FORTRAN-IV
for AL/COM ◬

AL/COM Fortran IV is a SUPERIOR programming language which encompasses USASI Full Fortran and a variety of Advanced AL/COM Features. Any program congruous with the USA Standards is compatible with the AL/COM Fortran System. The additional facilities are described in the following summary:

Specification Statements

A. Storage Statements—The AL/COM Fortran System offers great flexibility in the process of allocating storage to arrays. The programmer is able to:

(1) use an infinite number of array dimensions,

(2) allocate the range of array dimensions at execution time,

(3) assign to the minimum subscript values of an array quantities which may be less than or equal to zero.

B. Type Specifications—The user is presented with a convenient method of assigning variables to a type (integer, real, etc.) through use of the IMPLICIT statement, which causes any variable not referred to in another type statement, and which has as its first character a symbol corresponding to one of those listed in the IMPLICIT statement, to be classified according to the type specified in that statement.

Input-Output Statements

A. Random Access Files—Random Access files may be read and written through use of the random read routine, RREAD, and the random write routine, RWRI.

B. Free Format—The field width portion of the numeric field codes may be omitted in I/O Formats.

C. Input/Output—Input/Output is device independent. I/O devices may be determined at run time.

D. Additional I/O Statements—The TYPE and ACCEPT commands are available for transmission of data through the TTY.

E. Octal Field Specifications—Octal fields may be defined through use of the 'O' conversion code.

Mixed Mode Arithmetic

Any type of quantity may be combined with any other type with one restriction: a complex quantity may not be combined with a double precision quantity.

Do Loop Indices

The initial, terminal, and incremental indices of a DO statement may assume negative or positive values, and the initial or terminal index may be assigned a zero value.

Additional Logical Operands

Two more logical operands are offered:
A.—Exclusive OR— .XOR.
B.—Equivalence— .EQV.

More on other side

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.TYPE SELLM.FOR SELL.FOR

SELLM.FOR  12/20/68  1611  1-30-127

00010          EXTERNAL CHANGM
00030          TYPE 50
00050          ACCEPT 100, K1,K2,K3,K4,K5,N1,N2,N3,N4
00070          I1 = K1*K2*K3*K4*K5
00090          I2 = (N2 - N1 + 1) * (N4 - N3 + 1)
00110          I3 = K1
00130          I4 = N2 - N1 + 1
00150          CALL ALLOT(CHANGM,I1,I2,I3,I4,-10,K1,K2,K3,K4,K5,
00160     1         N1,N2,N3,N4)
00190   50     FORMAT(1X,'INSERT DIMENSION VALUES FOR ARRAY1 AND
00200     1 ARRAY2')
00270  100     FORMAT(9I)
00290          STOP
00310          END




SELL.FOR  12/20/68  1611  1-30-127

00010          SUBROUTINE CHANGM(ARRAY1,ARRAY2,ARRAY3,ARRAY4,
00030     1         K1,K2,K3,K4,K5,N1,N2,N3,N4)
00050          DIMENSION ARRAY1(K1,K2,K3,K4,K5), ARRAY2(N1/N2,
00060     1      N3/N4), ARRAY3(N1/N2), ARRAY4(K1)
00070          IMPLICIT DOUBLE PRECISION(C-D)
00090   C
00110   C      ACCEPT DATA FOR ARRAY1
00150          TYPE 900
00170          DO1500 M = 1,K5
00190          DO1500 L = 1,K4
00210          DO1500 K = 1,K3
00230          DO1500 J = 1,K2
00250          ACCEPT 100,(ARRAY1(I,J,K,L,M),I=1,K1)
00270  1500    CONTINUE
00280          CARD = 3.678942399
00290          CARD = CARD + ARRAY1(1,1,1,1,1)
00310   C      ACCEPT DATA FOR ARRAY2
00330          TYPE  910
00350          DO 1600 J = N3,N4
00370          ACCEPT 100,(ARRAY2(I,J),I = N1,N2)
00390  1600    CONTINUE
00410   C
00430   C       TOTAL ARRAY1 & PRODUCE ARRAY4 & PRINT ARRAY1
00450   C
00470          DO 1700 I = 1,K1
00490          DO 1700 J = 1,K2
00510          DO 1700 K = 1,K3
00530          DO 1700 L = 1,K4
00550          DO 1700 M = 1,K5
00570  1700    ARRAY4(I) = ARRAY4(I) + ARRAY1(I,J,K,L,M)
00580          DARE = 4.896742899
00590          DARE = ARRAY4(1) + DARE
00870   C
00890   C       PRODUCE ARRAY3 THROUGH ARRAY2
00910   C
00930          DO 2000 I = N1,N2
00950          DO 2000 J = N3,N4,-N3
00970  2000    ARRAY3(I) = ARRAY2(I,J) * J + ARRAY3(I)
00990   C
01010   C       TEST VALUES OF ARRAY3 & ARRAY 4
01030   C
01050          DO 2100 I = 1,K1
01070          IF(ARRAY3(I) .EQ. ARRAY4(I) .XOR. ARRAY3(I) .EQ.
01090     1      0.)
01110     2 ARRAY3(I) = ARRAY3(I) ** 2
01130  2100    CONTINUE
01530          RETURN
01550   100    FORMAT(8F )
01560   900    FORMAT(1X,'INSERT DATA FOR ARRAY1')
01570   910    FORMAT(1X,'INSERT DATA FOR ARRAY2')
01580          END

EXIT
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