARK from (IPLUS WINDOWHEIGHT LF) by LF
                    collect MARK))
   (WINDOWPROP WINDOW 'VERTMARKS VERTMARKS)
   [WINDOWPROP WINDOW 'EXTENT (CREATEREGION 0 (CAR (LAST VERTMARKS))
                                             (IPLUS VALUEWIDTH (STRINGWIDTH VALUESPACE WINDOW))
                                             (DIFFERENCE WINDOWHEIGHT (CAR (LAST VERTMARKS))
                                                         'EXTENT
                                                         (CREATEREGION 0 (CAR (LAST VERTMARKS))
                                                         (WINDOWPROP (WINDOWPROP WINDOW 'RIGHTWINDOW)
                                                         'WIDTH)
                                                         (DIFFERENCE WINDOWHEIGHT (CAR (LAST VERTMARKS]))

```

; Edited 6-Apr-87 11:01 by jop

(ONEDINSPECT.BUTTONEVENTFN

```

[LAMBDA (WINDOW)
 (TOTOPW WINDOW)
 (LET [(SELECTION (WINDOWPROP WINDOW 'SELECTION)
 (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
 (if (MOUSESTATE LEFT)
   then (WINDOWPROP WINDOW 'SELECTION (ONED.TRACKCURSOR WINDOW SELECTION (WINDOWPROP
                                                                 WINDOW
                                                                 'ROWPROPS)
                                                                 (WINDOWPROP WINDOW 'VERTMARKS)
                                                                 0 NIL (FONTPROP WINDOW 'HEIGHT)
                                                                 [FUNCTION (LAMBDA (P W)
                                                                 (CL:FUNCALL (WINDOWPROP W 'FETCHFN)
                                                                 (WINDOWPROP W 'DATUM)
                                                                 P]
                                                                 (FUNCTION INSPECT.INVERTREGION)))
                                                                 ; MOUSESTATE MIDDLE
   else
   (if SELECTION
     then (LET [(SELECTEDPROP (CAR (fetch (ONED.SELECTION PROP) of SELECTION)))
                (DATUM (WINDOWPROP WINDOW 'DATUM)
                (CL:FUNCALL (WINDOWPROP WINDOW 'VALUECOMMANDFN)
                (CL:FUNCALL (WINDOWPROP WINDOW 'FETCHFN)
                DATUM SELECTEDPROP)
                SELECTEDPROP DATUM WINDOW)])

```

; Edited 6-Apr-87 18:03 by jop

(ONEDINSPECT.COPYBUTTONFN

```

[LAMBDA (WINDOW) ; Edited 6-Apr-87 18:09 by jop
  (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
    (TOTOPW WINDOW)
    (bind SELECTION while (.COPYKEYDOWNP.) do (BLOCK)
      (SETQ SELECTION (ONED.TRACKCURSOR
        WINDOW SELECTION (WINDOWPROP WINDOW
          'ROWPROPS)
        (WINDOWPROP WINDOW 'VERTMARKS)
        0 NIL 2 [FUNCTION (LAMBDA (P W)
          (CL:FUNCALL
            (WINDOWPROP
              W
              'FETCHFN)
            (WINDOWPROP
              W
              'DATUM)
            P]
          (FUNCTION INSPECT.FLIPSELECTION)))
        finally (if SELECTION
          then (INSPECT.FLIPSELECTION (fetch (ONED.SELECTION ELTLEFT) of SELECTION)
            (fetch (ONED.SELECTION ELTBOTTOM) of SELECTION)
            (fetch (ONED.SELECTION ELTWIDTH) of SELECTION)
            2 WINDOW)
            (BKSYSEBUF.GENERAL (CL:FUNCALL (WINDOWPROP WINDOW 'FETCHFN)
              (WINDOWPROP WINDOW 'DATUM)
              (CAR (fetch (ONED.SELECTION PROP) of SELECTION)]))

```

(ONEDINSPECT.SCROLLFN

```

[LAMBDA (WINDOW DX DY FLG) ; Edited 19-Feb-2021 12:09 by rmk:
  (PROG [(RIGHTWINDOW (WINDOWPROP WINDOW 'RIGHTWINDOW) (* jop%: " 1-Oct-85 22:41")
    (if (OR (NOT (EQ 0 DY))
      (FLOATP DY))
      then (APPLY* (OR (WINDOWPROP RIGHTWINDOW 'SCROLLFN)
        (FUNCTION SCROLLBYREPAINTFN))
        RIGHTWINDOW 0 DY FLG))
    (SCROLLBYREPAINTFN WINDOW DX DY FLG)])

```

(ONEDINSPECT.CLOSEFN

```

[LAMBDA (WINDOW) (* jop%: " 4-Oct-85 17:52")
  (DETACHALLWINDOWS WINDOW)
  (WINDOWPROP WINDOW 'SELECTION NIL)
  (WINDOWPROP (WINDOWPROP WINDOW 'RIGHTWINDOW)
    'SELECTION NIL))

```

(ONEDINSPECT.REDISPLAY

```

[LAMBDA (WINDOW ELTPROPS) ; Edited 8-Apr-87 17:00 by jop
  ;; ELTPROPS may be a single entries, a list, or NIL. If NIL than the whole inspector is refetched and redisplayed
  (if (AND ELTPROPS (NLISTP ELTPROPS))
    then (SETQ ELTPROPS (LIST ELTPROPS)))
  (PROG ((FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
    (DATUM (WINDOWPROP WINDOW 'DATUM))
    (VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
    (ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
    (VALUEWIDTH (WINDOWPROP WINDOW 'VALUEWIDTH))
    (SELECTION (WINDOWPROP WINDOW 'SELECTION))
    ELTS ELTBOTTOMS)
    (SETQ ELTS (for PROP in ELTPROPS collect (APPLY* FETCHFN DATUM PROP)))
    [SETQ ELTBOTTOMS (for ELTPROP in ELTPROPS collect (for VMARK in VERTMARKS as PROP in ROWPROPS
      thereis (EQUAL PROP ELTPROP)
      (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
        (if (AND ELTS (for ELTWIDTH in (for ELT in ELTS collect (STRINGWIDTH ELT WINDOW T))
          never (IGREATERP ELTWIDTH VALUEWIDTH)))
          then (INSPECT.INVERTSELECTION WINDOW)
            (bind (FHEIGHT _ (FONTPROP WINDOW 'HEIGHT))
              (FDESCENT _ (FONTPROP WINDOW 'DESCENT)) for ELT in ELTS as BOTTOM in ELTBOTTOMS
              do (BITBLT NIL NIL WINDOW 0 BOTTOM VALUEWIDTH FHEIGHT 'TEXTURE 'REPLACE
                WHITESHADE)
              (ONEDINSPECT.PRINTELEMENT ELT BOTTOM FDESCENT WINDOW))
            (ONEDINSPECT.ADJUSTSELECTION WINDOW)
            (INSPECT.INVERTSELECTION WINDOW)
          else ; Recompute the whole picture
            (WINDOWPROP WINDOW 'VALUEWIDTH NIL)
            (ONEDINSPECT.MAKEREGIONS WINDOW)
            (ONEDINSPECT.ADJUSTSELECTION WINDOW)
            (DSPRESET WINDOW)
            (ONEDINSPECT.REPAINTFN WINDOW)
            (DSPRESET (WINDOWPROP WINDOW 'RIGHTWINDOW))
            (RIGHTW.REPAINTFN (WINDOWPROP WINDOW 'RIGHTWINDOW))

```

(ONEDINSPECT.REPLACE

```

[LAMBDA (WINDOW PROP NEWVALUE) (* jop%: " 2-Oct-85 00:06")

```

```
(PROG [(DATUM (WINDOWPROP WINDOW 'DATUM))
(STOREFN (WINDOWPROP WINDOW 'STOREFN])
(APPLY* STOREFN NEWVALUE DATUM PROP)
(ONEDINSPECT.REDISPLAY WINDOW PROP)])
```

(ONEDINSPECT.SELECTITEM

; Edited 6-Apr-87 11:36 by job

```
[LAMBDA (WINDOW PROP)
  (if (WINDOWPROP WINDOW 'SELECTION)
    then (INSPECT.INVERTSELECTION WINDOW))
  (if PROP
    then (PROG ((DATUM (WINDOWPROP WINDOW 'DATUM))
(FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
(ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
(VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
(HORZMARKS (WINDOWPROP WINDOW 'HORZMARKS))
SELECTEDPROP SELECTEDELTBOTTOM SELECTEDELTDWIDTH)
(SETQ SELECTEDPROP (for PRP on ROWPROPS thereis (EQUAL (CAR PRP)
PROP)))
(SETQ SELECTEDELTBOTTOM (for VMARK in VERTMARKS as PRP on ROWPROPS
thereis (EQ PRP SELECTEDPROP)))
(SETQ SELECTEDELTDWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(STRINGWIDTH (APPLY* FETCHFN DATUM PROP)
WINDOW T)))
(INSPECT.INVERTREGION 0 SELECTEDELTBOTTOM SELECTEDELTDWIDTH (FONTPROP WINDOW 'HEIGHT)
WINDOW)
(WINDOWPROP WINDOW 'SELECTION
(create ONED.SELECTION
ELTDWIDTH _ SELECTEDELTDWIDTH
ELTLEFT _ 0
ELTBOTTOM _ SELECTEDELTBOTTOM
PROP _ SELECTEDPROP)]))
```

(ONEDINSPECT.SELECTPROP

; Edited 6-Apr-87 11:37 by job

```
[LAMBDA (WINDOW PROP)
  (PROG [(RIGHTWINDOW (WINDOWPROP WINDOW 'RIGHTWINDOW]
  (if (WINDOWPROP RIGHTWINDOW 'SELECTION)
    then (INSPECT.INVERTSELECTION RIGHTWINDOW))
  (PROG ((ROWPROPSPACE (WINDOWPROP WINDOW 'ROWPROPSPACE))
(ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
(VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
SELECTEDPROP SELECTEDELTBOTTOM SELECTEDELTLLEFT SELECTEDELTDWIDTH)
(SETQ SELECTEDPROP (for PRP on ROWPROPS thereis (EQUAL (CAR PRP)
PROP)))
(SETQ SELECTEDELTBOTTOM (for VMARK in VERTMARKS as PRP on ROWPROPS thereis (EQ PRP SELECTEDPROP)))
(SETQ SELECTEDELTDWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(STRINGWIDTH (CAR SELECTEDPROP)
WINDOW T)))
(SETQ SELECTEDELTLLEFT (STRINGWIDTH ROWPROPSPACE WINDOW))
(INSPECT.INVERTREGION SELECTEDELTLLEFT SELECTEDELTBOTTOM SELECTEDELTDWIDTH (FONTPROP WINDOW
'HEIGHT)
RIGHTWINDOW)
(WINDOWPROP RIGHTWINDOW 'SELECTION
(create ONED.SELECTION
ELTDWIDTH _ SELECTEDELTDWIDTH
ELTLEFT _ SELECTEDELTLLEFT
ELTBOTTOM _ SELECTEDELTBOTTOM
PROP _ SELECTEDPROP)]))
```

(ONEDINSPECT.ADJUSTSELECTION

; Edited 6-Apr-87 11:34 by job

