

File created: 14-Apr-88 12:37:05 {ERINYES}<LISPUSERS>LYRIC>UTILISOPRS.;1

changes to: (FNS |FIntersection| |FUnion|)

previous date: 24-Mar-87 19:54:30 {XDE:MCS:STANFORD}<LISPUSERS>LYRIC>UTILISOPRS.;1

Read Table: XCL

Package: INTERLISP

Format: XCCS

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```
(RPAQQ UTILISOPRSCOMS
  ((I.S.OPRS COLLECTWHEN INTERSECT MAXIMIZE MINIMIZE REPEATEACHTIME UNION UNIQUE YIELD FIRSTTIME
    |fintersect| |funion|)
  (ADDVARS (LOCALVARS $$STATE $$TMP $$UIV $$UNQ $$FLTR)
    (SYSLOCALVARS $$STATE $$TMP $$UIV $$UNQ $$FLTR))
  (FNS |FIntersection| |FUnion|)))

(DECLARE\ : EVAL@COMPILE

(I.S.OPR 'COLLECTWHEN NIL ' (|bind| $$FLTR |when| (SETQ $$FLTR BODY) |collect| $$FLTR))

(I.S.OPR 'INTERSECT ' (PROGN (INTBOD _ BODY)
  (OR ($$VAL _ (COND
    ($$VAL (INTERSECTION $$VAL INTBOD))
    (T INTBOD)))
  (GO $$OUT)))
  ' (BIND INTBOD))

(I.S.OPR 'MAXIMIZE NIL ' (|largest| BODY |yield| $$EXTREME))

(I.S.OPR 'MINIMIZE NIL ' (|smallest| BODY |yield| $$EXTREME))

(I.S.OPR 'REPEATEACHTIME NIL ' (|repeatuntil| (PROGN BODY NIL)))

(I.S.OPR 'UNION ' ($$VAL _ (UNION $$VAL BODY)))

(I.S.OPR 'UNIQUE ' (|if| $$VAL
  |then| ($$VAL_ NIL)
  (GO $$OUT)
  |else| $$VAL _ $$UNQ $$UIV _ I.V.)
  ' (|bind| ($$UNQ $$UIV) |when| $$UNQ _ BODY |finally| (I.V._ (AND $$VAL $$UIV))))

(I.S.OPR 'YIELD NIL ' (FINALLY (RETURN BODY)))

(I.S.OPR 'FIRSTTIME NIL ' (|bind| ($$MEMO _ T) |unless| (AND $$MEMO (PROGN BODY T)
  (SETQ $$MEMO NIL))))

(I.S.OPR ' |fintersect| ' (PROGN (INTBOD _ BODY)
  (OR ($$VAL _ (COND
    ($$VAL (|FIntersection| $$VAL INTBOD))
    (T INTBOD)))
  (GO $$OUT)))
  ' (BIND INTBOD))

(I.S.OPR ' |funion| ' ($$VAL _ (|FUnion| $$VAL BODY)))
)

(ADDTOVAR LOCALVARS $$STATE $$TMP $$UIV $$UNQ $$FLTR)

(ADDTOVAR SYSLOCALVARS $$STATE $$TMP $$UIV $$UNQ $$FLTR)

(DEFINEQ

(|FIntersection|
  (LAMBDA (X Y)
    (|for| |item| |in| X |when| (MEMB |item| Y) |collect| |item|)))
  (* TAL "27-OCT-82 17:54")

(|FUnion|
  (LAMBDA (X Y)
    (|bind| (|tmp| _ Y) |for| |item| |in| X |unless| (MEMB |item| |tmp|) |do| (|push| |tmp| |item|)
    |finally| (RETURN |tmp|)))
  (* TAL "28-OCT-82 12:00")
)

(PUTPROPS UTILISOPRS COPYRIGHT ("Xerox Corporation" 1988))
```

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