```
(RPAQQ MACROTESTAUXCOMS
       [(E (RADIX 8))
        [DECLARE: EVAL@COMPILE DONTCOPY (P (LOADCOMP (QUOTE MACROTEST)))
              (DECLARE: DONTEVAL@LOAD (P (RESETSAVE OPTIMIZATIONSOFF T]
        (COMS (* "Test out of free variables")
              (FNS !FVARTEST PUSH.TEST CALLS.FIRSTARGTEST CALLS.LASTARGTEST CALLS.TOOFEWARGS FVAR.FREE FVAR.TEST
                   FVAR.TEST2 FVAR.TEST3 FN.FIRSTARG.FVARS FN.FIRSTARG.PVARS.FVARS FN.LASTARG.FVARS
                   FN.LASTARG.FVARS.PVARS FVAR.TESTN FN.FREE.SKIPPVARS FN.FREEPVAR FN.FVAR3 FN.FREEARG FN.FR1
                   FN.FR2 FN.FR3 FAULTTEST)
              (VARS (F0 0)
                    (F1 1)
                    (F2 2)
                    (F3 3)
                    (F4 4)
                    (F5 5)
                    (F6 6)
                    (F7 7)
                    (F8 8)))
        (* "Test out of numeric capabilities")
        (FNS !NUMBERTEST !NUMTEST1 !NUMTEST2 !NUMTEST3 !NUMTEST4 !NUMTEST5 !NUMTEST6 !RANDNUMTEST !RANDNUMTEST1
             !RANDNUMTEST2 !RANDNUMTEST3 !RANDNUMTEST4 !FNUMTEST !FNUMTEST1 !FNUMTEST2 !FNUMTEST3 !FNUMTEST4
             !FNUMTEST5 !MIXNUMTEST)
        (* "Compiler error may prevent some of the above functions from getting compiled")
        (DECLARE: DONTEVAL@LOAD DONTEVAL@COMPILE DOCOPY (P (MAPC (OR (FILEFNSLST (QUOTE MACROTESTAUX))
                                                           (QUOTE (PUSH.TEST)))
                                                      (FUNCTION (LAMBDA (X
                                                                   (MOVD? (QUOTE NILL)
                                                                          X])

(DECLARE: EVAL@COMPILE DONTCOPY

(LOADCOMP (QUOTE MACROTEST))

(DECLARE: DONTEVAL@LOAD

(RESETSAVE OPTIMIZATIONSOFF T)
)
)
```

;; Test out of free variables

```
(DEFINEQ

(!FVARTEST
  [LAMBDA NIL                                                    (* JonL " 1-Jun-84 18:19")
    (PUSH.TEST)
    (CALLS.FIRSTARGTEST)
    (CALLS.LASTARGTEST)
    (CALLS.TOOFEWARGS)
    (FVAR.FREE)
    (FVAR.TEST)
    (FVAR.TEST2)
    (FVAR.TEST3])


(PUSH.TEST
  [LAMBDA (I0 I1 I2 I3 I4)                                       (* JonL " 1-Jun-84 19:54")
    (PROG (P0 P1 P2 P3 P4 P5 P6 P7 P8)
         [PROGN (MTCHECKSTK (COND
                              ((NULL F0)
                               F0)))
                (MTCHECKSTK (COND
                              ((NULL F1)
                               F1)))
                (MTCHECKSTK (COND
                              ((NULL F2)
                               F2)))
                (MTCHECKSTK (COND
                              ((NULL F3)
                               F3)))
                (MTCHECKSTK (COND
                              ((NULL F4)
```

```
                                                      F4)))
                        (MTCHECKSTK (COND
                                          ((NULL F5)
                                          F5)))
                        (MTCHECKSTK (COND
                                          ((NULL F6)
                                          F6)))
                        (MTCHECKSTK (COND
                                          ((NULL F7)
                                          F7)))
                        (MTCHECKSTK (COND
                                          ((NULL F8)
                                          F8]
              (PROGN (MTCHECKSTK (COND
                                          ((NULL P0)
                                          P0)))
                        (MTCHECKSTK (COND
                                          ((NULL P1)
                                          P1)))
                        (MTCHECKSTK (COND
                                          ((NULL P7)
                                          P7)))
                        (MTCHECKSTK (COND
                                          ((NULL P8)
                                          P8])
```

(**CALLS.FIRSTARGTEST**
```
  [LAMBDA NIL                                             (* JonL " 1-Jun-84 18:19")
     (MTCHECK (EQ (FN.FIRSTARG.FVARS 1 2 3)
                    1)
               (EQ (FN.FIRSTARG.PVARS.FVARS 1 2 3)
                    1])
```

(**CALLS.LASTARGTEST**
```
  [LAMBDA NIL                                             (* JonL " 1-Jun-84 18:19")
     (MTCHECK (EQ (FN.LASTARG.FVARS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15)
                    15))
     (MTCHECK (EQ (FN.LASTARG.FVARS.PVARS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15)
                    15])
```

(**CALLS.TOOFEWARGS**
```
  [LAMBDA NIL                                             (* JonL " 1-Jun-84 18:19")
     (MTCHECK (EQ (FN.FIRSTARG.PVARS.FVARS 1 2)
                    1)
               (EQ (FN.FIRSTARG.PVARS.FVARS)
                    NIL)
               (EQ (FN.LASTARG.FVARS 1 2 3 4 5 6 7 8 9 10 11 12 13 14)
                    NIL])
```

(**FVAR.FREE**
```
  [LAMBDA NIL                                             (* JonL " 1-Jun-84 18:19")
     (PROGN (SETQ F0 100)
            (SETQ F1 101)
            (SETQ F2 102)
            (SETQ F3 103)
            (SETQ F4 104)
            (SETQ F5 105)
            (SETQ F6 106)
            (SETQ F7 107)
            (SETQ F8 108)
            (MTCHECK (EQ F0 100)
                      (EQ F1 101)
                      (EQ F2 102)
                      (EQ F3 103)
                      (EQ F4 104)
                      (EQ F5 105)
                      (EQ F6 106)
                      (EQ F7 107)
                      (EQ F8 108))
            (SETQ F0 0)
            (SETQ F1 1)
            (SETQ F2 2)
            (SETQ F3 3)
            (SETQ F4 4)
            (SETQ F5 5)
            (SETQ F6 6)
            (SETQ F7 7)
            (SETQ F8 8])
```

(**FVAR.TEST**
```
  [LAMBDA (FLG)                                           (* JonL " 1-Jun-84 18:19")
     [PROG ((FREE.VAR.FLAG (QUOTE FREE.VALUE))
```

```
            (FREE.VAR (QUOTE GARBAGE)))
          (DECLARE (SPECVARS . T))
          (FN.FR1)
          (MTCHECK (NULL FREE.VAR.FLAG))
          (MTCHECK (EQ FREE.VAR (QUOTE FREE.VALUE]
      (PROG ((FREE.VAR.FLAG (QUOTE FREE.VALUE)))
          (DECLARE (SPECVARS . T))
          (FN.FR1)
          (MTCHECK (NULL FREE.VAR.FLAG))
          (MTCHECK (EQ FREE.VAR (QUOTE FREE.VALUE]
```

(**FVAR.TEST2**
```
  [LAMBDA NIL                                    (* lmm "31-JUL-81 15:58")
    (PROG ((FVAR1 1)
           (FVAR2 2)
           (FVAR3 3))
          (FVAR.TEST T])
```

(**FVAR.TEST3**
```
  [LAMBDA NIL                                    (* lmm " 3-JAN-80 01:46")
    (FVAR.TESTN 1 2 3])
```

(**FN.FIRSTARG.FVARS**
```
  [LAMBDA (X Y Z)                                (* JonL " 1-Jun-84 18:32")
    (COND
       (NIL FREE.1)
       (NIL FREE.2)
       (NIL FREE.3)
       (T X])
```

(**FN.FIRSTARG.PVARS.FVARS**
```
  [LAMBDA (X Y Z)                                (* JonL " 1-Jun-84 18:33")
    (PROG (P D Q)
          (RETURN (COND
                     (P FREE.1)
                     (P FREE.2)
                     (P FREE.3)
                     (T X])
```

(**FN.LASTARG.FVARS**
```
  [LAMBDA (A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15)  (* JonL " 1-Jun-84 18:34")
    (COND
       (NIL FREE.1)
       (NIL FREE.2)
       (NIL FREE.3)
       (T A15])
```

(**FN.LASTARG.FVARS.PVARS**
```
  [LAMBDA (A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15)  (* JonL " 1-Jun-84 18:35")
    (PROG (P1 P2 P3)
          (RETURN (COND
                     (NIL FREE.1)
                     (NIL FREE.2)
                     (NIL FREE.3)
                     (T A15])
```

(**FVAR.TESTN**
```
  [LAMBDA (FVAR1 FVAR2 FVAR3)                     (* lmm " 3-JAN-80 01:46")
    (FVAR.TEST T])
```

(**FN.FREE.SKIPPVARS**
```
  [LAMBDA NIL                                    (* bvm: "21-OCT-83 12:38")
    (PROG (FVAR1 FVAR2 FVAR3)
          ((OPCODES NOP)))
    (FN.FVAR3])
```

(**FN.FREEPVAR**
```
  [LAMBDA NIL                                    (* bvm: "21-OCT-83 12:29")
    (PROG (FVAR3)
          (SETQ FVAR3 (QUOTE FREEPVAR.VALUE))
          (RETURN (FN.FVAR3])
```

(**FN.FVAR3**
```
  [LAMBDA NIL                                    (* bvm: "21-OCT-83 12:29")
    FVAR3])
```

₍**FN.FREEARG**
  [LAMBDA (FVAR3)   (* lmm " 3-JAN-80 01:34")
    (**FN.FVAR3**])

₍**FN.FR1**
  [LAMBDA NIL   (* JonL " 1-Jun-84 18:19")
    (**FN.FR2**)
    (MTCHECK (EQ FREE.VAR (QUOTE FREE.VALUE]))

₍**FN.FR2**
  [LAMBDA NIL   (* JonL " 1-Jun-84 18:19")
    (**FN.FR3**)
    (MTCHECK (EQ FREE.VAR (QUOTE FREE.VALUE]))

₍**FN.FR3**
  [LAMBDA NIL   (* JonL " 1-Jun-84 18:19")
    (COND
       (FREE.VAR.FLAG (SETQ FREE.VAR FREE.VAR.FLAG)
             (SETQ FREE.VAR.FLAG NIL))
       (T (MTCHECK (EQ FREE.VAR (QUOTE FREE.VALUE]))

₍**FAULTTEST**
  [LAMBDA NIL   (* JonL " 1-Jun-84 18:19")
    (SETQ FAULTFVAR 100)
    (MTCHECK (EQ 100 (PROGN (\RELEASEWORKINGSET)
                          FAULTFVAR]))

)

(RPAQQ **F0** 0)

(RPAQQ **F1** 1)

(RPAQQ **F2** 2)

(RPAQQ **F3** 3)

(RPAQQ **F4** 4)

(RPAQQ **F5** 5)

(RPAQQ **F6** 6)

(RPAQQ **F7** 7)

(RPAQQ **F8** 8)

;; Test out of numeric capabilities

(DEFINEQ

₍**!NUMBERTEST**
  [LAMBDA NIL   (* lmm "21-OCT-81 15:50")
    (**!NUMTEST1**)
    (**!NUMTEST2**)
    (**!NUMTEST3**)
    (**!NUMTEST4**)
    (**!NUMTEST5**)
    (**!NUMTEST6**])

₍**!NUMTEST1**
  [LAMBDA NIL   (* bvm: " 8-MAR-82 22:59")
    (MTCHECKSTK (CKEQ (IGREATERP 0 0)
                     NIL)
          (CKEQ (IPLUS 0 0)
                0)
          (CKEQ (IDIFFERENCE 0 0)
                0)
          (CKEQ (LOGOR 0 0)
                0)
          (CKEQ (LOGAND 0 0)
                0)
          (CKEQ (LOGXOR 0 0)
                0)
          (CKEQ (IGREATERP 0 1)
                NIL)
          (CKEQ (IPLUS 0 1)
                1)
          (CKEQ (IDIFFERENCE 0 1)
                -1)
          (CKEQ (LOGOR 0 1)
                1)

```
(CKEQ (LOGAND 0 1)
      0)
(CKEQ (LOGXOR 0 1)
      1)
(CKEQ (IGREATERP 0 −1)
      T)
(CKEQ (IPLUS 0 −1)
      −1)
(CKEQ (IDIFFERENCE 0 −1)
      1)
(CKEQ (LOGOR 0 −1)
      −1)
(CKEQ (LOGAND 0 −1)
      0)
(CKEQ (LOGXOR 0 −1)
      −1)
(CKEQ (IGREATERP 0 2)
      NIL)
(CKEQ (IPLUS 0 2)
      2)
(CKEQ (IDIFFERENCE 0 2)
      −2)
(CKEQ (LOGOR 0 2)
      2)
(CKEQ (LOGAND 0 2)
      0)
(CKEQ (LOGXOR 0 2)
      2)
(CKEQ (IGREATERP 0 −2)
      T)
(CKEQ (IPLUS 0 −2)
      −2)
(CKEQ (IDIFFERENCE 0 −2)
      2)
(CKEQ (LOGOR 0 −2)
      −2)
(CKEQ (LOGAND 0 −2)
      0)
(CKEQ (LOGXOR 0 −2)
      −2)
(CKEQ (IGREATERP 0 65535)
      NIL)
(CKEQ (IPLUS 0 65535)
      65535)
(CKEQ (IDIFFERENCE 0 65535)
      −65535)
(CKEQ (LOGOR 0 65535)
      65535)
(CKEQ (LOGAND 0 65535)
      0)
(CKEQ (LOGXOR 0 65535)
      65535)
(CKEQ (IGREATERP 0 −65536)
      T)
(CKEQ (IPLUS 0 −65536)
      −65536)
(CKEQ (IDIFFERENCE 0 −65536)
      65536)
(CKEQ (LOGOR 0 −65536)
      −65536)
(CKEQ (LOGAND 0 −65536)
      0)
(CKEQ (LOGXOR 0 −65536)
      −65536)
(CKEQ (IGREATERP 0 65534)
      NIL)
(CKEQ (IPLUS 0 65534)
      65534)
(CKEQ (IDIFFERENCE 0 65534)
      −65534)
(CKEQ (LOGOR 0 65534)
      65534)
(CKEQ (LOGAND 0 65534)
      0)
(CKEQ (LOGXOR 0 65534)
      65534)
(CKEQ (IGREATERP 0 −65537)
      T)
(CKEQ (IPLUS 0 −65537)
      −65537)
(CKEQ (IDIFFERENCE 0 −65537)
      65537)
(CKEQ (LOGOR 0 −65537)
      −65537)
(CKEQ (LOGAND 0 −65537)
      0)
(CKEQ (LOGXOR 0 −65537)
```

```
                  -65537)
        (CKEQ (IGREATERP 1 0)
              T)
        (CKEQ (IPLUS 1 0)
              1)
        (CKEQ (IDIFFERENCE 1 0)
              1)
        (CKEQ (LOGOR 1 0)
              1)
        (CKEQ (LOGAND 1 0)
              0)
        (CKEQ (LOGXOR 1 0)
              1)
        (CKEQ (IGREATERP 1 1)
              NIL)
        (CKEQ (IPLUS 1 1)
              2)
        (CKEQ (IDIFFERENCE 1 1)
              0)
        (CKEQ (LOGOR 1 1)
              1)
        (CKEQ (LOGAND 1 1)
              1)
        (CKEQ (LOGXOR 1 1)
              0)
        (CKEQ (IGREATERP 1 -1)
              T)
        (CKEQ (IPLUS 1 -1)
              0)
        (CKEQ (IDIFFERENCE 1 -1)
              2)
        (CKEQ (LOGOR 1 -1)
              -1)
        (CKEQ (LOGAND 1 -1)
              1)
        (CKEQ (LOGXOR 1 -1)
              -2)
        (CKEQ (IGREATERP 1 2)
              NIL)
        (CKEQ (IPLUS 1 2)
              3)
        (CKEQ (IDIFFERENCE 1 2)
              -1)
        (CKEQ (LOGOR 1 2)
              3)
        (CKEQ (LOGAND 1 2)
              0)
        (CKEQ (LOGXOR 1 2)
              3)
        (CKEQ (IGREATERP 1 -2)
              T)
        (CKEQ (IPLUS 1 -2)
              -1)
        (CKEQ (IDIFFERENCE 1 -2)
              3)
        (CKEQ (LOGOR 1 -2)
              -1)
        (CKEQ (LOGAND 1 -2)
              0)
        (CKEQ (LOGXOR 1 -2)
              -1)
        (CKEQ (IGREATERP 1 65535)
              NIL)
        (CKEQ (IPLUS 1 65535)
              65536)
        (CKEQ (IDIFFERENCE 1 65535)
              -65534)
        (CKEQ (LOGOR 1 65535)
              65535)
        (CKEQ (LOGAND 1 65535)
              1)
        (CKEQ (LOGXOR 1 65535)
              65534)
        (CKEQ (IGREATERP 1 -65536)
              T)
        (CKEQ (IPLUS 1 -65536)
              -65535)
        (CKEQ (IDIFFERENCE 1 -65536)
              65537)
        (CKEQ (LOGOR 1 -65536)
              -65535)
        (CKEQ (LOGAND 1 -65536)
              0)
        (CKEQ (LOGXOR 1 -65536)
              -65535)
        (CKEQ (IGREATERP 1 65534)
              NIL)
```

```
            (CKEQ (IPLUS 1 65534)
                  65535)
            (CKEQ (IDIFFERENCE 1 65534)
                  -65533])
```