```
[LAMBDA (WINDOW)
  (PROG [(SELECTION (WINDOWPROP WINDOW 'SELECTION]
  (if SELECTION
    then (PROG ((DATUM (WINDOWPROP WINDOW 'DATUM))
(FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
(ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
(VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
(SELPROP (fetch (ONED.SELECTION PROP) of SELECTION)))
(WINDOWPROP WINDOW 'SELECTION (create ONED.SELECTION
ELTBOTTOM _
(for VMARK in VERTMARKS as PROP on ROWPROPS
thereis (EQ PROP SELPROP))
ELTDWIDTH _ (WITH-INSPECTOR-ENV
(WINDOWPROP WINDOW 'PROFILE)
(STRINGWIDTH (APPLY* FETCHFN DATUM
(CAR SELPROP))
WINDOW T))
ELTLEFT _ 0
PROP _ SELPROP)]))
```

(ONEDINSPECT.PROPWIDTH

; Edited 11-Aug-2020 11:04 by rmk:
; Edited 5-Apr-87 16:18 by job

```
[LAMBDA (PROPS FONT)
```

:: Computes the MIN fieldwidth for the COLUMNPROP column of SLICE

;; RMK: Added more SPACE: wasn't wide enough for large indexes

```
(for PROP in PROPS largest (STRINGWIDTH PROP FONT T) finally (RETURN (IPLUS (CHARWIDTH (CHARCODE SPACE)
T)
$$EXTREME]))
```

(ONEDINSPECT.VALUEWIDTH

```
[LAMBDA (DATUM PROPS FETCHFN FONT) ; Edited 5-Apr-87 16:20 by jop
```

;; Computes the MIN fieldwidth for the COLUMNPROP column of SLICE

```
(for PROP in PROPS largest (STRINGWIDTH (APPLY* FETCHFN DATUM PROP)
FONT T)
finally (RETURN $$EXTREME]))
```

(ONEDINSPECT.DEFAULT.TITLECOMMANDFN

```
[LAMBDA (WINDOW) ; Edited 20-Jul-90 20:47 by yabu
```

```
(if (MOUSESTATE MIDDLE)
then (PROG [(TITLEMENU (CONSTANT (\CREATE.TWODINSPECTOR.TITLEMENU) ) )
; Original was (create MENU ITEMS _ '(("Refetch" 'REFETCH
;"Refetch the datum") ("IT _ Datum" 'IT "Bind IT to the inspected
; datum"))).
; Changed by yabu.fx, for SUNLOADUP without DWIM.
```

```
(DATUM (WINDOWPROP WINDOW 'DATUM]
(SELECTQ (MENU TITLEMENU)
(REFETCH (ONEDINSPECT.REDISPLAY WINDOW))
(IT (SETQ IT DATUM)
(PROMPTPRINT "IT bound to " DATUM))
NIL])
```

(ONEDINSPECT.DEFAULT.VALUECOMMANDFN

```
[LAMBDA (VALUE PROP DATUM WINDOW) ; Edited 20-Jul-90 20:51 by yabu
```

```
(PROG ((SETMENU (CONSTANT (\CREATE.TWODINSPECTOR.SETMENU) ) )
; Original was (create MENU ITEMS _ '(("IT _ Selection" 'IT
;"Bind IT to the value of the selected entry") ("Set" 'SET "Set the
; selected entry"))).
; Changed by yabu.fx, for SUNLOADUP without DWIM.
```

```
(INSPECTMENU (CONSTANT (\CREATE.TWODINSPECTOR.INSPECTMENU) ) )
; Original was (create MENU ITEMS _ '(("Inspect" 'INSPECT
;"Inspect the value of the selected entry") ("IT _ Selection" 'IT
;"Bind IT to the value of the selected entry") ("Set" 'SET "Set the
; selected entry"))).
; Changed by yabu.fx, for SUNLOADUP without DWIM.
```

```
)
(SELECTQ (if (OR (NULL VALUE)
(NUMBERP VALUE))
then (MENU SETMENU)
else (MENU INSPECTMENU))
(INSPECT (INSPECT VALUE))
(IT (SETQ IT VALUE)
(PROMPTPRINT "IT bound to " IT))
(SET (ONEDINSPECT.SETELT PROP WINDOW))
NIL])
```

(ONEDINSPECT.SETELT

```
[LAMBDA (PROP WINDOW) ; Edited 5-Apr-87 16:29 by jop
```

```
(PROG ((PRTWINDOW (GETPROMPTWINDOW WINDOW (if (ILESSP (fetch (REGION WIDTH) of (WINDOWREGION WINDOW))
(IPLUS (ITIMES 5 (STRINGWIDTH 'A WINDOW))
(STRINGWIDTH "? " WINDOW))))
```

```
then 3
else 1)))
(NEWVALUE (APPLY* (WINDOWPROP WINDOW 'FETCHFN)
(WINDOWPROP WINDOW 'DATUM)
PROP))
(WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(RESETLST
(RESETSAVE (TTYDISPLAYSTREAM PRTWINDOW))
(RESETSAVE (TTY.PROCESS (THIS.PROCESS)))
(CLEARBUF T T)
(PRINTOUT T "Eval> ")
(SETQ NEWVALUE (CL:FUNCALL XCL:*EVAL-FUNCTION* (LISPXREAD T T)))
; clear tty buffer because it sometimes has stuff left.
(CLEARBUF T T)))
(REMOVEPROMPTWINDOW WINDOW)
(ONEDINSPECT.REPLACE WINDOW PROP NEWVALUE]))
```

;; Twod-inspector

(DEFINEQ

(TWODINSPECTW.CREATE

[LAMBDA (DATUM ROWPROPS COLUMNPROPS FETCHFN STOREFN VALUECOMMANDFN ROWPROPCOMMANDFN COLUMNPROPCOMMANDFN TITLE  
TITLECOMMANDFN WHERE TOPRIGHT) ; Edited 6-Apr-87 17:03 by job

:: If where is a window, it may be the result of a previous call, so try to reuse all windows

```
(PROG ((PROFILE (MAKE-INSPECTOR-PROFILE))
[FONT (OR INSPECTORFONT (DEFAULTFONT 'DISPLAY]
[TITLEFONT (OR (DSPFONT NIL WindowTitleDisplayStream)
' (HELVETICA 8 MRR]
DISPLAYWINDOW TOPWINDOW RIGHTWINDOW CORNERWINDOW TITLEWINDOW GLEFT GBOTTOM GWIDTH GHEIGHT WINDOWGROUP
)
(if (LITATOM ROWPROPS)
then (SETQ ROWPROPS (APPLY* ROWPROPS DATUM)))
(if (LITATOM COLUMNPROPS)
then (SETQ COLUMNPROPS (APPLY* COLUMNPROPS DATUM)))
(WITH-INSPECTOR-ENV PROFILE ; DISPLAYWINDOW is the central and main window of the group
(SETQ DISPLAYWINDOW (GET-TWOD-DISPLAYW WHERE DATUM FETCHFN STOREFN VALUECOMMANDFN
ROWPROPCOMMANDFN COLUMNPROPCOMMANDFN TITLECOMMANDFN ROWPROPS
COLUMNPROPS PROFILE FONT))
; TOPWINDOW simply records the COLUMNPROPS
(SETQ TOPWINDOW (GET-TOPW DISPLAYWINDOW FONT)) ; RIGHTWINDOW records the ROWPROPS
(SETQ RIGHTWINDOW (GET-RIGHTW DISPLAYWINDOW FONT))
; CORNERWINDOW is just a place holder
(SETQ CORNERWINDOW (GET-CORNERW DISPLAYWINDOW FONT))
; TITLEWINDOW will only hold a title
(SETQ TITLEWINDOW (GET-TITLEW DISPLAYWINDOW TITLE TITLEFONT DATUM))
; Put up the window group
)
(if (NOT (POSITIONP TOPRIGHT))
then (LET ((REGION (if (WINDOWP WHERE)
then (WINDOWPROP WHERE 'REGION)
elseif (REGIONP WHERE)
then WHERE)))
(if REGION
then (SETQ GLEFT (fetch (REGION LEFT) of REGION))
(SETQ GBOTTOM (fetch (REGION BOTTOM) of REGION))
(SETQ GWIDTH (fetch (REGION WIDTH) of REGION))
(SETQ GHEIGHT (fetch (REGION HEIGHT) of REGION))
elseif (POSITIONP WHERE)
then (SETQ GLEFT (fetch (POSITION XCOORD) of WHERE))
(SETQ GBOTTOM (fetch (POSITION YCOORD) of WHERE))
(SETQ WINDOWGROUP (TWODINSPECT.ARRANGEWINDOWS DISPLAYWINDOW TOPWINDOW RIGHTWINDOW
CORNERWINDOW TITLEWINDOW GLEFT GBOTTOM GWIDTH GHEIGHT TOPRIGHT))
)
)
:: Display the group
(TWODINSPECT.RESHAPEFN DISPLAYWINDOW)
(TOPW.RESHAPEFN TOPWINDOW)
(RIGHTW.RESHAPEFN RIGHTWINDOW)
(TITLEW.REPAINTFN TITLEWINDOW)
:: then establish reshapefns on the windows of the window group
(WINDOWPROP DISPLAYWINDOW 'RESHAPEFN (FUNCTION TWODINSPECT.RESHAPEFN))
(WINDOWPROP TOPWINDOW 'RESHAPEFN (FUNCTION TOPW.RESHAPEFN))
(WINDOWPROP RIGHTWINDOW 'RESHAPEFN (FUNCTION RIGHTW.RESHAPEFN))
(WINDOWPROP TITLEWINDOW 'RESHAPEFN (FUNCTION TITLEW.REPAINTFN))
)
:: finally return the group
(RETURN WINDOWGROUP])
```

**(GET-TWOD-DISPLAYW**

[LAMBDA (WHERE DATUM FETCHFN STOREFN VALUECOMMANDFN ROWPROPCOMMANDFN COLUMNPROPCOMMANDFN TITLECOMMANDFN  
ROWPROPS COLUMNPROPS PROFILE FONT) ; Edited 6-Apr-87 14:51 by job

```
(LET [(DISPLAYWINDOW (if (WINDOWP WHERE)
then WHERE
else (CREATEW (CREATEREGION 0 0 100 100)
NIL 2 T])
(WINDOWPROP DISPLAYWINDOW 'REPAINTFN (FUNCTION TWODINSPECT.REPAINTFN))
; Smash the reshapefn because we don't want to rely on shapew
; to repaint the windows
(WINDOWPROP DISPLAYWINDOW 'RESHAPEFN (FUNCTION CLEARW))
(WINDOWPROP DISPLAYWINDOW 'SCROLLFN (FUNCTION TWODINSPECT.SCROLLFN))
(WINDOWPROP DISPLAYWINDOW 'BUTTONEVENTFN (FUNCTION TWODINSPECT.BUTTONEVENTFN))
(WINDOWPROP DISPLAYWINDOW 'COPYBUTTONEVENTFN (FUNCTION TWODINSPECT.COPYBUTTONFN))
(WINDOWPROP DISPLAYWINDOW 'CLOSEFN (FUNCTION TWODINSPECT.CLOSEFN))
(DSPRIGHTMARGIN MAX.SMALLP DISPLAYWINDOW)
(DSPFONT FONT DISPLAYWINDOW)
(WINDOWPROP DISPLAYWINDOW 'DATUM DATUM)
(WINDOWPROP DISPLAYWINDOW 'FETCHFN FETCHFN)
(WINDOWPROP DISPLAYWINDOW 'STOREFN STOREFN)
(WINDOWPROP DISPLAYWINDOW 'VALUECOMMANDFN (OR VALUECOMMANDFN (FUNCTION
TWODINSPECT.DEFAULT.VALUECOMMANDFN)))
(WINDOWPROP DISPLAYWINDOW 'ROWPROPCOMMANDFN ROWPROPCOMMANDFN)
(WINDOWPROP DISPLAYWINDOW 'COLUMNPROPCOMMANDFN COLUMNPROPCOMMANDFN)
(WINDOWPROP DISPLAYWINDOW 'TITLECOMMANDFN (OR TITLECOMMANDFN (FUNCTION
TWODINSPECT.DEFAULT.TITLECOMMANDFN)))
(WINDOWPROP DISPLAYWINDOW 'ROWPROPS ROWPROPS)
(WINDOWPROP DISPLAYWINDOW 'ROWPROPWIDTH (TWODINSPECT.ROWPROPWIDTH ROWPROPS FONT))
(WINDOWPROP DISPLAYWINDOW 'ROWPROPSPACE " ")
```



```
(WINDOWPROP DISPLAYWINDOW 'COLUMNPROPS COLUMNPROPS)
(WINDOWPROP DISPLAYWINDOW 'COLUMNWIDTHS (TWODINSPECT.COLUMNWIDTHS DATUM ROWPROPS COLUMNPROPS FETCHFN
FONT))
(WINDOWPROP DISPLAYWINDOW 'COLUMNPROPSPACE " ")
(WINDOWPROP DISPLAYWINDOW 'PROFILE PROFILE)
DISPLAYWINDOW])
```

(GET-CORNERW

```
[LAMBDA (DISPLAYWINDOW FONT) ; Edited 6-Apr-87 14:52 by job
(LET [(CORNERWINDOW (OR (WINDOWPROP DISPLAYWINDOW 'CORNERWINDOW)
(CREATEW (CREATEREGION 0 0 100 100)
NIL
(WINDOWPROP DISPLAYWINDOW 'BORDER)
T])
(DSPFONT FONT CORNERWINDOW)
(WINDOWPROP CORNERWINDOW 'REPAINTFN (FUNCTION CLEARW))
(WINDOWPROP CORNERWINDOW 'RESHAPEFN (FUNCTION CLEARW))
(WINDOWPROP CORNERWINDOW 'BUTTONEVENTFN NIL)
(WINDOWPROP DISPLAYWINDOW 'CORNERWINDOW CORNERWINDOW)
CORNERWINDOW])
```

(TWODINSPECT.ARRANGEWINDOWS

```
[LAMBDA (DISPLAYWINDOW TOPWINDOW RIGHTWINDOW CORNERWINDOW TITLEWINDOW TOTALLEFT TOTALBOTTOM TOTALWIDTH
TOTALHEIGHT TOPRIGHT) ; Edited 19-Feb-2021 14:29 by rmk:
; Edited 6-Apr-87 15:10 by job
```

:: REGION should be the total available area

```
(PROG ((ROWPROPS (WINDOWPROP DISPLAYWINDOW 'ROWPROPS))
(COLUMNPROPS (WINDOWPROP DISPLAYWINDOW 'COLUMNPROPS))
(ROWPROPSPACE (WINDOWPROP DISPLAYWINDOW 'ROWPROPSPACE))
(COLUMNWIDTHS (WINDOWPROP DISPLAYWINDOW 'COLUMNWIDTHS))
(COLUMNPROPSPACE (WINDOWPROP DISPLAYWINDOW 'COLUMNPROPSPACE))
TOTALRIGHT TOTALTOP DWHEIGHT DWWIDTH TITLEHEIGHT TWHEIGHT RWIDTH DWLEFT DWBOTTOM ROWPROPWIDTH)
[SETQ TITLEHEIGHT (HEIGHTIFWINDOW (FONTPROP TITLEWINDOW 'HEIGHT)
NIL
(WINDOWPROP TITLEWINDOW 'BORDER)
(WINDOWPROP DISPLAYWINDOW 'BORDER))
(SETQ ROWPROPWIDTH (TWODINSPECT.ROWPROPWIDTH ROWPROPS RIGHTWINDOW))
[SETQ TWHEIGHT (HEIGHTIFWINDOW (FONTPROP TOPWINDOW 'HEIGHT)
NIL
(WINDOWPROP TOPWINDOW 'BORDER)
(WINDOWPROP DISPLAYWINDOW 'BORDER))
[SETQ RWIDTH (WIDTHIFWINDOW (IPLUS (STRINGWIDTH ROWPROPSPACE RIGHTWINDOW)
ROWPROPWIDTH)
(WINDOWPROP RIGHTWINDOW 'BORDER)
(WINDOWPROP DISPLAYWINDOW 'BORDER))
[if (NULL TOTALHEIGHT)
then [SETQ DWHEIGHT (IMIN 500 (HEIGHTIFWINDOW (ITIMES (FONTPROP DISPLAYWINDOW 'HEIGHT)
(LENGTH ROWPROPS))
NIL
(WINDOWPROP DISPLAYWINDOW 'BORDER)
(WINDOWPROP DISPLAYWINDOW 'BORDER))
(SETQ TOTALHEIGHT (IPLUS TITLEHEIGHT TWHEIGHT DWHEIGHT))
else (SETQ DWHEIGHT (IDIFFERENCE TOTALHEIGHT (IPLUS TWHEIGHT TITLEHEIGHT))
(if (NULL TOTALWIDTH)
then [SETQ DWWIDTH (IMIN 400 (WIDTHIFWINDOW (TWODINSPECT.TOTALWIDTH COLUMNWIDTHS COLUMNPROPSPACE
(DSPFONT DISPLAYWINDOW))
(WINDOWPROP DISPLAYWINDOW 'BORDER)
(WINDOWPROP DISPLAYWINDOW 'BORDER))
else (SETQ DWWIDTH (IDIFFERENCE TOTALWIDTH RWIDTH))
[if (POSITION TOPRIGHT)
then (SETQ TOTALRIGHT (fetch (POSITION XCOORD) of TOPRIGHT))
(SETQ TOTALTOP (fetch (POSITION YCOORD) of TOPRIGHT))
elseif (AND TOTALLEFT TOTALBOTTOM)
then (SETQ TOTALRIGHT (IPLUS TOTALLEFT (SUB1 TOTALWIDTH)))
(SETQ TOTALTOP (IPLUS TOTALBOTTOM (SUB1 TOTALHEIGHT)))
else (LET ((REGION (GETBOXREGION TOTALWIDTH TOTALHEIGHT NIL NIL NIL "Position Inspector window")))
(SETQ TOTALTOP (fetch (REGION TOP) of REGION))
(SETQ TOTALRIGHT (fetch (REGION RIGHT) of REGION))
[SETQ DWLEFT (DIFFERENCE TOTALRIGHT (SUB1 (PLUS DWWIDTH RWIDTH))
(if (ILESSP DWLEFT 0)
then (SETQ DWLEFT 0)
(SETQ DWWIDTH (DIFFERENCE (ADD1 TOTALRIGHT)
RWIDTH)))
[SETQ DWBOTTOM (DIFFERENCE TOTALTOP (SUB1 (PLUS DWHEIGHT TWHEIGHT TITLEHEIGHT))
(if (LESSP DWBOTTOM 0)
then (SETQ DWBOTTOM 0)
(SETQ DWHEIGHT (DIFFERENCE (ADD1 TOTALTOP)
(PLUS TWHEIGHT TITLEHEIGHT))
```

:: put up the window group

```
(WINDOWPROP DISPLAYWINDOW 'MINSIZE (CONS 0 0))
(SHAPEW DISPLAYWINDOW (CREATEREGION DWLEFT DWBOTTOM DWWIDTH DWHEIGHT))
; Need to set the Minsize BEFORE reshaping else we catch the
; default minsize
(WINDOWPROP TOPWINDOW 'MINSIZE (CONS 0 TWHEIGHT))
(WINDOWPROP TOPWINDOW 'MAXSIZE (CONS MAX.SMALLP TWHEIGHT))
(SHAPEW TOPWINDOW (CREATEREGION DWLEFT [ADD1 (fetch (REGION TOP) of (WINDOWPROP DISPLAYWINDOW
'REGION])
```

```

      DWWIDTH TWHEIGHT))
(ATTACHWINDOW TOPWINDOW DISPLAYWINDOW 'TOP)
(WINDOWPROP RIGHTWINDOW 'MINSIZE (CONS RWIDTH 0))
(WINDOWPROP RIGHTWINDOW 'MAXSIZE (CONS RWIDTH MAX.SMALLP))
(WINDOWPROP RIGHTWINDOW 'ROWPROPWIDTH ROWPROPWIDTH)
(SHAPEW RIGHTWINDOW (CREATEREGION [ADD1 (fetch (REGION RIGHT) of (WINDOWPROP DISPLAYWINDOW 'REGION]
      DWBOTTOM RWIDTH DWHEIGHT))
(WINDOWPROP CORNERWINDOW 'MINSIZE (CONS RWIDTH TWHEIGHT))
(WINDOWPROP CORNERWINDOW 'MAXSIZE (CONS RWIDTH TWHEIGHT))
(SHAPEW CORNERWINDOW (CREATEREGION [ADD1 (fetch (REGION RIGHT) of (WINDOWPROP DISPLAYWINDOW
      'REGION]
      [ADD1 (fetch (REGION TOP) of (WINDOWPROP DISPLAYWINDOW 'REGION]
      RWIDTH TWHEIGHT))
(ATTACHWINDOW CORNERWINDOW RIGHTWINDOW 'TOP)
(ATTACHWINDOW RIGHTWINDOW DISPLAYWINDOW 'RIGHT)
(WINDOWPROP TITLWINDOW 'MINSIZE (CONS 0 TITLEHEIGHT))
(WINDOWPROP TITLWINDOW 'MAXSIZE (CONS MAX.SMALLP TITLEHEIGHT))
(SHAPEW TITLWINDOW (CREATEREGION DWLEFT [ADD1 (fetch (REGION TOP)
      (WINDOWPROP TOPWINDOW 'REGION]
      TOTALWIDTH TITLEHEIGHT))
(ATTACHWINDOW TITLWINDOW DISPLAYWINDOW 'TOP)
(RETURN DISPLAYWINDOW])

```

**(TWODINSPECT.REPAINTFN**

; Edited 6-Apr-87 11:12 by jop