(**!NUMTEST2**
```
  [LAMBDA NIL                                                          (* bvm: " 8-MAR-82 22:59")
    (MTCHECKSTK (CKEQ (LOGOR 1 65534)
                      65535)
            (CKEQ (LOGAND 1 65534)
                  0)
            (CKEQ (LOGXOR 1 65534)
                  65535)
            (CKEQ (IGREATERP 1 -65537)
                  T)
            (CKEQ (IPLUS 1 -65537)
                  -65536)
            (CKEQ (IDIFFERENCE 1 -65537)
                  65538)
            (CKEQ (LOGOR 1 -65537)
                  -65537)
            (CKEQ (LOGAND 1 -65537)
                  1)
            (CKEQ (LOGXOR 1 -65537)
                  -65538)
            (CKEQ (IGREATERP -1 0)
                  NIL)
            (CKEQ (IPLUS -1 0)
                  -1)
            (CKEQ (IDIFFERENCE -1 0)
                  -1)
            (CKEQ (LOGOR -1 0)
                  -1)
            (CKEQ (LOGAND -1 0)
                  0)
            (CKEQ (LOGXOR -1 0)
                  -1)
            (CKEQ (IGREATERP -1 1)
                  NIL)
            (CKEQ (IPLUS -1 1)
                  0)
            (CKEQ (IDIFFERENCE -1 1)
                  -2)
            (CKEQ (LOGOR -1 1)
                  -1)
            (CKEQ (LOGAND -1 1)
                  1)
            (CKEQ (LOGXOR -1 1)
                  -2)
            (CKEQ (IGREATERP -1 -1)
                  NIL)
            (CKEQ (IPLUS -1 -1)
                  -2)
            (CKEQ (IDIFFERENCE -1 -1)
                  0)
            (CKEQ (LOGOR -1 -1)
                  -1)
            (CKEQ (LOGAND -1 -1)
                  -1)
            (CKEQ (LOGXOR -1 -1)
                  0)
            (CKEQ (IGREATERP -1 2)
                  NIL)
            (CKEQ (IPLUS -1 2)
                  1)
            (CKEQ (IDIFFERENCE -1 2)
                  -3)
            (CKEQ (LOGOR -1 2)
                  -1)
            (CKEQ (LOGAND -1 2)
                  2)
            (CKEQ (LOGXOR -1 2)
                  -3)
            (CKEQ (IGREATERP -1 -2)
                  T)
            (CKEQ (IPLUS -1 -2)
                  -3)
            (CKEQ (IDIFFERENCE -1 -2)
                  1)
            (CKEQ (LOGOR -1 -2)
                  -1)
            (CKEQ (LOGAND -1 -2)
                  -2)
            (CKEQ (LOGXOR -1 -2)
                  1)
            (CKEQ (IGREATERP -1 65535)
```

```
                   NIL)
           (CKEQ (IPLUS -1 65535)
                 65534)
           (CKEQ (IDIFFERENCE -1 65535)
                 -65536)
           (CKEQ (LOGOR -1 65535)
                 -1)
           (CKEQ (LOGAND -1 65535)
                 65535)
           (CKEQ (LOGXOR -1 65535)
                 -65536)
           (CKEQ (IGREATERP -1 -65536)
                 T)
           (CKEQ (IPLUS -1 -65536)
                 -65537)
           (CKEQ (IDIFFERENCE -1 -65536)
                 65535)
           (CKEQ (LOGOR -1 -65536)
                 -1)
           (CKEQ (LOGAND -1 -65536)
                 -65536)
           (CKEQ (LOGXOR -1 -65536)
                 65535)
           (CKEQ (IGREATERP -1 65534)
                 NIL)
           (CKEQ (IPLUS -1 65534)
                 65533)
           (CKEQ (IDIFFERENCE -1 65534)
                 -65535)
           (CKEQ (LOGOR -1 65534)
                 -1)
           (CKEQ (LOGAND -1 65534)
                 65534)
           (CKEQ (LOGXOR -1 65534)
                 -65535)
           (CKEQ (IGREATERP -1 -65537)
                 T)
           (CKEQ (IPLUS -1 -65537)
                 -65538)
           (CKEQ (IDIFFERENCE -1 -65537)
                 65536)
           (CKEQ (LOGOR -1 -65537)
                 -1)
           (CKEQ (LOGAND -1 -65537)
                 -65537)
           (CKEQ (LOGXOR -1 -65537)
                 65536)
           (CKEQ (IGREATERP 2 0)
                 T)
           (CKEQ (IPLUS 2 0)
                 2)
           (CKEQ (IDIFFERENCE 2 0)
                 2)
           (CKEQ (LOGOR 2 0)
                 2)
           (CKEQ (LOGAND 2 0)
                 0)
           (CKEQ (LOGXOR 2 0)
                 2)
           (CKEQ (IGREATERP 2 1)
                 T)
           (CKEQ (IPLUS 2 1)
                 3)
           (CKEQ (IDIFFERENCE 2 1)
                 1)
           (CKEQ (LOGOR 2 1)
                 3)
           (CKEQ (LOGAND 2 1)
                 0)
           (CKEQ (LOGXOR 2 1)
                 3)
           (CKEQ (IGREATERP 2 -1)
                 T)
           (CKEQ (IPLUS 2 -1)
                 1)
           (CKEQ (IDIFFERENCE 2 -1)
                 3)
           (CKEQ (LOGOR 2 -1)
                 -1)
           (CKEQ (LOGAND 2 -1)
                 2)
           (CKEQ (LOGXOR 2 -1)
                 -3)
           (CKEQ (IGREATERP 2 2)
                 NIL)
           (CKEQ (IPLUS 2 2)
                 4)
```

```
                    (CKEQ (IDIFFERENCE 2 2)
                          0)
                    (CKEQ (LOGOR 2 2)
                          2)
                    (CKEQ (LOGAND 2 2)
                          2)
                    (CKEQ (LOGXOR 2 2)
                          0)
                    (CKEQ (IGREATERP 2 -2)
                          T)
                    (CKEQ (IPLUS 2 -2)
                          0)
                    (CKEQ (IDIFFERENCE 2 -2)
                          4)
                    (CKEQ (LOGOR 2 -2)
                          -2)
                    (CKEQ (LOGAND 2 -2)
                          2)
                    (CKEQ (LOGXOR 2 -2)
                          -4)
                    (CKEQ (IGREATERP 2 65535)
                          NIL)
                    (CKEQ (IPLUS 2 65535)
                          65537)
                    (CKEQ (IDIFFERENCE 2 65535)
                          -65533)
                    (CKEQ (LOGOR 2 65535)
                          65535)
                    (CKEQ (LOGAND 2 65535)
                          2)
                    (CKEQ (LOGXOR 2 65535)
                          65533])
```

(**!NUMTEST3**
```
  [LAMBDA NIL                                          (* bvm: " 8-MAR-82 23:00")
    (MTCHECKSTK (CKEQ (IGREATERP 2 -65536)
                      T)
                (CKEQ (IPLUS 2 -65536)
                      -65534)
                (CKEQ (IDIFFERENCE 2 -65536)
                      65538)
                (CKEQ (LOGOR 2 -65536)
                      -65534)
                (CKEQ (LOGAND 2 -65536)
                      0)
                (CKEQ (LOGXOR 2 -65536)
                      -65534)
                (CKEQ (IGREATERP 2 65534)
                      NIL)
                (CKEQ (IPLUS 2 65534)
                      65536)
                (CKEQ (IDIFFERENCE 2 65534)
                      -65532)
                (CKEQ (LOGOR 2 65534)
                      65534)
                (CKEQ (LOGAND 2 65534)
                      2)
                (CKEQ (LOGXOR 2 65534)
                      65532)
                (CKEQ (IGREATERP 2 -65537)
                      T)
                (CKEQ (IPLUS 2 -65537)
                      -65535)
                (CKEQ (IDIFFERENCE 2 -65537)
                      65539)
                (CKEQ (LOGOR 2 -65537)
                      -65537)
                (CKEQ (LOGAND 2 -65537)
                      2)
                (CKEQ (LOGXOR 2 -65537)
                      -65539)
                (CKEQ (IGREATERP -2 0)
                      NIL)
                (CKEQ (IPLUS -2 0)
                      -2)
                (CKEQ (IDIFFERENCE -2 0)
                      -2)
                (CKEQ (LOGOR -2 0)
                      -2)
                (CKEQ (LOGAND -2 0)
                      0)
                (CKEQ (LOGXOR -2 0)
                      -2)
                (CKEQ (IGREATERP -2 1)
                      NIL)
                (CKEQ (IPLUS -2 1)
```

```
          -1)
        (CKEQ (IDIFFERENCE -2 1)
          -3)
        (CKEQ (LOGOR -2 1)
          -1)
        (CKEQ (LOGAND -2 1)
          0)
        (CKEQ (LOGXOR -2 1)
          -1)
        (CKEQ (IGREATERP -2 -1)
          NIL)
        (CKEQ (IPLUS -2 -1)
          -3)
        (CKEQ (IDIFFERENCE -2 -1)
          -1)
        (CKEQ (LOGOR -2 -1)
          -1)
        (CKEQ (LOGAND -2 -1)
          -2)
        (CKEQ (LOGXOR -2 -1)
          1)
        (CKEQ (IGREATERP -2 2)
          NIL)
        (CKEQ (IPLUS -2 2)
          0)
        (CKEQ (IDIFFERENCE -2 2)
          -4)
        (CKEQ (LOGOR -2 2)
          -2)
        (CKEQ (LOGAND -2 2)
          2)
        (CKEQ (LOGXOR -2 2)
          -4)
        (CKEQ (IGREATERP -2 -2)
          NIL)
        (CKEQ (IPLUS -2 -2)
          -4)
        (CKEQ (IDIFFERENCE -2 -2)
          0)
        (CKEQ (LOGOR -2 -2)
          -2)
        (CKEQ (LOGAND -2 -2)
          -2)
        (CKEQ (LOGXOR -2 -2)
          0)
        (CKEQ (IGREATERP -2 65535)
          NIL)
        (CKEQ (IPLUS -2 65535)
          65533)
        (CKEQ (IDIFFERENCE -2 65535)
          -65537)
        (CKEQ (LOGOR -2 65535)
          -1)
        (CKEQ (LOGAND -2 65535)
          65534)
        (CKEQ (LOGXOR -2 65535)
          -65535)
        (CKEQ (IGREATERP -2 -65536)
          T)
        (CKEQ (IPLUS -2 -65536)
          -65538)
        (CKEQ (IDIFFERENCE -2 -65536)
          65534)
        (CKEQ (LOGOR -2 -65536)
          -2)
        (CKEQ (LOGAND -2 -65536)
          -65536)
        (CKEQ (LOGXOR -2 -65536)
          65534)
        (CKEQ (IGREATERP -2 65534)
          NIL)
        (CKEQ (IPLUS -2 65534)
          65532)
        (CKEQ (IDIFFERENCE -2 65534)
          -65536)
        (CKEQ (LOGOR -2 65534)
          -2)
        (CKEQ (LOGAND -2 65534)
          65534)
        (CKEQ (LOGXOR -2 65534)
          -65536)
        (CKEQ (IGREATERP -2 -65537)
          T)
        (CKEQ (IPLUS -2 -65537)
          -65539)
        (CKEQ (IDIFFERENCE -2 -65537)
          65535)
```

```
                    (CKEQ (LOGOR -2 -65537)
                          -1)
                    (CKEQ (LOGAND -2 -65537)
                          -65538)
                    (CKEQ (LOGXOR -2 -65537)
                          65537)
                    (CKEQ (IGREATERP 65535 0)
                          T)
                    (CKEQ (IPLUS 65535 0)
                          65535)
                    (CKEQ (IDIFFERENCE 65535 0)
                          65535)
                    (CKEQ (LOGOR 65535 0)
                          65535)
                    (CKEQ (LOGAND 65535 0)
                          0)
                    (CKEQ (LOGXOR 65535 0)
                          65535)
                    (CKEQ (IGREATERP 65535 1)
                          T)
                    (CKEQ (IPLUS 65535 1)
                          65536)
                    (CKEQ (IDIFFERENCE 65535 1)
                          65534)
                    (CKEQ (LOGOR 65535 1)
                          65535)
                    (CKEQ (LOGAND 65535 1)
                          1)
                    (CKEQ (LOGXOR 65535 1)
                          65534)
                    (CKEQ (IGREATERP 65535 -1)
                          T)
                    (CKEQ (IPLUS 65535 -1)
                          65534)
                    (CKEQ (IDIFFERENCE 65535 -1)
                          65536)
                    (CKEQ (LOGOR 65535 -1)
                          -1)
                    (CKEQ (LOGAND 65535 -1)
                          65535)
                    (CKEQ (LOGXOR 65535 -1)
                          -65536)
                    (CKEQ (IGREATERP 65535 2)
                          T)
                    (CKEQ (IPLUS 65535 2)
                          65537)
                    (CKEQ (IDIFFERENCE 65535 2)
                          65533)
                    (CKEQ (LOGOR 65535 2)
                          65535)
                    (CKEQ (LOGAND 65535 2)
                          2)
                    (CKEQ (LOGXOR 65535 2)
                          65533)
                    (CKEQ (IGREATERP 65535 -2)
                          T)
                    (CKEQ (IPLUS 65535 -2)
                          65533)
                    (CKEQ (IDIFFERENCE 65535 -2)
                          65537)
                    (CKEQ (LOGOR 65535 -2)
                          -1])
```

(**!NUMTEST4**

```
  [LAMBDA NIL                                                       (* bvm: " 8-MAR-82 23:00")
    (MTCHECKSTK (CKEQ (LOGAND 65535 -2)
                      65534)
                (CKEQ (LOGXOR 65535 -2)
                      -65535)
                (CKEQ (IGREATERP 65535 65535)
                      NIL)
                (CKEQ (IPLUS 65535 65535)
                      131070)
                (CKEQ (IDIFFERENCE 65535 65535)
                      0)
                (CKEQ (LOGOR 65535 65535)
                      65535)
                (CKEQ (LOGAND 65535 65535)
                      65535)
                (CKEQ (LOGXOR 65535 65535)
                      0)
                (CKEQ (IGREATERP 65535 -65536)
                      T)
                (CKEQ (IPLUS 65535 -65536)
                      -1)
                (CKEQ (IDIFFERENCE 65535 -65536)
```

```
                131071)
        (CKEQ (LOGOR 65535 -65536)
                -1)
        (CKEQ (LOGAND 65535 -65536)
                0)
        (CKEQ (LOGXOR 65535 -65536)
                -1)
        (CKEQ (IGREATERP 65535 65534)
                T)
        (CKEQ (IPLUS 65535 65534)
                131069)
        (CKEQ (IDIFFERENCE 65535 65534)
                1)
        (CKEQ (LOGOR 65535 65534)
                65535)
        (CKEQ (LOGAND 65535 65534)
                65534)
        (CKEQ (LOGXOR 65535 65534)
                1)
        (CKEQ (IGREATERP 65535 -65537)
                T)
        (CKEQ (IPLUS 65535 -65537)
                -2)
        (CKEQ (IDIFFERENCE 65535 -65537)
                131072)
        (CKEQ (LOGOR 65535 -65537)
                -65537)
        (CKEQ (LOGAND 65535 -65537)
                65535)
        (CKEQ (LOGXOR 65535 -65537)
                -131072)
        (CKEQ (IGREATERP -65536 0)
                NIL)
        (CKEQ (IPLUS -65536 0)
                -65536)
        (CKEQ (IDIFFERENCE -65536 0)
                -65536)
        (CKEQ (LOGOR -65536 0)
                -65536)
        (CKEQ (LOGAND -65536 0)
                0)
        (CKEQ (LOGXOR -65536 0)
                -65536)
        (CKEQ (IGREATERP -65536 1)
                NIL)
        (CKEQ (IPLUS -65536 1)
                -65535)
        (CKEQ (IDIFFERENCE -65536 1)
                -65537)
        (CKEQ (LOGOR -65536 1)
                -65535)
        (CKEQ (LOGAND -65536 1)
                0)
        (CKEQ (LOGXOR -65536 1)
                -65535)
        (CKEQ (IGREATERP -65536 -1)
                NIL)
        (CKEQ (IPLUS -65536 -1)
                -65537)
        (CKEQ (IDIFFERENCE -65536 -1)
                -65535)
        (CKEQ (LOGOR -65536 -1)
                -1)
        (CKEQ (LOGAND -65536 -1)
                -65536)
        (CKEQ (LOGXOR -65536 -1)
                65535)
        (CKEQ (IGREATERP -65536 2)
                NIL)
        (CKEQ (IPLUS -65536 2)
                -65534)
        (CKEQ (IDIFFERENCE -65536 2)
                -65538)
        (CKEQ (LOGOR -65536 2)
                -65534)
        (CKEQ (LOGAND -65536 2)
                0)
        (CKEQ (LOGXOR -65536 2)
                -65534)
        (CKEQ (IGREATERP -65536 -2)
                NIL)
        (CKEQ (IPLUS -65536 -2)
                -65538)
        (CKEQ (IDIFFERENCE -65536 -2)
                -65534)
        (CKEQ (LOGOR -65536 -2)
                -2)
```

```
(CKEQ (LOGAND -65536 -2)
      -65536)
(CKEQ (LOGXOR -65536 -2)
      65534)
(CKEQ (IGREATERP -65536 65535)
      NIL)
(CKEQ (IPLUS -65536 65535)
      -1)
(CKEQ (IDIFFERENCE -65536 65535)
      -131071)
(CKEQ (LOGOR -65536 65535)
      -1)
(CKEQ (LOGAND -65536 65535)
      0)
(CKEQ (LOGXOR -65536 65535)
      -1)
(CKEQ (IGREATERP -65536 -65536)
      NIL)
(CKEQ (IPLUS -65536 -65536)
      -131072)
(CKEQ (IDIFFERENCE -65536 -65536)
      0)
(CKEQ (LOGOR -65536 -65536)
      -65536)
(CKEQ (LOGAND -65536 -65536)
      -65536)
(CKEQ (LOGXOR -65536 -65536)
      0)
(CKEQ (IGREATERP -65536 65534)
      NIL)
(CKEQ (IPLUS -65536 65534)
      -2)
(CKEQ (IDIFFERENCE -65536 65534)
      -131070)
(CKEQ (LOGOR -65536 65534)
      -2)
(CKEQ (LOGAND -65536 65534)
      0)
(CKEQ (LOGXOR -65536 65534)
      -2)
(CKEQ (IGREATERP -65536 -65537)
      T)
(CKEQ (IPLUS -65536 -65537)
      -131073)
(CKEQ (IDIFFERENCE -65536 -65537)
      1)
(CKEQ (LOGOR -65536 -65537)
      -1)
(CKEQ (LOGAND -65536 -65537)
      -131072)
(CKEQ (LOGXOR -65536 -65537)
      131071)
(CKEQ (IGREATERP 65534 0)
      T)
(CKEQ (IPLUS 65534 0)
      65534)
(CKEQ (IDIFFERENCE 65534 0)
      65534)
(CKEQ (LOGOR 65534 0)
      65534)
(CKEQ (LOGAND 65534 0)
      0)
(CKEQ (LOGXOR 65534 0)
      65534)
(CKEQ (IGREATERP 65534 1)
      T)
(CKEQ (IPLUS 65534 1)
      65535)
(CKEQ (IDIFFERENCE 65534 1)
      65533)
(CKEQ (LOGOR 65534 1)
      65535)
(CKEQ (LOGAND 65534 1)
      0)
(CKEQ (LOGXOR 65534 1)
      65535)
(CKEQ (IGREATERP 65534 -1)
      T)
(CKEQ (IPLUS 65534 -1)
      65533)
(CKEQ (IDIFFERENCE 65534 -1)
      65535)
(CKEQ (LOGOR 65534 -1)
      -1)
(CKEQ (LOGAND 65534 -1)
      65534)
(CKEQ (LOGXOR 65534 -1)
```

```
                              −65535)
              (CKEQ (IGREATERP 65534 2)
                    T])
```

(!NUMTEST5
```
  [LAMBDA NIL                                                    (* bvm: " 8-MAR-82 23:00")
    (MTCHECKSTK (CKEQ (IPLUS 65534 2)
                      65536)
              (CKEQ (IDIFFERENCE 65534 2)
                    65532)
              (CKEQ (LOGOR 65534 2)
                    65534)
              (CKEQ (LOGAND 65534 2)
                    2)
              (CKEQ (LOGXOR 65534 2)
                    65532)
              (CKEQ (IGREATERP 65534 −2)
                    T)
              (CKEQ (IPLUS 65534 −2)
                    65532)
              (CKEQ (IDIFFERENCE 65534 −2)
                    65536)
              (CKEQ (LOGOR 65534 −2)
                    −2)
              (CKEQ (LOGAND 65534 −2)
                    65534)
              (CKEQ (LOGXOR 65534 −2)
                    −65536)
              (CKEQ (IGREATERP 65534 65535)
                    NIL)
              (CKEQ (IPLUS 65534 65535)
                    131069)
              (CKEQ (IDIFFERENCE 65534 65535)
                    −1)
              (CKEQ (LOGOR 65534 65535)
                    65535)
              (CKEQ (LOGAND 65534 65535)
                    65534)
              (CKEQ (LOGXOR 65534 65535)
                    1)
              (CKEQ (IGREATERP 65534 −65536)
                    T)
              (CKEQ (IPLUS 65534 −65536)
                    −2)
              (CKEQ (IDIFFERENCE 65534 −65536)
                    131070)
              (CKEQ (LOGOR 65534 −65536)
                    −2)
              (CKEQ (LOGAND 65534 −65536)
                    0)
              (CKEQ (LOGXOR 65534 −65536)
                    −2)
              (CKEQ (IGREATERP 65534 65534)
                    NIL)
              (CKEQ (IPLUS 65534 65534)
                    131068)
              (CKEQ (IDIFFERENCE 65534 65534)
                    0)
              (CKEQ (LOGOR 65534 65534)
                    65534)
              (CKEQ (LOGAND 65534 65534)
                    65534)
              (CKEQ (LOGXOR 65534 65534)
                    0)
              (CKEQ (IGREATERP 65534 −65537)
                    T)
              (CKEQ (IPLUS 65534 −65537)
                    −3)
              (CKEQ (IDIFFERENCE 65534 −65537)
                    131071)
              (CKEQ (LOGOR 65534 −65537)
                    −65537)
              (CKEQ (LOGAND 65534 −65537)
                    65534)
              (CKEQ (LOGXOR 65534 −65537)
                    −131071)
              (CKEQ (IGREATERP −65537 0)
                    NIL)
              (CKEQ (IPLUS −65537 0)
                    −65537)
              (CKEQ (IDIFFERENCE −65537 0)
                    −65537)
              (CKEQ (LOGOR −65537 0)
                    −65537)
              (CKEQ (LOGAND −65537 0)
                    0)
```

```
(CKEQ (LOGXOR -65537 0)
      -65537)
(CKEQ (IGREATERP -65537 1)
      NIL)
(CKEQ (IPLUS -65537 1)
      -65536)
(CKEQ (IDIFFERENCE -65537 1)
      -65538)
(CKEQ (LOGOR -65537 1)
      -65537)
(CKEQ (LOGAND -65537 1)
      1)
(CKEQ (LOGXOR -65537 1)
      -65538)
(CKEQ (IGREATERP -65537 -1)
      NIL)
(CKEQ (IPLUS -65537 -1)
      -65538)
(CKEQ (IDIFFERENCE -65537 -1)
      -65536)
(CKEQ (LOGOR -65537 -1)
      -1)
(CKEQ (LOGAND -65537 -1)
      -65537)
(CKEQ (LOGXOR -65537 -1)
      65536)
(CKEQ (IGREATERP -65537 2)
      NIL)
(CKEQ (IPLUS -65537 2)
      -65535)
(CKEQ (IDIFFERENCE -65537 2)
      -65539)
(CKEQ (LOGOR -65537 2)
      -65537)
(CKEQ (LOGAND -65537 2)
      2)
(CKEQ (LOGXOR -65537 2)
      -65539)
(CKEQ (IGREATERP -65537 -2)
      NIL)
(CKEQ (IPLUS -65537 -2)
      -65539)
(CKEQ (IDIFFERENCE -65537 -2)
      -65535)
(CKEQ (LOGOR -65537 -2)
      -1)
(CKEQ (LOGAND -65537 -2)
      -65538)
(CKEQ (LOGXOR -65537 -2)
      65537)
(CKEQ (IGREATERP -65537 65535)
      NIL)
(CKEQ (IPLUS -65537 65535)
      -2)
(CKEQ (IDIFFERENCE -65537 65535)
      -131072)
(CKEQ (LOGOR -65537 65535)
      -65537)
(CKEQ (LOGAND -65537 65535)
      65535)
(CKEQ (LOGXOR -65537 65535)
      -131072)
(CKEQ (IGREATERP -65537 -65536)
      NIL)
(CKEQ (IPLUS -65537 -65536)
      -131073)
(CKEQ (IDIFFERENCE -65537 -65536)
      -1)
(CKEQ (LOGOR -65537 -65536)
      -1)
(CKEQ (LOGAND -65537 -65536)
      -131072)
(CKEQ (LOGXOR -65537 -65536)
      131071)
(CKEQ (IGREATERP -65537 65534)
      NIL)
(CKEQ (IPLUS -65537 65534)
      -3)
(CKEQ (IDIFFERENCE -65537 65534)
      -131071)
(CKEQ (LOGOR -65537 65534)
      -65537)
(CKEQ (LOGAND -65537 65534)
      65534)
(CKEQ (LOGXOR -65537 65534)
      -131071)
(CKEQ (IGREATERP -65537 -65537)
```

```
                     NIL)
            (CKEQ (IPLUS −65537 −65537)
                     −131074)
            (CKEQ (IDIFFERENCE −65537 −65537)
                     0)
            (CKEQ (LOGOR −65537 −65537)
                     −65537)
            (CKEQ (LOGAND −65537 −65537)
                     −65537)
            (CKEQ (LOGXOR −65537 −65537)
                     0)
            (CKEQ (LRSH 0 1)
                     0)
            (CKEQ (LLSH 0 1)
                     0)
            (CKEQ (LRSH 0 8)
                     0)
            (CKEQ (LLSH 0 8)
                     0)
            (CKEQ (LRSH 1 1)
                     0)
            (CKEQ (LLSH 1 1)
                     2)
            (CKEQ (LRSH 1 8)
                     0)
            (CKEQ (LLSH 1 8)
                     256)
            (CKEQ (LLSH −1 1)
                     −2)
            (CKEQ (LLSH −1 8)
                     −256])
```