```

[LAMBDA (WINDOW WINDOWREGION)
  (if (NULL WINDOWREGION)
    then (SETQ WINDOWREGION (DSPCLIPPINGREGION NIL WINDOW)))
  (PROG ((TOP (fetch (REGION TOP) of WINDOWREGION))
        (BOTTOM (fetch (REGION BOTTOM) of WINDOWREGION))
        (LEFT (fetch (REGION LEFT) of WINDOWREGION))
        (RIGHT (fetch (REGION RIGHT) of WINDOWREGION))
        (FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
        (DATUM (WINDOWPROP WINDOW 'DATUM))
        (VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
        (HORZMARKS (WINDOWPROP WINDOW 'HORZMARKS))
        (ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
        (COLUMNPROPS (WINDOWPROP WINDOW 'COLUMNPROPS))
        STARTROWPROPS LASTROWPROP STARTCOLUMNPROPS LASTCOLUMNPROP STARTVERTMARKS STARTHORZMARKS)
    (for ROWPROP on ROWPROPS as MARK on VERTMARKS until (ILESSP (CAR MARK)
      TOP)
      finally (SETQ STARTROWPROPS ROWPROP)
        (SETQ STARTVERTMARKS MARK))
    (for ROWPROP on STARTROWPROPS as MARK in STARTVERTMARKS until (ILESSP MARK BOTTOM)
      finally (SETQ LASTROWPROP ROWPROP))
    (for COLUMNPROP on COLUMNPROPS as MARK on HORZMARKS until (IGREATERP (CAR MARK)
      LEFT)
      finally (SETQ STARTCOLUMNPROPS COLUMNPROP)
        (SETQ STARTHORZMARKS MARK))
    (for COLUMNPROP on STARTCOLUMNPROPS as MARK in STARTHORZMARKS until (IGREATERP MARK RIGHT)
      finally (SETQ LASTCOLUMNPROP COLUMNPROP))
    [WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
      (if (AND STARTROWPROPS STARTCOLUMNPROPS)
        then (for ROWPROP on STARTROWPROPS as VMARK in STARTVERTMARKS repeatuntil (EQ ROWPROP
          LASTROWPROP)
          do (bind (FDESCENT _ (FONTPROP WINDOW 'DESCENT)) for COLUMNPROP on STARTCOLUMNPROPS
            as HMARK in STARTHORZMARKS repeatuntil (EQ COLUMNPROP LASTCOLUMNPROP)
            do (TWODINSPECT.PRINTELEMENT (APPLY* FETCHFN DATUM (CAR ROWPROP)
              (CAR COLUMNPROP))
              HMARK VMARK FDESCENT WINDOW])
        (INSPECT.INVERTSELECTION WINDOW])

```

**(TWODINSPECT.PRINTELEMENT**

; Edited 5-Apr-87 15:17 by jop

```

[LAMBDA (ELT RIGHT BOTTOM FDESCENT WINDOW)
  (MOVETO (ADD1 (DIFFERENCE RIGHT (STRINGWIDTH ELT WINDOW T)))
    (IPLUS BOTTOM FDESCENT)
    WINDOW)
(PRN2 ELT WINDOW])

```

**(TWODINSPECT.RESHAPEFN**

(\* jop%: " 6-Oct-85 18:33")

```

[LAMBDA (WINDOW)
  (CLEARW WINDOW)
  (PROG [(SELECTION (WINDOWPROP WINDOW 'SELECTION)]
    (TWODINSPECT.MAKEREGIONS WINDOW)
    (TWODINSPECT.ADJUSTSELECTION WINDOW)
    (TWODINSPECT.REPAINTFN WINDOW])

```

**(TWODINSPECT.MAKEREGIONS**

; Edited 5-Apr-87 16:31 by jop

```

[LAMBDA (WINDOW)
  ;; Sets up windowprops and activeregions
  (PROG ((ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
        (COLUMNPROPS (WINDOWPROP WINDOW 'COLUMNPROPS))
        (COLUMNWIDTHS (WINDOWPROP WINDOW 'COLUMNWIDTHS))

```

```

(SPACE (STRINGWIDTH (WINDOWPROP WINDOW 'COLUMNPROPSPACE)
WINDOW))
(WINDOWHEIGHT (WINDOWPROP WINDOW 'HEIGHT))
(LF (DSPLINEFEED NIL WINDOW))
VERTMARKS HORZMARKS)
(if (NULL COLUMNWIDTHS)
  then (SETQ COLUMNWIDTHS (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(TWODINSPECT.COLUMNWIDTHS (WINDOWPROP WINDOW 'DATUM)
ROWPROPS COLUMNPROPS (WINDOWPROP WINDOW 'FETCHFN)
WINDOW)))
(WINDOWPROP WINDOW 'COLUMNWIDTHS COLUMNWIDTHS))
; VERTMARKS and HORZMARKS mark endpoints
(SETQ VERTMARKS (for I from 1 to (LENGTH ROWPROPS) as MARK from (IPLUS WINDOWHEIGHT LF) by LF
collect MARK))
[SETQ HORZMARKS (bind (MARK _ -1) for I from 1 to (LENGTH COLUMNPROPS) as COLUMNWIDTH in COLUMNWIDTHS
collect (SETQ MARK (IPLUS MARK SPACE COLUMNWIDTH)
(WINDOWPROP WINDOW 'VERTMARKS VERTMARKS)
(WINDOWPROP WINDOW 'HORZMARKS HORZMARKS)
[WINDOWPROP WINDOW 'EXTENT (CREATEREGION 0 (CAR (LAST VERTMARKS))
(CAR (LAST HORZMARKS))
(DIFFERENCE WINDOWHEIGHT (CAR (LAST VERTMARKS]
[WINDOWPROP (WINDOWPROP WINDOW 'TOPWINDOW)
'EXTENT
(CREATEREGION 0 0 (CAR (LAST HORZMARKS))
(WINDOWPROP (WINDOWPROP WINDOW 'TOPWINDOW)
'HEIGHT]
(WINDOWPROP (WINDOWPROP WINDOW 'RIGHTWINDOW)
'EXTENT
(CREATEREGION 0 (CAR (LAST VERTMARKS))
(WINDOWPROP (WINDOWPROP WINDOW 'RIGHTWINDOW)
'WIDTH)
(DIFFERENCE WINDOWHEIGHT (CAR (LAST VERTMARKS])

```

(TWODINSPECT.BUTTONEVENTFN

; Edited 6-Apr-87 18:28 by jop

```

[LAMBDA (WINDOW)
(TOTOPW WINDOW)
(PROG [(SELECTION (WINDOWPROP WINDOW 'SELECTION)
(WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(if (MOUSESTATE LEFT)
  then (WINDOWPROP WINDOW 'SELECTION (TWOD.TRACKCURSOR WINDOW SELECTION (WINDOWPROP
WINDOW
'ROWPROPS)
(WINDOWPROP WINDOW 'VERTMARKS)
(WINDOWPROP WINDOW 'COLUMNPROPS)
(WINDOWPROP WINDOW 'HORZMARKS)
(FONTPROP WINDOW 'HEIGHT)
[FUNCTION (LAMBDA (RP CP W)
(CL:FUNCALL (WINDOWPROP W
'FETCHFN)
(WINDOWPROP W 'DATUM)
RP CP]
(FUNCTION INSPECT.INVERTREGION)))
; MOUSESTATE MIDDLE
else
(if SELECTION
  then (LET [(DATUM (WINDOWPROP WINDOW 'DATUM))
(SELECTEDROWPROP (CAR (fetch (TWOD.SELECTION ROWPROP) of SELECTION)))
(SELECTEDCOLUMNPROP (CAR (fetch (TWOD.SELECTION COLUMNPROP) of SELECTION]
(CL:FUNCALL (WINDOWPROP WINDOW 'VALUECOMMANDFN)
(CL:FUNCALL (WINDOWPROP WINDOW 'FETCHFN)
DATUM SELECTEDROWPROP SELECTEDCOLUMNPROP)
SELECTEDROWPROP SELECTEDCOLUMNPROP DATUM WINDOW])

```

(TWODINSPECT.COPYBUTTONFN

; Edited 6-Apr-87 18:32 by jop

```

[LAMBDA (WINDOW)
(WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(TOTOPW WINDOW)
(bind SELECTION while (.COPYKEYDOWNP.) do (BLOCK)
(SETQ SELECTION (TWOD.TRACKCURSOR
WINDOW SELECTION (WINDOWPROP WINDOW
'ROWPROPS)
(WINDOWPROP WINDOW 'VERTMARKS)
(WINDOWPROP WINDOW 'COLUMNPROPS)
(WINDOWPROP WINDOW 'HORZMARKS)
2
[FUNCTION (LAMBDA (RP CP W)
(CL:FUNCALL (WINDOWPROP
W
'FETCHFN)
(WINDOWPROP W
'DATUM)
RP CP]
(FUNCTION INSPECT.FLIPSELECTION)))
finally (if SELECTION
  then (INSPECT.FLIPSELECTION (fetch (TWOD.SELECTION ELTLEFT) of SELECTION)
(fetch (TWOD.SELECTION ELTBOTTOM) of SELECTION)

```

```

(fetch (TWOD.SELECTION ELTWIDTH) of SELECTION)
2 WINDOW)
(BKSYSBUF.GENERAL (CL:FUNCALL (WINDOWPROP WINDOW 'FETCHFN)
(WINDOWPROP WINDOW 'DATUM)
(CAR (fetch (TWOD.SELECTION ROWPROP) of SELECTION))
(CAR (fetch (TWOD.SELECTION COLUMNPROP) of SELECTION]))

```

**(TWODINSPECT.DOWINDOWCOMFN**

```

[LAMBDA (TWODWINDOW)
;; Pass on the usual comms, except for SHAPEW
(PROG (COM)
(SETQ COM (MENU WindowMenu))
(SELECTQ COM
(NIL NIL)
(SHAPEW [SHAPEW TWODWINDOW (GETREGION NIL NIL NIL (FUNCTION ICMLARRAY.GETREGIONFN)
(CONS TWODWINDOW 'CLOSED)])
((MOVEW CLOSEW SHRINKW BURYW)
(APPLY* COM (MAINWINDOW TWODWINDOW)))
(APPLY* COM TWODWINDOW])

```

; Edited 6-Apr-87 12:05 by jop

**(TWODINSPECT.SCROLLFN**

```

[LAMBDA (WINDOW DX DY FLG)
(PROG [(TOPWINDOW (WINDOWPROP WINDOW 'TOPWINDOW))
(RIGHTWINDOW (WINDOWPROP WINDOW 'RIGHTWINDOW))
(if (OR (NOT (EQP 0 DX))
(FLOATP DX))
then (APPLY* (WINDOWPROP TOPWINDOW 'SCROLLFN)
TOPWINDOW DX 0 FLG))
(if (OR (NOT (EQP 0 DY))
(FLOATP DY))
then (APPLY* (OR (WINDOWPROP RIGHTWINDOW 'SCROLLFN)
(FUNCTION SCROLLBYREPAINTFN))
RIGHTWINDOW 0 DY FLG))
(SCROLLBYREPAINTFN WINDOW DX DY FLG)]

```

; Edited 19-Feb-2021 13:38 by rmk: (\* jop%: "18-Jul-85 13:50")

**(TWODINSPECT.CLOSEFN**

```

[LAMBDA (WINDOW)
(DETACHALLWINDOWS (WINDOWPROP WINDOW 'RIGHTWINDOW))
(DETACHALLWINDOWS WINDOW)
(WINDOWPROP WINDOW 'SELECTION NIL)
(WINDOWPROP (WINDOWPROP WINDOW 'RIGHTWINDOW)
'SELECTION NIL)
(WINDOWPROP (WINDOWPROP WINDOW 'TOPWINDOW)
'SELECTION NIL)]

```

(\* jop%: " 4-Oct-85 17:51")

**(TWODINSPECT.REDISPLAY**