(**!NUMTEST6**

```
  [LAMBDA NIL                                                          (* bvm: " 8-MAR-82 23:00")
    (MTCHECKSTK (CKEQ (LRSH 2 1)
                     1)
            (CKEQ (LLSH 2 1)
                     4)
            (CKEQ (LRSH 2 8)
                     0)
            (CKEQ (LLSH 2 8)
                     512)
            (CKEQ (LLSH −2 1)
                     −4)
            (CKEQ (LLSH −2 8)
                     −512)
            (CKEQ (LRSH 65535 1)
                     32767)
            (CKEQ (LLSH 65535 1)
                     131070)
            (CKEQ (LRSH 65535 8)
                     255)
            (CKEQ (LLSH 65535 8)
                     16776960)
            (CKEQ (LLSH −65536 1)
                     −131072)
            (CKEQ (LLSH −65536 8)
                     −16777216)
            (CKEQ (LRSH 65534 1)
                     32767)
            (CKEQ (LLSH 65534 1)
                     131068)
            (CKEQ (LRSH 65534 8)
                     255)
            (CKEQ (LLSH 65534 8)
                     16776704)
            (CKEQ (LLSH −65537 1)
                     −131074)
            (CKEQ (LLSH −65537 8)
                     −16777472)
            (CKEQ (IQUOTIENT 0 1)
                     0)
            (CKEQ (IREMAINDER 0 1)
                     0)
            (CKEQ (ITIMES 0 1)
                     0)
            (CKEQ (IQUOTIENT 0 8)
                     0)
            (CKEQ (IREMAINDER 0 8)
                     0)
            (CKEQ (ITIMES 0 8)
                     0)
            (CKEQ (IQUOTIENT 1 1)
                     1)
            (CKEQ (IREMAINDER 1 1)
                     0)
```

```
(CKEQ (ITIMES 1 1)
      1)
(CKEQ (IQUOTIENT 1 8)
      0)
(CKEQ (IREMAINDER 1 8)
      1)
(CKEQ (ITIMES 1 8)
      8)
(CKEQ (IQUOTIENT -1 1)
      -1)
(CKEQ (IREMAINDER -1 1)
      0)
(CKEQ (ITIMES -1 1)
      -1)
(CKEQ (IQUOTIENT -1 8)
      0)
(CKEQ (IREMAINDER -1 8)
      -1)
(CKEQ (ITIMES -1 8)
      -8)
(CKEQ (IQUOTIENT 2 1)
      2)
(CKEQ (IREMAINDER 2 1)
      0)
(CKEQ (ITIMES 2 1)
      2)
(CKEQ (IQUOTIENT 2 8)
      0)
(CKEQ (IREMAINDER 2 8)
      2)
(CKEQ (ITIMES 2 8)
      16)
(CKEQ (IQUOTIENT -2 1)
      -2)
(CKEQ (IREMAINDER -2 1)
      0)
(CKEQ (ITIMES -2 1)
      -2)
(CKEQ (IQUOTIENT -2 8)
      0)
(CKEQ (IREMAINDER -2 8)
      -2)
(CKEQ (ITIMES -2 8)
      -16)
(CKEQ (IQUOTIENT 65535 1)
      65535)
(CKEQ (IREMAINDER 65535 1)
      0)
(CKEQ (ITIMES 65535 1)
      65535)
(CKEQ (IQUOTIENT 65535 8)
      8191)
(CKEQ (IREMAINDER 65535 8)
      7)
(CKEQ (ITIMES 65535 8)
      524280)
(CKEQ (IQUOTIENT -65536 1)
      -65536)
(CKEQ (IREMAINDER -65536 1)
      0)
(CKEQ (ITIMES -65536 1)
      -65536)
(CKEQ (IQUOTIENT -65536 8)
      -8192)
(CKEQ (IREMAINDER -65536 8)
      0)
(CKEQ (ITIMES -65536 8)
      -524288)
(CKEQ (IQUOTIENT 65534 1)
      65534)
(CKEQ (IREMAINDER 65534 1)
      0)
(CKEQ (ITIMES 65534 1)
      65534)
(CKEQ (IQUOTIENT 65534 8)
      8191)
(CKEQ (IREMAINDER 65534 8)
      6)
(CKEQ (ITIMES 65534 8)
      524272)
(CKEQ (IQUOTIENT -65537 1)
      -65537)
(CKEQ (IREMAINDER -65537 1)
      0)
(CKEQ (ITIMES -65537 1)
      -65537)
(CKEQ (IQUOTIENT -65537 8)
```

```
                        -8192)
                (CKEQ (IREMAINDER -65537 8)
                        -1)
                (CKEQ (ITIMES -65537 8)
                        -524296)
                (CKEQ (IQUOTIENT 3 1)
                        3)
                (CKEQ (IREMAINDER 3 1)
                        0)
                (CKEQ (ITIMES 3 1)
                        3)
                (CKEQ (IQUOTIENT 3 8)
                        0)
                (CKEQ (IREMAINDER 3 8)
                        3)
                (CKEQ (ITIMES 3 8)
                        24)
                (CKEQ (IQUOTIENT -3 1)
                        -3)
                (CKEQ (IREMAINDER -3 1)
                        0)
                (CKEQ (ITIMES -3 1)
                        -3)
                (CKEQ (IQUOTIENT -3 8)
                        0)
                (CKEQ (IREMAINDER -3 8)
                        -3)
                (CKEQ (ITIMES -3 8)
                        -24)
                (CKEQ (IQUOTIENT 4 1)
                        4)
                (CKEQ (IREMAINDER 4 1)
                        0)
                (CKEQ (ITIMES 4 1)
                        4)
                (CKEQ (IQUOTIENT 4 8)
                        0)
                (CKEQ (IREMAINDER 4 8)
                        4)
                (CKEQ (ITIMES 4 8)
                        32)
                (CKEQ (IQUOTIENT -4 1)
                        -4)
                (CKEQ (IREMAINDER -4 1)
                        0)
                (CKEQ (ITIMES -4 1)
                        -4)
                (CKEQ (IQUOTIENT -4 8)
                        0)
                (CKEQ (IREMAINDER -4 8)
                        -4)
                (CKEQ (ITIMES -4 8)
                        -32])
```

(**!RANDNUMTEST**
```
  [LAMBDA NIL                                              (* lmm " 5-JAN-82 20:03")
                                                           (* (PROG (FORMS FORM ARG1 ARG2)
                                                           (FRPTQ 30 (SETQ ARG1 (SELECTQ
                                                           (RAND 0 2) (0 (RAND -65536 65535))
                                                           (1 (RAND -5 5)) (RAND -2147483648 2147483647)))
                                                           (SETQ ARG2 (SELECTQ (RAND 0 2)
                                                           (0 (RAND -65536 65535)) (1 (RAND -5 5))
                                                           (RAND -2147483648 2147483647)))
                                                           (for FN in (QUOTE (ITIMES IQUOTIENT IPLUS IDIFFERENCE
          IREMAINDER)) do (COND ((OR (NEQ ARG2 0) (NEQ FN (QUOTE IQUOTIENT))) (SETQ FORM (APPLY* (PACK*
                                                           (QUOTE F) (SUBATOM FN 2 -1))
                                                           (FLOAT ARG1) (FLOAT ARG2)))
                                                           (COND ((AND (FGREATERP FORM -2147483648)
                                                           (FLESSP FORM -2147483648)) (SETQ FORM
                                                           (LIST FN ARG1 ARG2)) (push FORMS
                                                           (LIST (QUOTE CKEQ) FORM (EVAL FORM)))))))))
                                                           (RETURN (CONS (QUOTE MTCHECKSTK) FORMS))))
```

        (**!RANDNUMTEST1**)
        (**!RANDNUMTEST2**)
        (**!RANDNUMTEST3**)
        (**!RANDNUMTEST4**])

(**!RANDNUMTEST1**
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  [LAMBDA NIL                                              (* lmm " 5-JAN-82 20:00")
    (MTCHECKSTK (CKEQ (IDIFFERENCE 39093777 -17132)
                        39110909)
                (CKEQ (IPLUS 39093777 -17132)
                        39076645)
                (CKEQ (IQUOTIENT 39093777 -17132)
                        -2281)
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(CKEQ (IDIFFERENCE 23177 -61593)
       84770)
(CKEQ (IPLUS 23177 -61593)
       -38416)
(CKEQ (IQUOTIENT 23177 -61593)
       0)
(CKEQ (ITIMES 23177 -61593)
       -1427540961)
(CKEQ (IDIFFERENCE 1029627294 845206456)
       184420838)
(CKEQ (IPLUS 1029627294 845206456)
       1874833750)
(CKEQ (IQUOTIENT 1029627294 845206456)
       1)
(CKEQ (IDIFFERENCE 19947 52870)
       -32923)
(CKEQ (IPLUS 19947 52870)
       72817)
(CKEQ (IQUOTIENT 19947 52870)
       0)
(CKEQ (ITIMES 19947 52870)
       1054597890)
(CKEQ (IDIFFERENCE -285899720 319146973)
       -605046693)
(CKEQ (IPLUS -285899720 319146973)
       33247253)
(CKEQ (IQUOTIENT -285899720 319146973)
       0)
(CKEQ (IDIFFERENCE -1427 598403593)
       -598405020)
(CKEQ (IPLUS -1427 598403593)
       598402166)
(CKEQ (IQUOTIENT -1427 598403593)
       0)
(CKEQ (IDIFFERENCE -1638750017 -24489)
       -1638725528)
(CKEQ (IPLUS -1638750017 -24489)
       -1638774506)
(CKEQ (IQUOTIENT -1638750017 -24489)
       66917)
(CKEQ (IDIFFERENCE 60246 390291231)
       -390230985)
(CKEQ (IPLUS 60246 390291231)
       390351477)
(CKEQ (IQUOTIENT 60246 390291231)
       0)
(CKEQ (IDIFFERENCE 307545632 27069)
       307518563)
(CKEQ (IPLUS 307545632 27069)
       307572701)
(CKEQ (IQUOTIENT 307545632 27069)
       11361)
(CKEQ (IPLUS -1396029697 1631811249)
       235781552)
(CKEQ (IQUOTIENT -1396029697 1631811249)
       0)
(CKEQ (IDIFFERENCE -1159199405 59030)
       -1159258435)
(CKEQ (IPLUS -1159199405 59030)
       -1159140375)
(CKEQ (IQUOTIENT -1159199405 59030)
       -19637)
(CKEQ (IDIFFERENCE 42169 62993)
       -20824)
(CKEQ (IPLUS 42169 62993)
       105162)
(CKEQ (IQUOTIENT 42169 62993)
       0)
(CKEQ (IDIFFERENCE 1889496740 -47803)
       1889544543)
(CKEQ (IPLUS 1889496740 -47803)
       1889448937)
(CKEQ (IQUOTIENT 1889496740 -47803)
       -39526)
(CKEQ (IDIFFERENCE -1948687096 8734)
       -1948695830)
(CKEQ (IPLUS -1948687096 8734)
       -1948678362)
(CKEQ (IQUOTIENT -1948687096 8734)
       -223115)
(CKEQ (IDIFFERENCE -1220341914 -14748)
       -1220327166)
(CKEQ (IPLUS -1220341914 -14748)
       -1220356662)
(CKEQ (IQUOTIENT -1220341914 -14748)
       82746)
(CKEQ (IPLUS 1698607578 -819418601)
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                      879188977)
             (CKEQ (IQUOTIENT 1698607578 -819418601)
                      -2)
             (CKEQ (IDIFFERENCE 48676 -544451320)
                      544499996)
             (CKEQ (IPLUS 48676 -544451320)
                      -544402644)
             (CKEQ (IQUOTIENT 48676 -544451320)
                      0)
             (CKEQ (IDIFFERENCE -1703702947 -185076260)
                      -1518626687)
             (CKEQ (IPLUS -1703702947 -185076260)
                      -1888779207)
             (CKEQ (IQUOTIENT -1703702947 -185076260)
                      9)
             (CKEQ (IDIFFERENCE 1646485016 1969511497)
                      -323026481)
             (CKEQ (IQUOTIENT 1646485016 1969511497)
                      0)
             (CKEQ (IDIFFERENCE 94442983 146222230)
                      -51779247)
             (CKEQ (IPLUS 94442983 146222230)
                      240665213)
             (CKEQ (IQUOTIENT 94442983 146222230)
                      0)
             (CKEQ (IDIFFERENCE -1231521382 -1339154913)
                      107633531)
             (CKEQ (IQUOTIENT -1231521382 -1339154913)
                      0)
             (CKEQ (IDIFFERENCE 226896610 1424608093)
                      -1197711483)
             (CKEQ (IPLUS 226896610 1424608093)
                      1651504703)
             (CKEQ (IQUOTIENT 226896610 1424608093)
                      0)
             (CKEQ (IDIFFERENCE -1835396376 -33110)
                      -1835363266)
             (CKEQ (IPLUS -1835396376 -33110)
                      -1835429486)
             (CKEQ (IQUOTIENT -1835396376 -33110)
                      55433)
             (CKEQ (IDIFFERENCE -16936 -56230305)
                      56213369)
             (CKEQ (IPLUS -16936 -56230305)
                      -56247241)
             (CKEQ (IQUOTIENT -16936 -56230305)
                      0)
             (CKEQ (IPLUS 1986026702 -1536970558)
                      449056144)
             (CKEQ (IQUOTIENT 1986026702 -1536970558)
                      -1)
             (CKEQ (IDIFFERENCE -13280 -805585962)
                      805572682)
             (CKEQ (IPLUS -13280 -805585962)
                      -805599242)
             (CKEQ (IQUOTIENT -13280 -805585962)
                      0)
             (CKEQ (IDIFFERENCE -37007 -1454317224)
                      1454280217)
             (CKEQ (IPLUS -37007 -1454317224)
                      -1454354231)
             (CKEQ (IQUOTIENT -37007 -1454317224)
                      0)
             (CKEQ (IDIFFERENCE 40078 346871834)
                      -346831756)
             (CKEQ (IPLUS 40078 346871834)
                      346911912)
             (CKEQ (IQUOTIENT 40078 346871834)
                      0)
             (CKEQ (IDIFFERENCE 632140894 -562662631)
                      1194803525)
             (CKEQ (IPLUS 632140894 -562662631)
                      69478263)
             (CKEQ (IQUOTIENT 632140894 -562662631)
                      -1)
             (CKEQ (IPLUS 2043140196 -450966510)
                      1592173686)
             (CKEQ (IQUOTIENT 2043140196 -450966510)
                      -4])
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(!RANDNUMTEST2
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    (MTCHECKSTK (CKEQ (IREMAINDER 1005113268 -58158)
                      26712)
             (CKEQ (IDIFFERENCE 1005113268 -58158)
                      1005171426)
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(CKEQ (IPLUS 1005113268 −58158)
      1005055110)
(CKEQ (IQUOTIENT 1005113268 −58158)
      −17282)
(CKEQ (IREMAINDER 2121474713 −52594)
      43129)
(CKEQ (IDIFFERENCE 2121474713 −52594)
      2121527307)
(CKEQ (IPLUS 2121474713 −52594)
      2121422119)
(CKEQ (IQUOTIENT 2121474713 −52594)
      −40336)
(CKEQ (IREMAINDER −40450 1264494096)
      −40450)
(CKEQ (IDIFFERENCE −40450 1264494096)
      −1264534546)
(CKEQ (IPLUS −40450 1264494096)
      1264453646)
(CKEQ (IQUOTIENT −40450 1264494096)
      0)
(CKEQ (IREMAINDER 948078449 734261203)
      213817246)
(CKEQ (IDIFFERENCE 948078449 734261203)
      213817246)
(CKEQ (IPLUS 948078449 734261203)
      1682339652)
(CKEQ (IQUOTIENT 948078449 734261203)
      1)
(CKEQ (IREMAINDER 386279130 −2121252271)
      386279130)
(CKEQ (IPLUS 386279130 −2121252271)
      −1734973141)
(CKEQ (IQUOTIENT 386279130 −2121252271)
      0)
(CKEQ (IREMAINDER −1760963681 22440)
      −7121)
(CKEQ (IDIFFERENCE −1760963681 22440)
      −1760986121)
(CKEQ (IPLUS −1760963681 22440)
      −1760941241)
(CKEQ (IQUOTIENT −1760963681 22440)
      −78474)
(CKEQ (IREMAINDER 1305526523 2679)
      1601)
(CKEQ (IDIFFERENCE 1305526523 2679)
      1305523844)
(CKEQ (IPLUS 1305526523 2679)
      1305529202)
(CKEQ (IQUOTIENT 1305526523 2679)
      487318)
(CKEQ (IREMAINDER −131653190 1245990819)
      −131653190)
(CKEQ (IDIFFERENCE −131653190 1245990819)
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(CKEQ (IPLUS −131653190 1245990819)
      1114337629)
(CKEQ (IQUOTIENT −131653190 1245990819)
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(CKEQ (IREMAINDER −47587 −4259)
      −738)
(CKEQ (IDIFFERENCE −47587 −4259)
      −43328)
(CKEQ (IPLUS −47587 −4259)
      −51846)
(CKEQ (IQUOTIENT −47587 −4259)
      11)
(CKEQ (ITIMES −47587 −4259)
      202673033)
(CKEQ (IREMAINDER 56561 18449)
      1214)
(CKEQ (IDIFFERENCE 56561 18449)
      38112)
(CKEQ (IPLUS 56561 18449)
      75010)
(CKEQ (IQUOTIENT 56561 18449)
      3)
(CKEQ (ITIMES 56561 18449)
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(CKEQ (IREMAINDER −1041830954 −1422873079)
      −1041830954)
(CKEQ (IDIFFERENCE −1041830954 −1422873079)
      381042125)
(CKEQ (IQUOTIENT −1041830954 −1422873079)
      0)
(CKEQ (IREMAINDER −10148 273712652)
      −10148)
(CKEQ (IDIFFERENCE −10148 273712652)
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                            -273722800)
                (CKEQ (IPLUS -10148 273712652)
                            273702504)
                (CKEQ (IQUOTIENT -10148 273712652)
                            0)
                (CKEQ (IREMAINDER 50434 -1340413462)
                            50434)
                (CKEQ (IDIFFERENCE 50434 -1340413462)
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                (CKEQ (IPLUS 50434 -1340413462)
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                (CKEQ (IQUOTIENT 50434 -1340413462)
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                (CKEQ (IDIFFERENCE 48777 42705)
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                (CKEQ (IPLUS 48777 42705)
                            91482)
                (CKEQ (IQUOTIENT 48777 42705)
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                (CKEQ (ITIMES 48777 42705)
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                (CKEQ (IREMAINDER -34432503 59303)
                            -36763)
                (CKEQ (IDIFFERENCE -34432503 59303)
                            -34491806)
                (CKEQ (IPLUS -34432503 59303)
                            -34373200)
                (CKEQ (IQUOTIENT -34432503 59303)
                            -580)
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                            -858683653)
                (CKEQ (IDIFFERENCE -858683653 933852978)
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                (CKEQ (IPLUS -858683653 933852978)
                            75169325)
                (CKEQ (IQUOTIENT -858683653 933852978)
                            0)
                (CKEQ (IREMAINDER -1623988459 38697)
                            -30157)
                (CKEQ (IDIFFERENCE -1623988459 38697)
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                (CKEQ (IPLUS -1623988459 38697)
                            -1623949762)
                (CKEQ (IQUOTIENT -1623988459 38697)
                            -41966)
                (CKEQ (IREMAINDER 1113377325 885647321)
                            227730004)
                (CKEQ (IDIFFERENCE 1113377325 885647321)
                            227730004)
                (CKEQ (IPLUS 1113377325 885647321)
                            1999024646)
                (CKEQ (IQUOTIENT 1113377325 885647321)
                            1)
                (CKEQ (IREMAINDER -31444 64426)
                            -31444)
                (CKEQ (IDIFFERENCE -31444 64426)
                            -95870)
                (CKEQ (IPLUS -31444 64426)
                            32982)
                (CKEQ (IQUOTIENT -31444 64426)
                            0)
                (CKEQ (ITIMES -31444 64426)
                            -2025811144)
                (CKEQ (IREMAINDER 39816 1238376686)
                            39816)
                (CKEQ (IDIFFERENCE 39816 1238376686)
                            -1238336870)
                (CKEQ (IPLUS 39816 1238376686)
                            1238416502)
                (CKEQ (IQUOTIENT 39816 1238376686)
                            0)
                (CKEQ (IREMAINDER -12881 57975)
                            -12881)
                (CKEQ (IDIFFERENCE -12881 57975)
                            -70856)
                (CKEQ (IPLUS -12881 57975)
                            45094)
                (CKEQ (IQUOTIENT -12881 57975)
                            0)
                (CKEQ (ITIMES -12881 57975)
                            -746775975)
                (CKEQ (IREMAINDER -150752344 319304522)
                            -150752344)
                (CKEQ (IDIFFERENCE -150752344 319304522)
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                (CKEQ (IPLUS −150752344 319304522)
                      168552178)
                (CKEQ (IQUOTIENT −150752344 319304522)
                      0)
                (CKEQ (IREMAINDER 58676 793822549)
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                (CKEQ (IDIFFERENCE 58676 793822549)
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                (CKEQ (IPLUS 58676 793822549)
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                (CKEQ (IQUOTIENT 58676 793822549)
                      0)
                (CKEQ (IREMAINDER −1922906812 296816285)
                      −142009102)
                (CKEQ (IPLUS −1922906812 296816285)
                      −1626090527)
                (CKEQ (IQUOTIENT −1922906812 296816285)
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                (CKEQ (IREMAINDER −401454501 51944)
                      −31269)
                (CKEQ (IDIFFERENCE −401454501 51944)
                      −401506445)
                (CKEQ (IPLUS −401454501 51944)
                      −401402557)
                (CKEQ (IQUOTIENT −401454501 51944)
                      −7728)
                (CKEQ (IREMAINDER −12785 −11289)
                      −1496)
                (CKEQ (IDIFFERENCE −12785 −11289)
                      −1496)
                (CKEQ (IPLUS −12785 −11289)
                      −24074)
                (CKEQ (IQUOTIENT −12785 −11289)
                      1)
                (CKEQ (ITIMES −12785 −11289)
                      144329865)
                (CKEQ (IREMAINDER −28923 −39856)
                      −28923)
                (CKEQ (IDIFFERENCE −28923 −39856)
                      10933)
                (CKEQ (IPLUS −28923 −39856)
                      −68779)
                (CKEQ (IQUOTIENT −28923 −39856)
                      0)
                (CKEQ (ITIMES −28923 −39856)
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                (CKEQ (IREMAINDER −58177 −36235)
                      −21942)
                (CKEQ (IDIFFERENCE −58177 −36235)
                      −21942)
                (CKEQ (IPLUS −58177 −36235)
                      −94412)
                (CKEQ (IQUOTIENT −58177 −36235)
                      1)
                (CKEQ (ITIMES −58177 −36235)
                      2108043595)
                (CKEQ (IREMAINDER −16347 909099913)
                      −16347)
                (CKEQ (IDIFFERENCE −16347 909099913)
                      −909116260)
                (CKEQ (IPLUS −16347 909099913)
                      909083566)
                (CKEQ (IQUOTIENT −16347 909099913)
                      0)
                (CKEQ (IREMAINDER 739088049 61773)
                      35877)
                (CKEQ (IDIFFERENCE 739088049 61773)
                      739026276)
                (CKEQ (IPLUS 739088049 61773)
                      739149822)
                (CKEQ (IQUOTIENT 739088049 61773)
                      11964])
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(**!RANDNUMTEST3**
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                      5260)
                (CKEQ (IDIFFERENCE 1003002370 13866)
                      1002988504)
                (CKEQ (IPLUS 1003002370 13866)
                      1003016236)
                (CKEQ (IQUOTIENT 1003002370 13866)
                      72335)
                (CKEQ (IREMAINDER 56405 −32288)
                      24117)
                (CKEQ (IDIFFERENCE 56405 −32288)
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(CKEQ (IPLUS 56405 -32288)
        24117)
(CKEQ (IQUOTIENT 56405 -32288)
        -1)
(CKEQ (ITIMES 56405 -32288)
        -1821204640)
(CKEQ (IREMAINDER 2039676217 26452)
        15401)
(CKEQ (IDIFFERENCE 2039676217 26452)
        2039649765)
(CKEQ (IPLUS 2039676217 26452)
        2039702669)
(CKEQ (IQUOTIENT 2039676217 26452)
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        -135429058)
(CKEQ (IDIFFERENCE -135429058 -530537361)
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(CKEQ (IPLUS -135429058 -530537361)
        -665966419)
(CKEQ (IQUOTIENT -135429058 -530537361)
        0)
(CKEQ (IREMAINDER 3692 30902)
        3692)
(CKEQ (IDIFFERENCE 3692 30902)
        -27210)
(CKEQ (IPLUS 3692 30902)
        34594)
(CKEQ (IQUOTIENT 3692 30902)
        0)
(CKEQ (ITIMES 3692 30902)
        114090184)
(CKEQ (IREMAINDER 1705425816 -1880673982)
        1705425816)
(CKEQ (IPLUS 1705425816 -1880673982)
        -175248166)
(CKEQ (IQUOTIENT 1705425816 -1880673982)
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(CKEQ (IDIFFERENCE -45070 -16229)
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(CKEQ (IPLUS -45070 -16229)
        -61299)
(CKEQ (IQUOTIENT -45070 -16229)
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(CKEQ (ITIMES -45070 -16229)
        731441030)
(CKEQ (IREMAINDER 51765 50332)
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(CKEQ (IDIFFERENCE 51765 50332)
        1433)
(CKEQ (IPLUS 51765 50332)
        102097)
(CKEQ (IQUOTIENT 51765 50332)
        1)
(CKEQ (IREMAINDER -39299 11794710)
        -39299)
(CKEQ (IDIFFERENCE -39299 11794710)
        -11834009)
(CKEQ (IPLUS -39299 11794710)
        11755411)
(CKEQ (IQUOTIENT -39299 11794710)
        0)
(CKEQ (IREMAINDER 1458415089 -1285436881)
        172978208)
(CKEQ (IPLUS 1458415089 -1285436881)
        172978208)
(CKEQ (IQUOTIENT 1458415089 -1285436881)
        -1)
(CKEQ (IREMAINDER -63330 -27533)
        -8264)
(CKEQ (IDIFFERENCE -63330 -27533)
        -35797)
(CKEQ (IPLUS -63330 -27533)
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(CKEQ (IQUOTIENT -63330 -27533)
        2)
(CKEQ (ITIMES -63330 -27533)
        1743664890)
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(CKEQ (IREMAINDER 35136 1433111510)
      35136)
(CKEQ (IDIFFERENCE 35136 1433111510)
      −1433076374)
(CKEQ (IPLUS 35136 1433111510)
      1433146646)
(CKEQ (IQUOTIENT 35136 1433111510)
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(CKEQ (IREMAINDER 28967 −19401)
      9566)
(CKEQ (IDIFFERENCE 28967 −19401)
      48368)
(CKEQ (IPLUS 28967 −19401)
      9566)
(CKEQ (IQUOTIENT 28967 −19401)
      −1)
(CKEQ (ITIMES 28967 −19401)
      −561988767)
(CKEQ (IREMAINDER 56844 874679511)
      56844)
(CKEQ (IDIFFERENCE 56844 874679511)
      −874622667)
(CKEQ (IPLUS 56844 874679511)
      874736355)
(CKEQ (IQUOTIENT 56844 874679511)
      0)
(CKEQ (IREMAINDER −761750881 13960)
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(CKEQ (IDIFFERENCE −761750881 13960)
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(CKEQ (IPLUS −761750881 13960)
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(CKEQ (IQUOTIENT −761750881 13960)
      −54566)
(CKEQ (IREMAINDER −129854614 −56269)
      −42031)
(CKEQ (IDIFFERENCE −129854614 −56269)
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(CKEQ (IPLUS −129854614 −56269)
      −129910883)
(CKEQ (IQUOTIENT −129854614 −56269)
      2307)
(CKEQ (IREMAINDER 1438942133 926360983)
      512581150)
(CKEQ (IDIFFERENCE 1438942133 926360983)
      512581150)
(CKEQ (IQUOTIENT 1438942133 926360983)
      1)
(CKEQ (IREMAINDER 15741 −52551)
      15741)
(CKEQ (IDIFFERENCE 15741 −52551)
      68292)
(CKEQ (IPLUS 15741 −52551)
      −36810)
(CKEQ (IQUOTIENT 15741 −52551)
      0)
(CKEQ (ITIMES 15741 −52551)
      −827205291)
(CKEQ (IREMAINDER 18029 43819)
      18029)
(CKEQ (IDIFFERENCE 18029 43819)
      −25790)
(CKEQ (IPLUS 18029 43819)
      61848)
(CKEQ (IQUOTIENT 18029 43819)
      0)
(CKEQ (ITIMES 18029 43819)
      790012751)
(CKEQ (IREMAINDER −1513390759 486201363)
      −54786670)
(CKEQ (IDIFFERENCE −1513390759 486201363)
      −1999592122)
(CKEQ (IPLUS −1513390759 486201363)
      −1027189396)
(CKEQ (IQUOTIENT −1513390759 486201363)
      −3)
(CKEQ (IREMAINDER 58888 1517799118)
      58888)
(CKEQ (IDIFFERENCE 58888 1517799118)
      −1517740230)
(CKEQ (IPLUS 58888 1517799118)
      1517858006)
(CKEQ (IQUOTIENT 58888 1517799118)
      0)
(CKEQ (IREMAINDER 1477265508 −63191)
      49501)
(CKEQ (IDIFFERENCE 1477265508 −63191)
```