```

[LAMBDA (WINDOW ELTROWPROPS ELTCOLUMNPROPS)
;; ELTROWPROPS and ELTCOLUMNPROPS may be single entries, lists, or NIL. If NIL than the whole inspector is refetched and redisplayed
(if (AND ELTROWPROPS (NLISTP ELTROWPROPS))
then (SETQ ELTROWPROPS (LIST ELTROWPROPS)))
(if (AND ELTCOLUMNPROPS (NLISTP ELTCOLUMNPROPS))
then (SETQ ELTCOLUMNPROPS (LIST ELTCOLUMNPROPS)))
(PROG ((FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
(DATUM (WINDOWPROP WINDOW 'DATUM))
(VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
(HORZMARKS (WINDOWPROP WINDOW 'HORZMARKS))
(ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
(COLUMNPROPS (WINDOWPROP WINDOW 'COLUMNPROPS))
(COLUMNWIDTHS (WINDOWPROP WINDOW 'COLUMNWIDTHS))
(SELECTION (WINDOWPROP WINDOW 'SELECTION))
ELTCOLUMNWIDTHS ELTS ELTRIGHTS ELTBOTTOMS)
[SETQ ELTS (for RPROP in ELTROWPROPS join (for CPROP in ELTCOLUMNPROPS
collect (APPLY* FETCHFN DATUM RPROP CPROP)]
[SETQ ELTCOLUMNWIDTHS (for RPROP in ELTROWPROPS
join (for CPROP in ELTCOLUMNPROPS
collect (for COLWIDTH in COLUMNWIDTHS as COLPROP in COLUMNPROPS
thereis (EQUAL COLPROP CPROP)]
[SETQ ELTRIGHTS (for RPROP in ELTROWPROPS
join (for CPROP in ELTCOLUMNPROPS
collect (for HMARK in HORZMARKS as COLPROP in COLUMNPROPS
thereis (EQUAL COLPROP CPROP)]
[SETQ ELTBOTTOMS (for RPROP in ELTROWPROPS
join (for CPROP in ELTCOLUMNPROPS
collect (for VMARK in VERTMARKS as ROWPROP in ROWPROPS
thereis (EQUAL ROWPROP RPROP)]
(WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(if (AND ELTS (for ELT in ELTS as COLUMNWIDTH in ELTCOLUMNWIDTHS
never (IGREATERP (STRINGWIDTH ELT WINDOW T)
COLUMNWIDTH)))
then (INSPECT.INVERTSELECTION WINDOW)

```

; Edited 8-Apr-87 17:00 by jop

```

(bind (FHEIGHT _ (FONTPROP WINDOW 'HEIGHT))
      (FDESCENT _ (FONTPROP WINDOW 'DESCENT)) for ELT in ELTS as RIGHT in ELRIGHTS
as BOTTOM in ELTBOTTOMS as COLUMNWIDTH in ELTCOLUMNWIDTHS
do (BITBLT NIL NIL NIL WINDOW (IDIFFERENCE (ADD1 RIGHT)
                                             COLUMNWIDTH)
      BOTTOM COLUMNWIDTH FHEIGHT 'TEXTURE 'REPLACE WHITESHADE)
(TWODINSPECT.PRINTELEMENT ELT RIGHT BOTTOM FDESCENT WINDOW))
(TWODINSPECT.ADJUSTSELECTION WINDOW)
(INSPECT.INVERTSELECTION WINDOW)

else ; Recompute the whole picture
(WINDOWPROP WINDOW 'COLUMNWIDTHS NIL)
(TWODINSPECT.MAKEREGIONS WINDOW)
(TWODINSPECT.ADJUSTSELECTION WINDOW)
(DSPRESET WINDOW)
(TWODINSPECT.REPAINTFN WINDOW)
(DSPRESET (WINDOWPROP WINDOW 'TOPWINDOW))
(TOPW.REPAINTFN (WINDOWPROP WINDOW 'TOPWINDOW))
(DSPRESET (WINDOWPROP WINDOW 'RIGHTWINDOW))
(RIGHTW.REPAINTFN (WINDOWPROP WINDOW 'RIGHTWINDOW))

```

**(TWODINSPECT.REPLACE**

```

[LAMBDA (WINDOW ROWPROP COLUMNPROP NEWVALUE) (* jop%: "30-Sep-85 20:44")
  (PROG [(DATUM (WINDOWPROP WINDOW 'DATUM))
        (STOREFN (WINDOWPROP WINDOW 'STOREFN))
        (APPLY* STOREFN NEWVALUE DATUM ROWPROP COLUMNPROP)
        (TWODINSPECT.REDISPLAY WINDOW ROWPROP COLUMNPROP)]

```

**(TWODINSPECT.SELECTITEM**

```

[LAMBDA (WINDOW ROWPROP COLUMNPROP) ; Edited 6-Apr-87 12:05 by jop
  (if (WINDOWPROP WINDOW 'SELECTION)
      then (INSPECT.INVERTSELECTION WINDOW))
  (if (AND ROWPROP COLUMNPROP)
      then (PROG [(DATUM (WINDOWPROP WINDOW 'DATUM))
                  (FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
                  (ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
                  (COLUMNPROPS (WINDOWPROP WINDOW 'COLUMNPROPS))
                  (VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
                  (HORZMARKS (WINDOWPROP WINDOW 'HORZMARKS))
                  SELECTEDROWPROP SELECTEDCOLUMNPROP SELECTEDELTBOTTOM SELECTEDELTLEFT SELECTEDELTWIDTH)
                  (SETQ SELECTEDROWPROP (for RPROP on ROWPROPS thereis (EQUAL (CAR RPROP)
                                                                              ROWPROP)))
                  (SETQ SELECTEDCOLUMNPROP (for CPROP on COLUMNPROPS thereis (EQUAL (CAR CPROP)
                                                                                    COLUMNPROP)))
                  (SETQ SELECTEDELTBOTTOM (for VMARK in VERTMARKS as RPROP on ROWPROPS
                                           thereis (EQ RPROP SELECTEDROWPROP)))
                  (SETQ SELECTEDELTWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
                                                             (STRINGWIDTH (APPLY* FETCHFN DATUM ROWPROP COLUMNPROP)
                                                             WINDOW T)))
                  (SETQ SELECTEDELTLEFT (IDIFFERENCE (ADD1 (for HMARK in HORZMARKS as CPROP on COLUMNPROPS
                                                           thereis (EQ CPROP SELECTEDCOLUMNPROP)))
                                                       SELECTEDELTWIDTH))
                  (INSPECT.INVERTREGION SELECTEDELTLEFT SELECTEDELTBOTTOM SELECTEDELTWIDTH (FONTPROP WINDOW
                                                                                               'HEIGHT)
                                         WINDOW)
                  (WINDOWPROP WINDOW 'SELECTION
                   (create TWOD.SELECTION
                           ELTWIDTH _ SELECTEDELTWIDTH
                           ELTLEFT _ SELECTEDELTLEFT
                           ELTBOTTOM _ SELECTEDELTBOTTOM
                           ROWPROP _ SELECTEDROWPROP
                           COLUMNPROP _ SELECTEDCOLUMNPROP)]

```

**(TWODINSPECT.SELECTROWPROP**

```

[LAMBDA (WINDOW ROWPROP) ; Edited 6-Apr-87 12:07 by jop
  (PROG [(RIGHTWINDOW (WINDOWPROP WINDOW 'RIGHTWINDOW))
        (if (WINDOWPROP RIGHTWINDOW 'SELECTION)
            then (INSPECT.INVERTSELECTION RIGHTWINDOW))
        (PROG ((ROWPROPSPACE (WINDOWPROP WINDOW 'ROWPROPSPACE))
              (ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
              (VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
              SELECTEDROWPROP SELECTEDELTBOTTOM SELECTEDELTLEFT SELECTEDELTWIDTH)
              (SETQ SELECTEDROWPROP (for RPROP on ROWPROPS thereis (EQUAL (CAR RPROP)
                                                                              ROWPROP)))
              (SETQ SELECTEDELTBOTTOM (for VMARK in VERTMARKS as RPROP on ROWPROPS
                                           thereis (EQ RPROP SELECTEDROWPROP)))
              (SETQ SELECTEDELTWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
                                                             (STRINGWIDTH (CAR SELECTEDROWPROP)
                                                             WINDOW T)))
              (SETQ SELECTEDELTLEFT (STRINGWIDTH ROWPROPSPACE WINDOW))
              (INSPECT.INVERTREGION SELECTEDELTLEFT SELECTEDELTBOTTOM SELECTEDELTWIDTH (FONTPROP WINDOW
                                                                                               'HEIGHT)
                                         RIGHTWINDOW)
              (WINDOWPROP RIGHTWINDOW 'SELECTION

```

```

(create ONED.SELECTION
  ELTWIDTH _ SELECTEDELWIDTH
  ELTLEFT _ SELECTEDELLEFT
  ELTBOTTOM _ SELECTEDELBTM
  PROP _ SELECTEDROWPROP])

```

(TWODINSPECT.SELECTCOLUMNPROP

; Edited 6-Apr-87 12:08 by job

```

[LAMBDA (WINDOW COLUMNPROP)
  (PROG [(TOPWINDOW (WINDOWPROP WINDOW 'TOPWINDOW)
    (if (WINDOWPROP TOPWINDOW 'SELECTION)
      then (INSPECT.INVERTSELECTION TOPWINDOW))
    (PROG ((COLUMNPROPS (WINDOWPROP WINDOW 'COLUMNPROPS))
      (HORZMARKS (WINDOWPROP WINDOW 'HORZMARKS))
      SELECTEDCOLUMNPROP SELECTEDELBTM SELECTEDELLEFT SELECTEDELWIDTH)
      (SETQ SELECTEDCOLUMNPROP (for CPROP on COLUMNPROPS thereis (EQUAL (CAR CPROP)
        COLUMNPROP)))
      (SETQ SELECTEDELBTM 0)
      (SETQ SELECTEDELWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
        (STRINGWIDTH (CAR SELECTEDCOLUMNPROP)
          WINDOW T)))
      (SETQ SELECTEDELLEFT (IDIFFERENCE (ADD1 (for HMARK in HORZMARKS as CPROP on COLUMNPROPS
        thereis (EQ CPROP SELECTEDCOLUMNPROP)))
        SELECTEDELWIDTH))
      (INSPECT.INVERTREGION SELECTEDELLEFT SELECTEDELBTM SELECTEDELWIDTH (FONTPROP WINDOW
        'HEIGHT)
        TOPWINDOW)
      (WINDOWPROP TOPWINDOW 'SELECTION
        (create ONED.SELECTION
          ELTWIDTH _ SELECTEDELWIDTH
          ELTLEFT _ SELECTEDELLEFT
          ELTBOTTOM _ SELECTEDELBTM
          PROP _ SELECTEDCOLUMNPROP])

```

(TWODINSPECT.ADJUSTSELECTION

; Edited 6-Apr-87 12:06 by job