```
                    1477328699)
          (CKEQ (IPLUS 1477265508 −63191)
                    1477202317)
          (CKEQ (IQUOTIENT 1477265508 −63191)
                    −23377)
          (CKEQ (IREMAINDER −19597 1460691698)
                    −19597)
          (CKEQ (IDIFFERENCE −19597 1460691698)
                    −1460711295)
          (CKEQ (IPLUS −19597 1460691698)
                    1460672101)
          (CKEQ (IQUOTIENT −19597 1460691698)
                    0)
          (CKEQ (IREMAINDER −1185 −584240258)
                    −1185)
          (CKEQ (IDIFFERENCE −1185 −584240258)
                    584239073)
          (CKEQ (IPLUS −1185 −584240258)
                    −584241443)
          (CKEQ (IQUOTIENT −1185 −584240258)
                    0)
          (CKEQ (IREMAINDER −8327 2070830646)
                    −8327)
          (CKEQ (IDIFFERENCE −8327 2070830646)
                    −2070838973)
          (CKEQ (IPLUS −8327 2070830646)
                    2070822319)
          (CKEQ (IQUOTIENT −8327 2070830646)
                    0)
          (CKEQ (IREMAINDER −887820106 424163708)
                    −39492690)
          (CKEQ (IDIFFERENCE −887820106 424163708)
                    −1311983814)
          (CKEQ (IPLUS −887820106 424163708)
                    −463656398)
          (CKEQ (IQUOTIENT −887820106 424163708)
                    −2)
          (CKEQ (IREMAINDER −57131 1828155834)
                    −57131)
          (CKEQ (IDIFFERENCE −57131 1828155834)
                    −1828212965)
          (CKEQ (IPLUS −57131 1828155834)
                    1828098703)
          (CKEQ (IQUOTIENT −57131 1828155834)
                    0)
          (CKEQ (IREMAINDER −34152 759407992)
                    −34152)
          (CKEQ (IDIFFERENCE −34152 759407992)
                    −759442144)
          (CKEQ (IPLUS −34152 759407992)
                    759373840)
          (CKEQ (IQUOTIENT −34152 759407992)
                    0)
          (CKEQ (IREMAINDER 39834 −1609534257)
                    39834)
          (CKEQ (IDIFFERENCE 39834 −1609534257)
                    1609574091)
          (CKEQ (IPLUS 39834 −1609534257)
                    −1609494423)
          (CKEQ (IQUOTIENT 39834 −1609534257)
                    0)])
```

(**!RANDNUMTEST4**
```
   [LAMBDA NIL                                                    (* lmm "19-Jul-84 18:02")
      (MTCHECKSTK (CKEQ (IREMAINDER 19726 30641)
                    19726)
          (CKEQ (IDIFFERENCE 19726 30641)
                    −10915)
          (CKEQ (IPLUS 19726 30641)
                    50367)
          (CKEQ (IQUOTIENT 19726 30641)
                    0)
          (CKEQ (ITIMES 19726 30641)
                    604424366)
          (CKEQ (IREMAINDER −60143 −1768715426)
                    −60143)
          (CKEQ (IDIFFERENCE −60143 −1768715426)
                    1768655283)
          (CKEQ (IPLUS −60143 −1768715426)
                    −1768775569)
          (CKEQ (IQUOTIENT −60143 −1768715426)
                    0)
          (CKEQ (IREMAINDER −2090 105525372)
                    −2090)
          (CKEQ (IDIFFERENCE −2090 105525372)
                    −105527462)
```

```
(CKEQ (IPLUS -2090 105525372)
      105523282)
(CKEQ (IQUOTIENT -2090 105525372)
      0)
(CKEQ (IREMAINDER -1171986183 806601306)
      -365384877)
(CKEQ (IDIFFERENCE -1171986183 806601306)
      -1978587489)
(CKEQ (IPLUS -1171986183 806601306)
      -365384877)
(CKEQ (IQUOTIENT -1171986183 806601306)
      -1)
(CKEQ (IREMAINDER -2 -4)
      -2)
(CKEQ (IDIFFERENCE -2 -4)
      2)
(CKEQ (IPLUS -2 -4)
      -6)
(CKEQ (IQUOTIENT -2 -4)
      0)
(CKEQ (ITIMES -2 -4)
      8)
(CKEQ (IREMAINDER 30107019 -855698290)
      30107019)
(CKEQ (IDIFFERENCE 30107019 -855698290)
      885805309)
(CKEQ (IPLUS 30107019 -855698290)
      -825591271)
(CKEQ (IQUOTIENT 30107019 -855698290)
      0)
(CKEQ (IREMAINDER -2 3)
      -2)
(CKEQ (IDIFFERENCE -2 3)
      -5)
(CKEQ (IPLUS -2 3)
      1)
(CKEQ (IQUOTIENT -2 3)
      0)
(CKEQ (ITIMES -2 3)
      -6)
(CKEQ (IREMAINDER -7207 -62157)
      -7207)
(CKEQ (IDIFFERENCE -7207 -62157)
      54950)
(CKEQ (IPLUS -7207 -62157)
      -69364)
(CKEQ (IQUOTIENT -7207 -62157)
      0)
(CKEQ (ITIMES -7207 -62157)
      447965499)
(CKEQ (IPLUS -622869140 0)
      -622869140)
(CKEQ (ITIMES -622869140 0)
      0)
(CKEQ (IREMAINDER 4 31306697)
      4)
(CKEQ (IDIFFERENCE 4 31306697)
      -31306693)
(CKEQ (IPLUS 4 31306697)
      31306701)
(CKEQ (IQUOTIENT 4 31306697)
      0)
(CKEQ (ITIMES 4 31306697)
      125226788)
(CKEQ (IREMAINDER 1106717819 -1787842586)
      1106717819)
(CKEQ (IPLUS 1106717819 -1787842586)
      -681124767)
(CKEQ (IQUOTIENT 1106717819 -1787842586)
      0)
(CKEQ (IREMAINDER -266740781 1899715348)
      -266740781)
(CKEQ (IPLUS -266740781 1899715348)
      1632974567)
(CKEQ (IQUOTIENT -266740781 1899715348)
      0)
(CKEQ (IREMAINDER -5 -2)
      -1)
(CKEQ (IDIFFERENCE -5 -2)
      -3)
(CKEQ (IPLUS -5 -2)
      -7)
(CKEQ (IQUOTIENT -5 -2)
      2)
(CKEQ (ITIMES -5 -2)
      10)
(CKEQ (IREMAINDER -5633 -43853)
```

```
                    -5633)
            (CKEQ (IDIFFERENCE -5633 -43853)
                    38220)
            (CKEQ (IPLUS -5633 -43853)
                    -49486)
            (CKEQ (IQUOTIENT -5633 -43853)
                    0)
            (CKEQ (ITIMES -5633 -43853)
                    247023949)
            (CKEQ (IREMAINDER -60673 -3607)
                    -2961)
            (CKEQ (IDIFFERENCE -60673 -3607)
                    -57066)
            (CKEQ (IPLUS -60673 -3607)
                    -64280)
            (CKEQ (IQUOTIENT -60673 -3607)
                    16)
            (CKEQ (ITIMES -60673 -3607)
                    218847511)
            (CKEQ (IREMAINDER 582999370 -45007)
                    23699)
            (CKEQ (IDIFFERENCE 582999370 -45007)
                    583044377)
            (CKEQ (IPLUS 582999370 -45007)
                    582954363)
            (CKEQ (IQUOTIENT 582999370 -45007)
                    -12953)
            (CKEQ (IREMAINDER 4 -5)
                    4)
            (CKEQ (IDIFFERENCE 4 -5)
                    9)
            (CKEQ (IPLUS 4 -5)
                    -1)
            (CKEQ (IQUOTIENT 4 -5)
                    0)
            (CKEQ (ITIMES 4 -5)
                    -20)
            (CKEQ (IREMAINDER 52431 710935966)
                    52431)
            (CKEQ (IDIFFERENCE 52431 710935966)
                    -710883535)
            (CKEQ (IPLUS 52431 710935966)
                    710988397)
            (CKEQ (IQUOTIENT 52431 710935966)
                    0)
            (CKEQ (IREMAINDER 4520 -27766)
                    4520)
            (CKEQ (IDIFFERENCE 4520 -27766)
                    32286)
            (CKEQ (IPLUS 4520 -27766)
                    -23246)
            (CKEQ (IQUOTIENT 4520 -27766)
                    0)
            (CKEQ (ITIMES 4520 -27766)
                    -125502320)
            (CKEQ (IREMAINDER -5 -13814)
                    -5)
            (CKEQ (IDIFFERENCE -5 -13814)
                    13809)
            (CKEQ (IPLUS -5 -13814)
                    -13819)
            (CKEQ (IQUOTIENT -5 -13814)
                    0)
            (CKEQ (ITIMES -5 -13814)
                    69070)
            (CKEQ (IREMAINDER 38851 -392958832)
                    38851)
            (CKEQ (IDIFFERENCE 38851 -392958832)
                    392997683)
            (CKEQ (IPLUS 38851 -392958832)
                    -392919981)
            (CKEQ (IQUOTIENT 38851 -392958832)
                    0)
            (CKEQ (IPLUS 156390710 0)
                    156390710)
            (CKEQ (ITIMES 156390710 0)
                    0)
            (CKEQ (IDIFFERENCE -4 0)
                    -4)
            (CKEQ (IPLUS -4 0)
                    -4)
            (CKEQ (ITIMES -4 0)
                    0)
            (CKEQ (IREMAINDER 1 -684041608)
                    1)
            (CKEQ (IDIFFERENCE 1 -684041608)
                    684041609)
```

```
        (CKEQ (IPLUS 1 -684041608)
              -684041607)
        (CKEQ (IQUOTIENT 1 -684041608)
              0)
        (CKEQ (ITIMES 1 -684041608)
              -684041608)
        (CKEQ (IREMAINDER 0 38774)
              0)
        (CKEQ (IDIFFERENCE 0 38774)
              -38774)
        (CKEQ (IPLUS 0 38774)
              38774)
        (CKEQ (IQUOTIENT 0 38774)
              0)
        (CKEQ (ITIMES 0 38774)
              0)
        (CKEQ (IREMAINDER -5 3)
              -2)
        (CKEQ (IDIFFERENCE -5 3)
              -8)
        (CKEQ (IPLUS -5 3)
              -2)
        (CKEQ (IQUOTIENT -5 3)
              -1)
        (CKEQ (ITIMES -5 3)
              -15)
        (CKEQ (IREMAINDER 5 -51903)
              5)
        (CKEQ (IDIFFERENCE 5 -51903)
              51908)
        (CKEQ (IPLUS 5 -51903)
              -51898)
        (CKEQ (IQUOTIENT 5 -51903)
              0)
        (CKEQ (ITIMES 5 -51903)
              -259515)
        (CKEQ (IREMAINDER 1678 -1031791030)
              1678)
        (CKEQ (IDIFFERENCE 1678 -1031791030)
              1031792708)
        (CKEQ (IPLUS 1678 -1031791030)
              -1031789352)
        (CKEQ (IQUOTIENT 1678 -1031791030)
              0)
        (CKEQ (IREMAINDER 637843753 -55326)
              45625)
        (CKEQ (IDIFFERENCE 637843753 -55326)
              637899079)
        (CKEQ (IPLUS 637843753 -55326)
              637788427)
        (CKEQ (IQUOTIENT 637843753 -55326)
              -11528)
        (CKEQ (IREMAINDER 0 2)
              0)
        (CKEQ (IDIFFERENCE 0 2)
              -2)
        (CKEQ (IPLUS 0 2)
              2)
        (CKEQ (IQUOTIENT 0 2)
              0)
        (CKEQ (ITIMES 0 2)
              0])
```

(**!FNUMTEST**
```
  [LAMBDA NIL                                                    (* JonL " 7-Nov-84 17:57")
    (!FNUMTEST1)
    (!FNUMTEST2)
    (!FNUMTEST3)
    (!FNUMTEST4)
    (!FNUMTEST5])
```

(**!FNUMTEST1**
```
  [LAMBDA NIL                                                    (* JonL " 7-Nov-84 16:29")
                                                                 (* Some very simple cases especially involving a 16-bit overflow)

    (CKFEQ (FPLUS -65536.0 1.0)
           -65535.0)
    (CKFEQ (FDIFFERENCE -65536.0 1.0)
           -65537.0)
    (CKFEQ (FTIMES -65536.0 1.0)
           -65536.0)
    (CKFEQ (FQUOTIENT -65536.0 1.0)
           -65536.0)
    (CKFEQ (FPLUS 65535.0 0.0)
           65535.0)
    (CKFEQ (FDIFFERENCE 65535.0 0.0)
```