```

[LAMBDA (WINDOW)
  (PROG [(SELECTION (WINDOWPROP WINDOW 'SELECTION)
    (if SELECTION
      then (PROG ((DATUM (WINDOWPROP WINDOW 'DATUM))
        (FETCHFN (WINDOWPROP WINDOW 'FETCHFN))
        (ROWPROPS (WINDOWPROP WINDOW 'ROWPROPS))
        (COLUMNPROPS (WINDOWPROP WINDOW 'COLUMNPROPS))
        (VERTMARKS (WINDOWPROP WINDOW 'VERTMARKS))
        (HORZMARKS (WINDOWPROP WINDOW 'HORZMARKS))
        (SELROWPROP (fetch (TWOD.SELECTION ROWPROP) of SELECTION))
        (SELCOLPROP (fetch (TWOD.SELECTION COLUMNPROP) of SELECTION))
        SELBTM SELWIDTH SELLEFT)
        (SETQ SELBTM (for VMARK in VERTMARKS as ROWPROP on ROWPROPS
          thereis (EQ ROWPROP SELROWPROP)))
        (SETQ SELWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
          (STRINGWIDTH (APPLY* FETCHFN DATUM (CAR SELROWPROP)
            (CAR SELCOLPROP))
            WINDOW T)))
        (SETQ SELLEFT (IDIFFERENCE (ADD1 (for HMARK in HORZMARKS as COLPROP on COLUMNPROPS
          thereis (EQ COLPROP SELCOLPROP)))
          SELWIDTH))
        (WINDOWPROP WINDOW 'SELECTION
          (create TWOD.SELECTION
            ELTBOTTOM _ SELBTM
            ELTWIDTH _ SELWIDTH
            ELTLEFT _ SELLEFT
            ROWPROP _ SELROWPROP
            COLUMNPROP _ SELCOLPROP])

```

(TWODINSPECT.DEFAULT.TITLECOMMANDFN

; Edited 20-Jul-90 20:54 by yabu

```

[LAMBDA (WINDOW)
  (if (MOUSESTATE MIDDLE)
    then (PROG [(TITLEMENU (CONSTANT (\CREATE.TWODINSPECTOR.TITLEMENU)))
      ; Original was (create MENU ITEMS _ '("Refetch" 'REFETCH
      ; "Refetch the datum") ("IT _ Datum" 'IT "Bind IT to the inspected
      ; datum"))).
      ; Changed by yabu.fx, for SUNLOADUP without DWIM.
      (DATUM (WINDOWPROP WINDOW 'DATUM)
        (SELECTQ (MENU TITLEMENU)
          (REFETCH (TWODINSPECT.REDISPLAY WINDOW))
          (IT (SETQ IT DATUM)
            (PROMPTPRINT "IT bound to " DATUM))
          NIL])

```

(TWODINSPECT.DEFAULT.VALUECOMMANDFN

; Edited 20-Jul-90 21:03 by yabu

```

[LAMBDA (VALUE ROWPROP COLUMNPROP DATUM WINDOW)
  (PROG ((SETMENU (CONSTANT (\CREATE.TWODINSPECTOR.SETMENU)))
    ; Original was (create MENU ITEMS _ '("IT _ Selection" 'IT
    ; "Bind IT to the value of the selected entry") ("Set" 'SET "Set the
    ; selected entry"))).

```

```

)
(INSPECTMENU (CONSTANT (\CREATE.TWODINSPECTOR.INSPECTMENU)))
; Changed by yabu.fx, for SUNLOADUP without DWIM.
; Original was (create MENU ITEMS_ '(("Inspect" 'INSPECT
; "Inspect the value of the selected entry") ("IT_ Selection" 'IT
; "Bind IT to the value of the selected entry") ("Set" 'SET "Set the
; selected entry"))).
; Changed by yabu.fx, for SUNLOADUP without DWIM.

)
(SELECTQ (if (OR (NULL VALUE)
                (NUMBERP VALUE))
            then (MENU SETMENU)
            else (MENU INSPECTMENU))
(INSPECT (INSPECT VALUE))
(IT (SETQ IT VALUE)
(PROMPTPRINT "IT bound to " IT))
(SET (TWODINSPECT.SETELT ROWPROP COLUMNPROP WINDOW))
NIL])

```

(TWODINSPECT.SETELT

```

[LAMBDA (ROWPROP COLUMNPROP WINDOW) ; Edited 5-Apr-87 16:41 by job
(PROG ((PRTWINDOW (GETPROMPTWINDOW WINDOW))
(NEWVALUE (APPLY* (WINDOWPROP WINDOW 'FETCHFN)
                 (WINDOWPROP WINDOW 'DATUM)
                 ROWPROP COLUMNPROP)))
(WITH-INSPECTOR-ENV (WINDOWPROP WINDOW 'PROFILE)
(RESETLST
(RESETSAVE (TTYDISPLAYSTREAM PRTWINDOW))
(RESETSAVE (THIS.PROCESS (THIS.PROCESS)))
(CLEARBUF T T)
(printout T "Eval> ")
(SETQ NEWVALUE (CL:FUNCALL XCL:*EVAL-FUNCTION* (LISPXREAD T T)))
; clear tty buffer because it sometimes has stuff left.
(CLEARBUF T T)))
(REMOVEPROMPTWINDOW WINDOW)
(TWODINSPECT.REPLACE WINDOW ROWPROP COLUMNPROP NEWVALUE])

```

(TWODINSPECT.ROWPROPWIDTH

```

[LAMBDA (ROWPROPS FONT) ; Edited 5-Apr-87 16:33 by job
(for ROWPROP in ROWPROPS largest (STRINGWIDTH ROWPROP FONT T) finally (RETURN $$EXTREME)])

```

(TWODINSPECT.COLUMNWIDTHS

```

[LAMBDA (DATUM ROWPROPS COLUMNPROPS FETCHFN FONT) ; Edited 5-Apr-87 15:38 by job
;; Computes the MIN fieldwidth for the jth column of SLICE
(for COLUMNPROP in COLUMNPROPS collect (TWODINSPECT.COLUMNWIDTH DATUM ROWPROPS COLUMNPROP FETCHFN FONT)])

```

(TWODINSPECT.COLUMNWIDTH

```

[LAMBDA (DATUM ROWPROPS COLUMNPROP FETCHFN FONT) ; Edited 5-Apr-87 16:29 by job
;; Computes the MIN fieldwidth for the COLUMNPROP column of SLICE
(IMAX (STRINGWIDTH COLUMNPROP FONT T)
(for ROWPROP in ROWPROPS largest (STRINGWIDTH (APPLY* FETCHFN DATUM ROWPROP COLUMNPROP)
                                                FONT T)
finally (RETURN $$EXTREME)])

```

(TWODINSPECT.TOTALWIDTH

```

[LAMBDA (COLUMNWIDTHS SPACE FONT) (* jop%: "25-Sep-85 13:21")
(IPLUS (ITIMES (LENGTH COLUMNWIDTHS)
              (STRINGWIDTH SPACE FONT))
(for COLUMN in COLUMNWIDTHS sum COLUMN])

```

;; Right window fns

(DEFINEQ

(GET-RIGHTW

```

[LAMBDA (DISPLAYWINDOW FONT) ; Edited 19-Feb-2021 12:16 by rmk:
; Edited 6-Apr-87 12:14 by job
(LET [(RIGHTWINDOW (OR (WINDOWPROP DISPLAYWINDOW 'RIGHTWINDOW)
                       (CREATEW (CREATEREGION 0 0 100 100)
                                NIL
                                (WINDOWPROP DISPLAYWINDOW 'BORDER)
                                T))
(WINDOWPROP RIGHTWINDOW 'REPAINTFN (FUNCTION RIGHTW.REPAINTFN))
(WINDOWPROP RIGHTWINDOW 'RESHAPEFN (FUNCTION CLEARW))
(WINDOWPROP RIGHTWINDOW 'BUTTONEVENTFN (FUNCTION RIGHTW.BUTTONEVENTFN))
;; RMK: The rightwindow should only scroll as a consequence of left-window scrolling. If it were to scroll on its own, the parallelism would be
;; lost. The left-window scroller knows to do the SCROLLBYREPAINTFN on the right window
(WINDOWPROP RIGHTWINDOW

```

(QUOTE SCROLLFN) (FUNCTION SCROLLBYREPAINTFN))

```
(WINDOWPROP RIGHTWINDOW 'NOSCROLLBARS T)
(DSPFONT FONT RIGHTWINDOW)
(WINDOWPROP DISPLAYWINDOW 'RIGHTWINDOW RIGHTWINDOW)
RIGHTWINDOW])
```

(RIGHTW.REPAINTFN

```
[LAMBDA (WINDOW WINDOWREGION)
```

```
; Edited 19-Feb-2021 13:37 by rmk:
; Edited 22-May-92 17:37 by jds
```

```
:: RMK: Right justify the PROP in its window (assuming its a numeric index)
:: REPAINT the right-hand window of a two-d inspector. This window contains the element indices.
```

```
[COND
  ((NULL WINDOWREGION)
   (SETQ WINDOWREGION (DSPCLIPPINGREGION NIL WINDOW)
   (LET [(DISPLAYW (MAINWINDOW WINDOW))
         (TOP (fetch (REGION TOP) of WINDOWREGION))
         (BOTTOM (fetch (REGION BOTTOM) of WINDOWREGION))
         (ROWPROPWIDTH (WINDOWPROP WINDOW 'ROWPROPWIDTH))
         (LET ((VERTMARKS (WINDOWPROP DISPLAYW 'VERTMARKS))
               (ROWPROPS (WINDOWPROP DISPLAYW 'ROWPROPS))
               (SPACE (STRINGWIDTH (WINDOWPROP DISPLAYW 'ROWPROPSPACE)
                                   WINDOW))
               (STARTROWPROPS LASTROWPROP STARTVERTMARKS))
          (for ROWPROP on ROWPROPS as MARK on VERTMARKS until (ILESSP (CAR MARK)
                                                                        TOP)
              finally (SETQ STARTROWPROPS ROWPROP)
                      (SETQ STARTVERTMARKS MARK))
          (for ROWPROP on STARTROWPROPS as MARK in STARTVERTMARKS until (ILESSP MARK BOTTOM)
              finally (SETQ LASTROWPROP ROWPROP))
          [COND
            (STARTROWPROPS (WITH-INSPECTOR-ENV (WINDOWPROP DISPLAYW 'PROFILE)
                                                (bind [FDESCENT _ (SUB1 (FONTPROP WINDOW 'DESCENT) for ROWPROP
                                                    on STARTROWPROPS as VERTMARK in STARTVERTMARKS
                                                    repeatuntil (EQ ROWPROP LASTROWPROP)
                                                    do (MOVETO (- ROWPROPWIDTH (STRINGWIDTH (CAR ROWPROP)
                                                                                               WINDOW))
                                                                (IPLUS VERTMARK FDESCENT)
                                                                WINDOW)
                                                                (PRIN2 (CAR ROWPROP)
                                                                WINDOW)
                                                                WINDOW])
              (INSPECT.INVERTSELECTION WINDOW]))
```

(RIGHTW.RESHAPEFN

```
[LAMBDA (WINDOW)
  (CLEARW WINDOW)
  (RIGHTW.ADJUSTSELECTION WINDOW)
  (RIGHTW.REPAINTFN WINDOW)]
```

; Edited 6-Apr-87 10:37 by job

(RIGHTW.BUTTONEVENTFN

```
[LAMBDA (WINDOW)
  (TOTOPW WINDOW)
  (LET* [(SELECTION (WINDOWPROP WINDOW 'SELECTION))
         (MAINWINDOW (MAINWINDOW WINDOW))
         (ROWPROPCOMMANDFN (WINDOWPROP MAINWINDOW 'ROWPROPCOMMANDFN))
         (if ROWPROPCOMMANDFN
             then (WITH-INSPECTOR-ENV (WINDOWPROP MAINWINDOW 'PROFILE)
                 (if (MOUSESTATE LEFT)
                     then (WINDOWPROP WINDOW 'SELECTION (ONED.TRACKCURSOR WINDOW SELECTION
                                                                 (WINDOWPROP MAINWINDOW 'ROWPROPS)
                                                                 (WINDOWPROP MAINWINDOW 'VERTMARKS)
                                                                 (STRINGWIDTH (WINDOWPROP MAINWINDOW
                                                                 'ROWPROPSPACE)
                                                                 WINDOW)
                                                                 WINDOW)
                                                                 NIL
                                                                 (FONTPROP WINDOW 'HEIGHT)
                                                                 [FUNCTION (LAMBDA (P W)
                                                                 P]
                                                                 (FUNCTION INSPECT.INVERTREGION)))
                                                                 ; MOUSESTATE MIDDLE
                                                                 (if SELECTION
                                                                     then (CL:FUNCALL ROWPROPCOMMANDFN (CAR (fetch (ONED.SELECTION PROP)
                                                                 of SELECTION))
                                                                 (WINDOWPROP MAINWINDOW 'DATUM)
                                                                 MAINWINDOW]))
```

; Edited 6-Apr-87 18:48 by job

(RIGHTW.ADJUSTSELECTION

```
[LAMBDA (WINDOW)
  (PROG ((SELECTION (WINDOWPROP WINDOW 'SELECTION))
         (MAINWINDOW (MAINWINDOW WINDOW)))
    (if SELECTION
        then (PROG ((ROWPROPSPACE (WINDOWPROP MAINWINDOW 'ROWPROPSPACE))
                    (ROWPROPS (WINDOWPROP MAINWINDOW 'ROWPROPS))
```

; Edited 6-Apr-87 10:31 by job



```

(VERTMARKS (WINDOWPROP MAINWINDOW 'VERTMARKS))
(SELROWPROP (fetch (ONED.SELECTION PROP) of SELECTION))
SELBOTTOM SELWIDTH SELLEFT)
(SETQ SELBOTTOM (for VMARK in VERTMARKS as ROWPROP on ROWPROPS
thereis (EQ ROWPROP SELROWPROP)))
(SETQ SELWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP MAINWINDOW 'PROFILE)
(STRINGWIDTH (CAR SELROWPROP)
WINDOW T)))
(SETQ SELLEFT (STRINGWIDTH ROWPROPSPACE WINDOW))
(WINDOWPROP WINDOW 'SELECTION
(create ONED.SELECTION
ELTBOTTOM _ SELBOTTOM
ELTWIDTH _ SELWIDTH
ELTLEFT _ SELLEFT
PROP _ SELROWPROP smashing SELECTION])

```

)

:: Top window fns

(DEFINEQ

(GET-TOPW

```

[LAMBDA (DISPLAYWINDOW FONT) ; Edited 6-Apr-87 14:43 by job
(LET [(TOPWINDOW (OR (WINDOWPROP DISPLAYWINDOW 'TOPWINDOW)
(CREATEW (CREATEREGION 0 0 100 100)
NIL
(WINDOWPROP DISPLAYWINDOW 'BORDER)
T])
(WINDOWPROP TOPWINDOW 'REPAINTFN (FUNCTION TOPW.REPAINTFN))
(WINDOWPROP TOPWINDOW 'RESHAPEFN (FUNCTION CLEARW))
(WINDOWPROP TOPWINDOW 'BUTTONEVENTFN (FUNCTION TOPW.BUTTONEVENTFN))
(WINDOWPROP TOPWINDOW 'SCROLLFN (FUNCTION SCROLLBYREPAINTFN))
(DSPRIGHTMARGIN MAX.SMALLP TOPWINDOW) ; TOPWINDOW will scroll under program control
(WINDOWPROP TOPWINDOW 'NOSCROLLBARS T)
(DSPFONT FONT TOPWINDOW)
(WINDOWPROP DISPLAYWINDOW 'TOPWINDOW TOPWINDOW)
TOPWINDOW])

```

(TOPW.REPAINTFN

```

[LAMBDA (WINDOW WINDOWREGION) ; Edited 6-Apr-87 11:12 by job
(if (NULL WINDOWREGION)
then (SETQ WINDOWREGION (DSPCLIPPINGREGION NIL WINDOW)))
(PROG ((DISPLAYW (MAINWINDOW WINDOW))
(LEFT (fetch (REGION LEFT) of WINDOWREGION))
(RIGHT (fetch (REGION RIGHT) of WINDOWREGION))
HORZMARKS COLUMNPROPS STARTCOLUMNPROPS LASTCOLUMNPROP STARTHORZMARKS)
(SETQ HORZMARKS (WINDOWPROP DISPLAYW 'HORZMARKS))
(SETQ COLUMNPROPS (WINDOWPROP DISPLAYW 'COLUMNPROPS))
(for COLUMNPROP on COLUMNPROPS as MARK on HORZMARKS until (IGREATERP (CAR MARK)
LEFT)
finally (SETQ STARTCOLUMNPROPS COLUMNPROP)
(SETQ STARTHORZMARKS MARK))
(for COLUMNPROP on STARTCOLUMNPROPS as MARK in STARTHORZMARKS until (IGREATERP MARK RIGHT)
finally (SETQ LASTCOLUMNPROP COLUMNPROP))
[if STARTCOLUMNPROPS
then (WITH-INSPECTOR-ENV (WINDOWPROP DISPLAYW 'PROFILE)
(bind [BOTTOM _ (SUB1 (FONTPROP WINDOW 'DESCENT] for COLUMNPROP on STARTCOLUMNPROPS
as HMARK in STARTHORZMARKS repeatuntil (EQ COLUMNPROP LASTCOLUMNPROP)
do (MOVETO (ADD1 (DIFFERENCE HMARK (STRINGWIDTH (CAR COLUMNPROP)
WINDOW T)))
BOTTOM WINDOW)
(PRIN2 (CAR COLUMNPROP)
WINDOW]
(INSPECT.INVERTSELECTION WINDOW])

```

(TOPW.RESHAPEFN

```

[LAMBDA (WINDOW) ; Edited 6-Apr-87 11:55 by job
(CLEARW WINDOW)
(TOPW.ADJUSTSELECTION WINDOW)
(TOPW.REPAINTFN WINDOW (DSPCLIPPINGREGION NIL WINDOW])

```

(TOPW.ADJUSTSELECTION

```

[LAMBDA (WINDOW) ; Edited 6-Apr-87 11:54 by job
(PROG ((SELECTION (WINDOWPROP WINDOW 'SELECTION))
(MAINWINDOW (MAINWINDOW WINDOW)))
(if SELECTION
then (PROG ((COLUMNPROPS (WINDOWPROP MAINWINDOW 'COLUMNPROPS))
(HORZMARKS (WINDOWPROP MAINWINDOW 'HORZMARKS))
(SELCOLPROP (fetch (ONED.SELECTION PROP) of SELECTION))
SELBOTTOM SELWIDTH SELLEFT)
(SETQ SELBOTTOM 0)
(SETQ SELWIDTH (WITH-INSPECTOR-ENV (WINDOWPROP MAINWINDOW 'PROFILE)
(STRINGWIDTH (CAR SELCOLPROP)

```

```

                                WINDOW T)))
(SETQ SELLEFT (IDIFFERENCE (ADD1 (for HMARK in HORZMARKS as COLPROP on COLUMNPROPS
                                thereis (EQ COLPROP SELCOLPROP)))
                                SELWIDTH))
(WINDOWPROP WINDOW 'SELECTION
 (create ONED.SELECTION
  ELTBOTTOM _ SELBOTTOM
  ELTWIDTH _ SELWIDTH
  ELTLEFT _ SELLEFT
  PROP _ SELCOLPROP])

```

**(TOPW.BUTTONEVENTFN**

; Edited 6-Apr-87 18:43 by job

```

[LAMBDA (WINDOW)
 (TOTOPW WINDOW)
 (LET* [(SELECTION (WINDOWPROP WINDOW 'SELECTION))
 (MAINWINDOW (MAINWINDOW WINDOW))
 (COLUMNPROPCOMMANDFN (WINDOWPROP MAINWINDOW 'COLUMNPROPCOMMANDFN)]
 (if COLUMNPROPCOMMANDFN
  then (WITH-INSPECTOR-ENV (WINDOWPROP MAINWINDOW 'PROFILE)
        (if (MOUSESTATE LEFT)
         then (WINDOWPROP WINDOW 'SELECTION (ONED.TRACKCURSOR WINDOW SELECTION
                                             (WINDOWPROP MAINWINDOW 'COLUMNPROPS)
                                             (WINDOWPROP MAINWINDOW 'HORZMARKS)
                                             NIL 0 (FONTPROP WINDOW 'HEIGHT)
                                             [FUNCTION (LAMBDA (P W)
                                                         P]
                                             (FUNCTION INSPECT.INVERTREGION)
                                             T))
          else ; MOUSESTATE MIDDLE
         (if SELECTION
          then (CL:FUNCALL COLUMNPROPCOMMANDFN (CAR (fetch (ONED.SELECTION PROP)
                                                            of SELECTION))
            (WINDOWPROP MAINWINDOW 'DATUM)
            MAINWINDOW])
          )
 )
 )

```

:: Title window fns

(DEFINEQ

**(GET-TITLEW**

; Edited 6-Apr-87 17:02 by job

```

[LAMBDA (DISPLAYWINDOW TITLE TITLEFONT DATUM)
 (LET [(TITLEWINDOW (OR (WINDOWPROP DISPLAYWINDOW 'TITLEWINDOW)
 (CREATEW (CREATEREGION 0 0 100 100)
          NIL 1 T]
 (WINDOWPROP TITLEWINDOW 'REPAINTFN (FUNCTION TITLEW.REPAINTFN))
 (WINDOWPROP TITLEWINDOW 'RESHAPEFN (FUNCTION CLEARW))
 (WINDOWPROP TITLEWINDOW 'BUTTONEVENTFN (FUNCTION TITLEW.BUTTONEVENTFN))
 (DSPFONT TITLEFONT TITLEWINDOW)
 (DSPOPERATION 'INVERT TITLEWINDOW)
 (WINDOWPROP TITLEWINDOW 'INSPECTTITLE (OR TITLE (CONCAT DATUM " Inspector")))
 (WINDOWPROP DISPLAYWINDOW 'TITLEWINDOW TITLEWINDOW)
 TITLEWINDOW])

```

**(TITLEW.REPAINTFN**

; Edited 5-Apr-87 14:50 by job

```

[LAMBDA (WINDOW)
 (BITBLT NIL NIL NIL WINDOW NIL NIL NIL NIL 'TEXTURE 'REPLACE BLACKSHADE)
 (MOVETOUPPERLEFT WINDOW)
 (PRINTOUT WINDOW (WINDOWPROP WINDOW 'INSPECTTITLE))

```

**(TITLEW.BUTTONEVENTFN**

; Edited 5-Apr-87 16:41 by job

```

[LAMBDA (TITLEWINDOW)
 (PROG ((MAINWINDOW (MAINWINDOW TITLEWINDOW))
 TITLECOMMANDFN)
 (SETQ TITLECOMMANDFN (WINDOWPROP MAINWINDOW 'TITLECOMMANDFN))
 (if TITLECOMMANDFN
  then (WITH-INSPECTOR-ENV (WINDOWPROP MAINWINDOW 'PROFILE)
        (APPLY* TITLECOMMANDFN MAINWINDOW))
 )
 )

```

:: Utilites

(DEFINEQ

**(ONED.TRACKCURSOR**

; Edited 6-Apr-87 17:41 by job