```
                65535.0)
       (CKFEQ (FTIMES 65535.0 0.0)
              0.0)
       (CKFEQ (FPLUS 65535.0 −1.0)
              65534.0)
       (CKFEQ (FDIFFERENCE 65535.0 −1.0)
              65536.0)
       (CKFEQ (FTIMES 65535.0 −1.0)
              −65535.0)
       (CKFEQ (FQUOTIENT 65535.0 −1.0)
              −65535.0)
       (CKFEQ (FPLUS 65535.0 1.0)
              65536.0)
       (CKFEQ (FDIFFERENCE 65535.0 1.0)
              65534.0)
       (CKFEQ (FTIMES 65535.0 1.0)
              65535.0)
       (CKFEQ (FQUOTIENT 65535.0 1.0)
              65535.0)
       (CKFEQ (FPLUS 0.0 −65536.0)
              −65536.0)
       (CKFEQ (FDIFFERENCE 0.0 −65536.0)
              65536.0)
       (CKFEQ (FTIMES 0.0 −65536.0)
              0.0)
       (CKFEQ (FQUOTIENT 0.0 −65536.0)
              0.0])
```

(**!FNUMTEST2**
```
   [LAMBDA NIL                                                 (* JonL " 7-Nov-84 18:47")
     (for I F FORM from 0 to (SUB1 BITSPERCELL)
        do [SETQ F (create FLOATP
                      FLOATCONTENTS _ (LOGXOR (MASK.1'S I 1)
                                             (CONSTANT (fetch (FLOATP FLOATCONTENTS)
                                                        of (create FLOATP
                                                                   EXPONENT _ 129]
            (SETQ FORM (LIST (QUOTE FPLUS)
                             0.0
                             (CONCAT "{ 2.0 xor 2^" I)))
            (!CKFEQ (FPLUS 0.0 F)
                    F FORM)
            (!CKFEQ (FTIMES 1.0 F)
                    F
                    (QUOTE (FTIMES 1.0 F])
```

(**!FNUMTEST3**
```
   [LAMBDA NIL                                                 (* JonL " 7-Nov-84 16:32")
                                                               (* Check for coercions)
     (CKFEQ (FPLUS −65536 1)
            −65535.0)
     (CKFEQ (FDIFFERENCE −65536 1)
            −65537.0)
     (CKFEQ (FTIMES −65536 1)
            −65536.0)
     (CKFEQ (FQUOTIENT −65536 1)
            −65536.0)
     (CKFEQ (FPLUS −65536.0 1)
            −65535.0)
     (CKFEQ (FDIFFERENCE −65536.0 1)
            −65537.0)
     (CKFEQ (FTIMES −65536.0 1)
            −65536.0)
     (CKFEQ (FQUOTIENT −65536.0 1)
            −65536.0)
     (CKFEQ (FPLUS −65536 1.0)
            −65535.0)
     (CKFEQ (FDIFFERENCE −65536 1.0)
            −65537.0)
     (CKFEQ (FTIMES −65536 1.0)
            −65536.0)
     (CKFEQ (FQUOTIENT −65536 1.0)
            −65536.0])
```

(**!FNUMTEST4**
```
   [LAMBDA NIL                                                 (* JonL " 7-Nov-84 20:58")
                                                               (* Some random kludgy number tests)
     (!CKFEQ (FPLUS 1.234568 1.111111)
             2.345679
             (QUOTE (FPLUS 1.234568 1.111111)))
     (!CKFEQ (FPLUS (DEFERREDCONSTANT (create FLOATP
                                            FLOATCONTENTS _ 1067320913))
                    1.111111)
             (DEFERREDCONSTANT (create FLOATP
                                     FLOATCONTENTS _ 1075191706))
```

```
              (QUOTE (FPLUS "1.2345678" 1.111111])
```

(**!FNUMTEST5**
```
  [LAMBDA NIL                                                    (* JonL " 7-Nov-84 16:33")
                                                                 (* Check out the comparators)

    (MTCHECK (FGREATERP 1.0 0.0))
    (MTCHECK (NOT (FGREATERP -1.0 0.0])
```

(**!MIXNUMTEST**
```
  [LAMBDA NIL                                                    (* lmm "19-Jul-84 18:07")
    (!RANDNUMTEST)
    (PROGN (CKEQ (DIFFERENCE -65536 -65536)
                 0)
           (CKEQ (PLUS -65536 -65536)
                 -131072)
           (CKEQ (QUOTIENT -65536 -65536)
                 1)
           (CKEQ (DIFFERENCE -65536 65535)
                 -131071)
           (CKEQ (PLUS -65536 65535)
                 -1)
           (CKEQ (QUOTIENT -65536 65535)
                 -1)
           (CKFEQ (DIFFERENCE -65536 0.0)
                  -65536.0)
           (CKFEQ (TIMES -65536 0.0)
                  0.0)
           (CKFEQ (PLUS -65536 0.0)
                  -65536.0)
           (CKEQ (DIFFERENCE -65536 0)
                 -65536)
           (CKEQ (TIMES -65536 0)
                 0)
           (CKEQ (PLUS -65536 0)
                 -65536)
           (CKEQ (DIFFERENCE -65536 3)
                 -65539)
           (CKEQ (TIMES -65536 3)
                 -196608)
           (CKEQ (PLUS -65536 3)
                 -65533)
           (CKEQ (QUOTIENT -65536 3)
                 -21845)
           (CKFEQ (DIFFERENCE -65536 -1.0)
                  -65535.0)
           (CKFEQ (TIMES -65536 -1.0)
                  65536.0)
           (CKFEQ (PLUS -65536 -1.0)
                  -65537.0)
           (CKFEQ (QUOTIENT -65536 -1.0)
                  65536.0)
           (CKEQ (DIFFERENCE -65536 -1)
                 -65535)
           (CKEQ (TIMES -65536 -1)
                 65536)
           (CKEQ (PLUS -65536 -1)
                 -65537)
           (CKEQ (QUOTIENT -65536 -1)
                 65536)
           (CKEQ (DIFFERENCE -65536 2)
                 -65538)
           (CKEQ (TIMES -65536 2)
                 -131072)
           (CKEQ (PLUS -65536 2)
                 -65534)
           (CKEQ (QUOTIENT -65536 2)
                 -32768)
           (CKFEQ (DIFFERENCE -65536 1.0)
                  -65537.0)
           (CKFEQ (TIMES -65536 1.0)
                  -65536.0)
           (CKFEQ (PLUS -65536 1.0)
                  -65535.0)
           (CKFEQ (QUOTIENT -65536 1.0)
                  -65536.0)
           (CKEQ (DIFFERENCE -65536 1)
                 -65537)
           (CKEQ (TIMES -65536 1)
                 -65536)
           (CKEQ (PLUS -65536 1)
                 -65535)
           (CKEQ (QUOTIENT -65536 1)
                 -65536)
           (CKEQ (DIFFERENCE 65535 -65536)
                 131071)
```

```
(CKEQ (PLUS 65535 -65536)
      -1)
(CKEQ (QUOTIENT 65535 -65536)
      0)
(CKEQ (DIFFERENCE 65535 65535)
      0)
(CKEQ (PLUS 65535 65535)
      131070)
(CKEQ (QUOTIENT 65535 65535)
      1)
(CKFEQ (DIFFERENCE 65535 0.0)
       65535.0)
(CKFEQ (TIMES 65535 0.0)
       0.0)
(CKFEQ (PLUS 65535 0.0)
       65535.0)
(CKEQ (DIFFERENCE 65535 0)
      65535)
(CKEQ (TIMES 65535 0)
      0)
(CKEQ (PLUS 65535 0)
      65535)
(CKEQ (DIFFERENCE 65535 3)
      65532)
(CKEQ (TIMES 65535 3)
      196605)
(CKEQ (PLUS 65535 3)
      65538)
(CKEQ (QUOTIENT 65535 3)
      21845)
(CKFEQ (DIFFERENCE 65535 -1.0)
       65536.0)
(CKFEQ (TIMES 65535 -1.0)
       -65535.0)
(CKFEQ (PLUS 65535 -1.0)
       65534.0)
(CKFEQ (QUOTIENT 65535 -1.0)
       -65535.0)
(CKEQ (DIFFERENCE 65535 -1)
      65536)
(CKEQ (TIMES 65535 -1)
      -65535)
(CKEQ (PLUS 65535 -1)
      65534)
(CKEQ (QUOTIENT 65535 -1)
      -65535)
(CKEQ (DIFFERENCE 65535 2)
      65533)
(CKEQ (TIMES 65535 2)
      131070)
(CKEQ (PLUS 65535 2)
      65537)
(CKEQ (QUOTIENT 65535 2)
      32767)
(CKFEQ (DIFFERENCE 65535 1.0)
       65534.0)
(CKFEQ (TIMES 65535 1.0)
       65535.0)
(CKFEQ (PLUS 65535 1.0)
       65536.0)
(CKFEQ (QUOTIENT 65535 1.0)
       65535.0)
(CKEQ (DIFFERENCE 65535 1)
      65534)
(CKEQ (TIMES 65535 1)
      65535)
(CKEQ (PLUS 65535 1)
      65536)
(CKEQ (QUOTIENT 65535 1)
      65535)
(CKFEQ (DIFFERENCE 0.0 -65536)
       65536.0)
(CKFEQ (TIMES 0.0 -65536)
       0.0)
(CKFEQ (PLUS 0.0 -65536)
       -65536.0)
(CKFEQ (QUOTIENT 0.0 -65536)
       0.0)
(CKFEQ (DIFFERENCE 0.0 65535)
       -65535.0)
(CKFEQ (TIMES 0.0 65535)
       0.0)
(CKFEQ (PLUS 0.0 65535)
       65535.0)
(CKFEQ (QUOTIENT 0.0 65535)
       0.0)
(CKFEQ (DIFFERENCE 0.0 0.0)
```

```
              0.0)
      (CKFEQ (TIMES 0.0 0.0)
              0.0)
      (CKFEQ (PLUS 0.0 0.0)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 0)
              0.0)
      (CKFEQ (TIMES 0.0 0)
              0.0)
      (CKFEQ (PLUS 0.0 0)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 3)
              -3.0)
      (CKFEQ (TIMES 0.0 3)
              0.0)
      (CKFEQ (PLUS 0.0 3)
              3.0)
      (CKFEQ (QUOTIENT 0.0 3)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 -1.0)
              1.0)
      (CKFEQ (TIMES 0.0 -1.0)
              0.0)
      (CKFEQ (PLUS 0.0 -1.0)
              -1.0)
      (CKFEQ (QUOTIENT 0.0 -1.0)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 -1)
              1.0)
      (CKFEQ (TIMES 0.0 -1)
              0.0)
      (CKFEQ (PLUS 0.0 -1)
              -1.0)
      (CKFEQ (QUOTIENT 0.0 -1)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 2)
              -2.0)
      (CKFEQ (TIMES 0.0 2)
              0.0)
      (CKFEQ (PLUS 0.0 2)
              2.0)
      (CKFEQ (QUOTIENT 0.0 2)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 1.0)
              -1.0)
      (CKFEQ (TIMES 0.0 1.0)
              0.0)
      (CKFEQ (PLUS 0.0 1.0)
              1.0)
      (CKFEQ (QUOTIENT 0.0 1.0)
              0.0)
      (CKFEQ (DIFFERENCE 0.0 1)
              -1.0)
      (CKFEQ (TIMES 0.0 1)
              0.0)
      (CKFEQ (PLUS 0.0 1)
              1.0)
      (CKFEQ (QUOTIENT 0.0 1)
              0.0)
      (CKEQ (DIFFERENCE 0 -65536)
            65536)
      (CKEQ (TIMES 0 -65536)
            0)
      (CKEQ (PLUS 0 -65536)
            -65536)
      (CKEQ (QUOTIENT 0 -65536)
            0)
      (CKEQ (DIFFERENCE 0 65535)
            -65535)
      (CKEQ (TIMES 0 65535)
            0)
      (CKEQ (PLUS 0 65535)
            65535)
      (CKEQ (QUOTIENT 0 65535)
            0)
      (CKFEQ (DIFFERENCE 0 0.0)
              0.0)
      (CKFEQ (TIMES 0 0.0)
              0.0)
      (CKFEQ (PLUS 0 0.0)
              0.0)
      (CKEQ (DIFFERENCE 0 0)
            0)
      (CKEQ (TIMES 0 0)
            0)
      (CKEQ (PLUS 0 0)
            0)
```

```
(CKEQ (DIFFERENCE 0 3)
      −3)
(CKEQ (TIMES 0 3)
      0)
(CKEQ (PLUS 0 3)
      3)
(CKEQ (QUOTIENT 0 3)
      0)
(CKFEQ (DIFFERENCE 0 −1.0)
       1.0)
(CKFEQ (TIMES 0 −1.0)
       0.0)
(CKFEQ (PLUS 0 −1.0)
       −1.0)
(CKFEQ (QUOTIENT 0 −1.0)
       0.0)
(CKEQ (DIFFERENCE 0 −1)
      1)
(CKEQ (TIMES 0 −1)
      0)
(CKEQ (PLUS 0 −1)
      −1)
(CKEQ (QUOTIENT 0 −1)
      0)
(CKEQ (DIFFERENCE 0 2)
      −2)
(CKEQ (TIMES 0 2)
      0)
(CKEQ (PLUS 0 2)
      2)
(CKEQ (QUOTIENT 0 2)
      0)
(CKFEQ (DIFFERENCE 0 1.0)
       −1.0)
(CKFEQ (TIMES 0 1.0)
       0.0)
(CKFEQ (PLUS 0 1.0)
       1.0)
(CKFEQ (QUOTIENT 0 1.0)
       0.0)
(CKEQ (DIFFERENCE 0 1)
      −1)
(CKEQ (TIMES 0 1)
      0)
(CKEQ (PLUS 0 1)
      1)
(CKEQ (QUOTIENT 0 1)
      0)
(CKEQ (DIFFERENCE 3 −65536)
      65539)
(CKEQ (TIMES 3 −65536)
      −196608)
(CKEQ (PLUS 3 −65536)
      −65533)
(CKEQ (QUOTIENT 3 −65536)
      0)
(CKEQ (DIFFERENCE 3 65535)
      −65532)
(CKEQ (TIMES 3 65535)
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(CKEQ (PLUS 3 65535)
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(CKEQ (QUOTIENT 3 65535)
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(CKFEQ (DIFFERENCE 3 0.0)
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(CKFEQ (TIMES 3 0.0)
       0.0)
(CKFEQ (PLUS 3 0.0)
       3.0)
(CKEQ (DIFFERENCE 3 0)
      3)
(CKEQ (TIMES 3 0)
      0)
(CKEQ (PLUS 3 0)
      3)
(CKEQ (DIFFERENCE 3 3)
      0)
(CKEQ (TIMES 3 3)
      9)
(CKEQ (PLUS 3 3)
      6)
(CKEQ (QUOTIENT 3 3)
      1)
(CKFEQ (DIFFERENCE 3 −1.0)
       4.0)
(CKFEQ (TIMES 3 −1.0)
```