```

[LAMBDA (WINDOW SELECTION PROPS MARKS LEFT BOTTOM HEIGHT NEW-ITEM-FN HIGHLIGHT-FN HORIZONTAL-P)
 (LET (SELECTEDELTBOTTOM SELECTEDELTLEFT SELECTEDELTWIDTH SELECTEDPROP)
 (if SELECTION
  then (SETQ SELECTEDELTBOTTOM (fetch (ONED.SELECTION ELTBOTTOM) of SELECTION))
        (SETQ SELECTEDELTLEFT (fetch (ONED.SELECTION ELTLEFT) of SELECTION))
 )
 )

```

```

    (SETQ SELECTEDELTWIDTH (fetch (ONED.SELECTION ELTWIDTH) of SELECTION))
    (SETQ SELECTEDPROP (fetch (ONED.SELECTION PROP) of SELECTION))
(bind X Y NEWPROP WIDTH while (MOUSESTATE LEFT)
  do (SETQ X (LASTMOUSEX WINDOW))
      (SETQ Y (LASTMOUSEY WINDOW))
      [if (NOT HORIZONTAL-P)
        then [for PROP on PROPS as MARK in MARKS until (ILESSP MARK Y)
              finally (if PROP
                        then (SETQ WIDTH (STRINGWIDTH (CL:FUNCALL NEW-ITEM-FN (CAR PROP)
                                                                              WINDOW)
                                                                              WINDOW T))
                             (SETQ BOTTOM MARK) ; Select the new region only if the cursor is inside the element
                             ; box
                             (SETQ NEWPROP (AND [NOT (OR (ILESSP X LEFT)
                                                         (IGREATERP X (IPLUS LEFT WIDTH)
                                                         PROP]
                                                (SETQ WIDTH (STRINGWIDTH (CL:FUNCALL NEW-ITEM-FN (CAR PROP)
                                                                              WINDOW)
                                                                              WINDOW T))
                             (SETQ LEFT (ADD1 (IDIFFERENCE MARK WIDTH)))
                             (SETQ NEWPROP (AND (NOT (ILESSP X LEFT))
                                                PROP]
              else (for PROP on PROPS as MARK in MARKS until (IGREATERP MARK X)
                    finally (if PROP
                              then (SETQ WIDTH (STRINGWIDTH (CL:FUNCALL NEW-ITEM-FN (CAR PROP)
                                                                              WINDOW)
                                                                              WINDOW T))
                                   (SETQ LEFT (ADD1 (IDIFFERENCE MARK WIDTH)))
                                   (SETQ NEWPROP (AND (NOT (ILESSP X LEFT))
                                                       PROP]
        (if (NEQ NEWPROP SELECTEDPROP)
          then ; We need to consider highlighting a new region
            (if SELECTEDPROP
              then ; Lowlight the old region
                (CL:FUNCALL HIGHLIGHT-FN SELECTEDELTLEFT SELECTEDELTBOTTOM SELECTEDELTWIDTH
                                   HEIGHT WINDOW)
                (SETQ SELECTEDPROP NIL))
            (if NEWPROP
              then ; cursor inside element box, highlight that box
                (CL:FUNCALL HIGHLIGHT-FN LEFT BOTTOM WIDTH HEIGHT WINDOW)
                (SETQ SELECTEDPROP NEWPROP)
                (SETQ SELECTEDELTWIDTH WIDTH)
                (SETQ SELECTEDELTLEFT LEFT)
                (SETQ SELECTEDELTBOTTOM BOTTOM))
        finally (if SELECTEDPROP
                  then (if (NULL SELECTION)
                        then (SETQ SELECTION (create ONED.SELECTION))
                        (RETURN (create ONED.SELECTION
                                   ELTWIDTH _ SELECTEDELTWIDTH
                                   ELTLEFT _ SELECTEDELTLEFT
                                   ELTBOTTOM _ SELECTEDELTBOTTOM
                                   PROP _ SELECTEDPROP smashing SELECTION]))

```

## (TWOD.TRACKCURSOR

[LAMBDA (WINDOW SELECTION ROWPROPS VERTMARKS COLUMNPROPS HORZMARKS HEIGHT NEW-ITEM-FN HIGHLIGHT-FN)  
; Edited 6-Apr-87 18:36 by jop

```

(TOTOPW WINDOW)
(LET (SELECTEDROWPROP SELECTEDCOLUMNPROP SELECTEDELTBOTTOM SELECTEDELTLEFT SELECTEDELTWIDTH)
  (if SELECTION
    then (SETQ SELECTEDROWPROP (fetch (TWOD.SELECTION ROWPROP) of SELECTION))
          (SETQ SELECTEDCOLUMNPROP (fetch (TWOD.SELECTION COLUMNPROP) of SELECTION))
          (SETQ SELECTEDELTBOTTOM (fetch (TWOD.SELECTION ELTBOTTOM) of SELECTION))
          (SETQ SELECTEDELTLEFT (fetch (TWOD.SELECTION ELTLEFT) of SELECTION))
          (SETQ SELECTEDELTWIDTH (fetch (TWOD.SELECTION ELTWIDTH) of SELECTION)))
(bind NEWROWPROP NEWCOLUMNPROP NEWHORZMARK LEFT BOTTOM WIDTH X Y while (MOUSESTATE LEFT)
  do (SETQ X (LASTMOUSEX WINDOW))
      (SETQ Y (LASTMOUSEY WINDOW))
      (for ROWPROP on ROWPROPS as VERTMARK in VERTMARKS until (ILESSP VERTMARK Y) finally (SETQ NEWROWPROP
                                                                                          ROWPROP)
                                           (SETQ BOTTOM
                                           VERTMARK))
      (for COLUMNPROP on COLUMNPROPS as HORZMARK in HORZMARKS until (IGREATERP HORZMARK X)
        finally (SETQ NEWCOLUMNPROP COLUMNPROP)
                (SETQ NEWHORZMARK HORZMARK))
      (if (AND NEWROWPROP NEWCOLUMNPROP)
        then (SETQ WIDTH (STRINGWIDTH (CL:FUNCALL NEW-ITEM-FN (CAR NEWROWPROP)
                                                                (CAR NEWCOLUMNPROP)
                                                                WINDOW)
                                                                WINDOW T))
              (SETQ LEFT (ADD1 (IDIFFERENCE NEWHORZMARK WIDTH)))
              ; Select the new region only if the cursor is inside the element
              ; box
              (if (ILESSP X LEFT)
                then (SETQ NEWROWPROP NIL)
                    (SETQ NEWCOLUMNPROP NIL)))
      (if (OR (NEQ NEWROWPROP SELECTEDROWPROP)
              (NEQ NEWCOLUMNPROP SELECTEDCOLUMNPROP))
        then ; We need to consider highlighting a new region
          (if (AND SELECTEDROWPROP SELECTEDCOLUMNPROP)
            then ; Lowlight the old region
              (CL:FUNCALL HIGHLIGHT-FN SELECTEDELTLEFT SELECTEDELTBOTTOM SELECTEDELTWIDTH
                                   HEIGHT WINDOW)

```

```

      (SETQ SELECTEDROWPROP NIL)
      (SETQ SELECTEDCOLUMNPROP NIL)
    (if (AND NEWROWPROP NEWCOLUMNPROP)
        then
          ; cursor inside element box, highlight that box
          (CL:FUNCALL HIGHLIGHT-FN LEFT BOTTOM WIDTH HEIGHT WINDOW)
          (SETQ SELECTEDROWPROP NEWROWPROP)
          (SETQ SELECTEDCOLUMNPROP NEWCOLUMNPROP)
          (SETQ SELECTEDELTWIDTH WIDTH)
          (SETQ SELECTEDELTLEFT LEFT)
          (SETQ SELECTEDELTBOTTOM BOTTOM))
    finally (if (AND SELECTEDROWPROP SELECTEDCOLUMNPROP)
                then (if (NULL SELECTION)
                          then (SETQ SELECTION (create TWOD.SELECTION)))
                      (RETURN (create TWOD.SELECTION
                                     ELTWIDTH _ SELECTEDELTWIDTH
                                     ELTLEFT _ SELECTEDELTLEFT
                                     ELTBOTTOM _ SELECTEDELTBOTTOM
                                     ROWPROP _ SELECTEDROWPROP
                                     COLUMNPROP _ SELECTEDCOLUMNPROP smashing SELECTION)))

```

**(INSPECT.INVERTSELECTION**

```

[LAMBDA (WINDOW) ; Edited 6-Apr-87 11:11 by job
  ;; Inverts SELECTION if non-NIL
  (PROG [(SELECTION (WINDOWPROP WINDOW 'SELECTION)
                  (if SELECTION
                      then (INSPECT.INVERTREGION (fetch (INSPECT.SELECTION ELTLEFT) of SELECTION)
                                                    (fetch (INSPECT.SELECTION ELTBOTTOM) of SELECTION)
                                                    (fetch (INSPECT.SELECTION ELTWIDTH) of SELECTION)
                                                    (FONTPROP WINDOW 'HEIGHT)
                                                    WINDOW))]

```

**(INSPECT.INVERTREGION**

```

[LAMBDA (LEFT BOTTOM WIDTH HEIGHT WINDOW) ; Edited 6-Apr-87 16:38 by job
  (BLTSHADE BLACKSHADE WINDOW LEFT BOTTOM WIDTH HEIGHT 'INVERT)]

```

**(INSPECT.FLIPSELECTION**

```

[LAMBDA (LEFT BOTTOM WIDTH HEIGHT WINDOW) ; Edited 6-Apr-87 16:45 by job
  (BLTSHADE GRAYSHADE WINDOW LEFT BOTTOM WIDTH HEIGHT 'INVERT)]

```

**(RPAQ? INSPECTORFONT NIL)**

```

(DECLARE%: DOEVAL@COMPILE DONTCOPY
(GLOBALVARS INSPECTORFONT)
)
(DECLARE%: DOEVAL@COMPILE DONTCOPY
(DECLARE%: EVAL@COMPILE
(BLOCKRECORD INSPECT.SELECTION (ELTBOTTOM ELTLEFT ELTWIDTH))
(DATATYPE ONED.SELECTION (ELTBOTTOM ELTLEFT ELTWIDTH PROP))
(DATATYPE TWOD.SELECTION (ELTBOTTOM ELTLEFT ELTWIDTH ROWPROP COLUMNPROP))
)
(/DECLAREDATATYPE 'ONED.SELECTION '(POINTER POINTER POINTER POINTER)
  ;; ---field descriptor list elided by lister---
  ' 8)
(/DECLAREDATATYPE 'TWOD.SELECTION '(POINTER POINTER POINTER POINTER POINTER)
  ;; ---field descriptor list elided by lister---
  ' 10)
)
(/DECLAREDATATYPE 'ONED.SELECTION '(POINTER POINTER POINTER POINTER)
  ;; ---field descriptor list elided by lister---
  ' 8)
(/DECLAREDATATYPE 'TWOD.SELECTION '(POINTER POINTER POINTER POINTER POINTER)
  ;; ---field descriptor list elided by lister---
  ' 10)
(DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY
(DECLARE%: DOEVAL@COMPILE DONTCOPY

```

{MEDLEY}<sources>TWODINSPECTOR.;1

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(LOCALVARS . T)  
)  
)

(PUTPROPS **TWODINSPECTOR COPYRIGHT** ("Venue & Xerox Corporation" 1985 1900 1987 1990 1992 1993 2020 2021))

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