```
              -3.0)
      (CKFEQ (PLUS 3 -1.0)
              2.0)
      (CKFEQ (QUOTIENT 3 -1.0)
              -3.0)
      (CKEQ (DIFFERENCE 3 -1)
             4)
      (CKEQ (TIMES 3 -1)
             -3)
      (CKEQ (PLUS 3 -1)
             2)
      (CKEQ (QUOTIENT 3 -1)
             -3)
      (CKEQ (DIFFERENCE 3 2)
             1)
      (CKEQ (TIMES 3 2)
             6)
      (CKEQ (PLUS 3 2)
             5)
      (CKEQ (QUOTIENT 3 2)
             1)
      (CKFEQ (DIFFERENCE 3 1.0)
              2.0)
      (CKFEQ (TIMES 3 1.0)
              3.0)
      (CKFEQ (PLUS 3 1.0)
              4.0)
      (CKFEQ (QUOTIENT 3 1.0)
              3.0)
      (CKEQ (DIFFERENCE 3 1)
             2)
      (CKEQ (TIMES 3 1)
             3)
      (CKEQ (PLUS 3 1)
             4)
      (CKEQ (QUOTIENT 3 1)
             3)
      (CKFEQ (DIFFERENCE -1.0 -65536)
              65535.0)
      (CKFEQ (TIMES -1.0 -65536)
              65536.0)
      (CKFEQ (PLUS -1.0 -65536)
              -65537.0)
      (CKFUZZYEQ (QUOTIENT -1.0 -65536)
              1.525879E-5)
      (CKFEQ (DIFFERENCE -1.0 65535)
              -65536.0)
      (CKFEQ (TIMES -1.0 65535)
              -65535.0)
      (CKFEQ (PLUS -1.0 65535)
              65534.0)
      (CKFUZZYEQ (QUOTIENT -1.0 65535)
              -1.525902E-5)
      (CKFEQ (DIFFERENCE -1.0 0.0)
              -1.0)
      (CKFEQ (TIMES -1.0 0.0)
              0.0)
      (CKFEQ (PLUS -1.0 0.0)
              -1.0)
      (CKFEQ (DIFFERENCE -1.0 0)
              -1.0)
      (CKFEQ (TIMES -1.0 0)
              0.0)
      (CKFEQ (PLUS -1.0 0)
              -1.0)
      (CKFEQ (DIFFERENCE -1.0 3)
              -4.0)
      (CKFEQ (TIMES -1.0 3)
              -3.0)
      (CKFEQ (PLUS -1.0 3)
              2.0)
      (CKFUZZYEQ (QUOTIENT -1.0 3)
              -0.3333333)
      (CKFEQ (DIFFERENCE -1.0 -1.0)
              0.0)
      (CKFEQ (TIMES -1.0 -1.0)
              1.0)
      (CKFEQ (PLUS -1.0 -1.0)
              -2.0)
      (CKFEQ (QUOTIENT -1.0 -1.0)
              1.0)
      (CKFEQ (DIFFERENCE -1.0 -1)
              0.0)
      (CKFEQ (TIMES -1.0 -1)
              1.0)
      (CKFEQ (PLUS -1.0 -1)
              -2.0)
```

```
(CKFEQ (QUOTIENT -1.0 -1)
       1.0)
(CKFEQ (DIFFERENCE -1.0 2)
       -3.0)
(CKFEQ (TIMES -1.0 2)
       -2.0)
(CKFEQ (PLUS -1.0 2)
       1.0)
(CKFEQ (QUOTIENT -1.0 2)
       -0.5)
(CKFEQ (DIFFERENCE -1.0 1.0)
       -2.0)
(CKFEQ (TIMES -1.0 1.0)
       -1.0)
(CKFEQ (PLUS -1.0 1.0)
       0.0)
(CKFEQ (QUOTIENT -1.0 1.0)
       -1.0)
(CKFEQ (DIFFERENCE -1.0 1)
       -2.0)
(CKFEQ (TIMES -1.0 1)
       -1.0)
(CKFEQ (PLUS -1.0 1)
       0.0)
(CKFEQ (QUOTIENT -1.0 1)
       -1.0)
(CKEQ (DIFFERENCE -1 -65536)
      65535)
(CKEQ (TIMES -1 -65536)
      65536)
(CKEQ (PLUS -1 -65536)
      -65537)
(CKEQ (QUOTIENT -1 -65536)
      0)
(CKEQ (DIFFERENCE -1 65535)
      -65536)
(CKEQ (TIMES -1 65535)
      -65535)
(CKEQ (PLUS -1 65535)
      65534)
(CKEQ (QUOTIENT -1 65535)
      0)
(CKFEQ (DIFFERENCE -1 0.0)
       -1.0)
(CKFEQ (TIMES -1 0.0)
       0.0)
(CKFEQ (PLUS -1 0.0)
       -1.0)
(CKEQ (DIFFERENCE -1 0)
      -1)
(CKEQ (TIMES -1 0)
      0)
(CKEQ (PLUS -1 0)
      -1)
(CKEQ (DIFFERENCE -1 3)
      -4)
(CKEQ (TIMES -1 3)
      -3)
(CKEQ (PLUS -1 3)
      2)
(CKEQ (QUOTIENT -1 3)
      0)
(CKFEQ (DIFFERENCE -1 -1.0)
       0.0)
(CKFEQ (TIMES -1 -1.0)
       1.0)
(CKFEQ (PLUS -1 -1.0)
       -2.0)
(CKFEQ (QUOTIENT -1 -1.0)
       1.0)
(CKEQ (DIFFERENCE -1 -1)
      0)
(CKEQ (TIMES -1 -1)
      1)
(CKEQ (PLUS -1 -1)
      -2)
(CKEQ (QUOTIENT -1 -1)
      1)
(CKEQ (DIFFERENCE -1 2)
      -3)
(CKEQ (TIMES -1 2)
      -2)
(CKEQ (PLUS -1 2)
      1)
(CKEQ (QUOTIENT -1 2)
      0)
(CKFEQ (DIFFERENCE -1 1.0)
```

```
                      -2.0)
            (CKFEQ (TIMES -1 1.0)
                   -1.0)
            (CKFEQ (PLUS -1 1.0)
                   0.0)
            (CKFEQ (QUOTIENT -1 1.0)
                   -1.0)
            (CKEQ (DIFFERENCE -1 1)
                  -2)
            (CKEQ (TIMES -1 1)
                  -1)
            (CKEQ (PLUS -1 1)
                  0)
            (CKEQ (QUOTIENT -1 1)
                  -1)
            (CKEQ (DIFFERENCE 2 -65536)
                  65538)
            (CKEQ (TIMES 2 -65536)
                  -131072)
            (CKEQ (PLUS 2 -65536)
                  -65534)
            (CKEQ (QUOTIENT 2 -65536)
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            (CKEQ (DIFFERENCE 2 65535)
                  -65533)
            (CKEQ (TIMES 2 65535)
                  131070)
            (CKEQ (PLUS 2 65535)
                  65537)
            (CKEQ (QUOTIENT 2 65535)
                  0)
            (CKEQ (DIFFERENCE 2 0.0)
                  2.0)
            (CKFEQ (TIMES 2 0.0)
                   0.0)
            (CKFEQ (PLUS 2 0.0)
                   2.0)
            (CKEQ (DIFFERENCE 2 0)
                  2)
            (CKEQ (TIMES 2 0)
                  0)
            (CKEQ (PLUS 2 0)
                  2)
            (CKEQ (DIFFERENCE 2 3)
                  -1)
            (CKEQ (TIMES 2 3)
                  6)
            (CKEQ (PLUS 2 3)
                  5)
            (CKEQ (QUOTIENT 2 3)
                  0)
            (CKFEQ (DIFFERENCE 2 -1.0)
                   3.0)
            (CKFEQ (TIMES 2 -1.0)
                   -2.0)
            (CKFEQ (PLUS 2 -1.0)
                   1.0)
            (CKFEQ (QUOTIENT 2 -1.0)
                   -2.0)
            (CKEQ (DIFFERENCE 2 -1)
                  3)
            (CKEQ (TIMES 2 -1)
                  -2)
            (CKEQ (PLUS 2 -1)
                  1)
            (CKEQ (QUOTIENT 2 -1)
                  -2)
            (CKEQ (DIFFERENCE 2 2)
                  0)
            (CKEQ (TIMES 2 2)
                  4)
            (CKEQ (PLUS 2 2)
                  4)
            (CKEQ (QUOTIENT 2 2)
                  1)
            (CKFEQ (DIFFERENCE 2 1.0)
                   1.0)
            (CKFEQ (TIMES 2 1.0)
                   2.0)
            (CKFEQ (PLUS 2 1.0)
                   3.0)
            (CKFEQ (QUOTIENT 2 1.0)
                   2.0)
            (CKEQ (DIFFERENCE 2 1)
                  1)
            (CKEQ (TIMES 2 1)
                  2)
```

```
(CKEQ (PLUS 2 1)
      3)
(CKEQ (QUOTIENT 2 1)
      2)
(CKFEQ (DIFFERENCE 1.0 -65536)
       65537.0)
(CKFEQ (TIMES 1.0 -65536)
       -65536.0)
(CKFEQ (PLUS 1.0 -65536)
       -65535.0)
(CKFUZZYEQ (QUOTIENT 1.0 -65536)
           -1.525879E-5)
(CKFEQ (DIFFERENCE 1.0 65535)
       -65534.0)
(CKFEQ (TIMES 1.0 65535)
       65535.0)
(CKFEQ (PLUS 1.0 65535)
       65536.0)
(CKFUZZYEQ (QUOTIENT 1.0 65535)
           1.525902E-5)
(CKFEQ (DIFFERENCE 1.0 0.0)
       1.0)
(CKFEQ (TIMES 1.0 0.0)
       0.0)
(CKFEQ (PLUS 1.0 0.0)
       1.0)
(CKFEQ (DIFFERENCE 1.0 0)
       1.0)
(CKFEQ (TIMES 1.0 0)
       0.0)
(CKFEQ (PLUS 1.0 0)
       1.0)
(CKFEQ (DIFFERENCE 1.0 3)
       -2.0)
(CKFEQ (TIMES 1.0 3)
       3.0)
(CKFEQ (PLUS 1.0 3)
       4.0)
(CKFUZZYEQ (QUOTIENT 1.0 3)
           0.3333333)
(CKFEQ (DIFFERENCE 1.0 -1.0)
       2.0)
(CKFEQ (TIMES 1.0 -1.0)
       -1.0)
(CKFEQ (PLUS 1.0 -1.0)
       0.0)
(CKFEQ (QUOTIENT 1.0 -1.0)
       -1.0)
(CKFEQ (DIFFERENCE 1.0 -1)
       2.0)
(CKFEQ (TIMES 1.0 -1)
       -1.0)
(CKFEQ (PLUS 1.0 -1)
       0.0)
(CKFEQ (QUOTIENT 1.0 -1)
       -1.0)
(CKFEQ (DIFFERENCE 1.0 2)
       -1.0)
(CKFEQ (TIMES 1.0 2)
       2.0)
(CKFEQ (PLUS 1.0 2)
       3.0)
(CKFEQ (QUOTIENT 1.0 2)
       0.5)
(CKFEQ (DIFFERENCE 1.0 1.0)
       0.0)
(CKFEQ (TIMES 1.0 1.0)
       1.0)
(CKFEQ (PLUS 1.0 1.0)
       2.0)
(CKFEQ (QUOTIENT 1.0 1.0)
       1.0)
(CKFEQ (DIFFERENCE 1.0 1)
       0.0)
(CKFEQ (TIMES 1.0 1)
       1.0)
(CKFEQ (PLUS 1.0 1)
       2.0)
(CKFEQ (QUOTIENT 1.0 1)
       1.0)
(CKEQ (DIFFERENCE 1 -65536)
      65537)
(CKEQ (TIMES 1 -65536)
      -65536)
(CKEQ (PLUS 1 -65536)
      -65535)
(CKEQ (QUOTIENT 1 -65536)
```

```
                      0)
            (CKEQ (DIFFERENCE 1 65535)
                  -65534)
            (CKEQ (TIMES 1 65535)
                  65535)
            (CKEQ (PLUS 1 65535)
                  65536)
            (CKEQ (QUOTIENT 1 65535)
                  0)
            (CKFEQ (DIFFERENCE 1 0.0)
                   1.0)
            (CKFEQ (TIMES 1 0.0)
                   0.0)
            (CKFEQ (PLUS 1 0.0)
                   1.0)
            (CKEQ (DIFFERENCE 1 0)
                  1)
            (CKEQ (TIMES 1 0)
                  0)
            (CKEQ (PLUS 1 0)
                  1)
            (CKEQ (DIFFERENCE 1 3)
                  -2)
            (CKEQ (TIMES 1 3)
                  3)
            (CKEQ (PLUS 1 3)
                  4)
            (CKEQ (QUOTIENT 1 3)
                  0)
            (CKEQ (DIFFERENCE 1 -1.0)
                  2.0)
            (CKFEQ (TIMES 1 -1.0)
                   -1.0)
            (CKFEQ (PLUS 1 -1.0)
                   0.0)
            (CKFEQ (QUOTIENT 1 -1.0)
                   -1.0)
            (CKEQ (DIFFERENCE 1 -1)
                  2)
            (CKEQ (TIMES 1 -1)
                  -1)
            (CKEQ (PLUS 1 -1)
                  0)
            (CKEQ (QUOTIENT 1 -1)
                  -1)
            (CKEQ (DIFFERENCE 1 2)
                  -1)
            (CKEQ (TIMES 1 2)
                  2)
            (CKEQ (PLUS 1 2)
                  3)
            (CKEQ (QUOTIENT 1 2)
                  0)
            (CKFEQ (DIFFERENCE 1 1.0)
                   0.0)
            (CKFEQ (TIMES 1 1.0)
                   1.0)
            (CKFEQ (PLUS 1 1.0)
                   2.0)
            (CKFEQ (QUOTIENT 1 1.0)
                   1.0)
            (CKEQ (DIFFERENCE 1 1)
                  0)
            (CKEQ (TIMES 1 1)
                  1)
            (CKEQ (PLUS 1 1)
                  2)
            (CKEQ (QUOTIENT 1 1)
                  1])

)
```

;; Compiler error may prevent some of the above functions from getting compiled

```
(DECLARE: DONTEVAL@LOAD DONTEVAL@COMPILE DOCOPY

[MAPC (OR (FILEFNSLST (QUOTE MACROTESTAUX))
          (QUOTE (PUSH.TEST)))
      (FUNCTION (LAMBDA (X)
                  (MOVD? (QUOTE NILL)
                         X]
)
```

(PUTPROPS **MACROTESTAUX COPYRIGHT** ("Xerox Corporation" 1984 1985))

FUNCTION INDEX

VARIABLE INDEX