

ENCODEDKU

ENCODE PACKAGE  
 PDP-15  
 KLAUS APPEL  
 1970

LANGUAGE:

MACRO-15.

PURPOSE:

TO DO FORMAT CONVERSION FROM INTERNAL BINARY REPRESENTATION  
 TO 7-BIT-ASCII-REPRESENTATION IN THE MEMORY.

USAGE:

1

## CALLING SEQUENCE

- A) INITIATE THE CONVERSION WITH THE STATEMENT  
       CALL ENCODE (LINE(1))  
 WHICH SETS A POINTER TO THE FIRST CHARACTER IN WORD  
 LINE(1). LINE MUST BE AN ARRAY BIG ENOUGH TO CONTAIN  
 THE CONVERTED INFORMATION (5 POSITIONS PER DOUBLE-  
 WORD).
- B) CONVERT ONE VARIABLE EACH TIME WITH ANY OF  
 THE FOLLOWING STATEMENTS.
- |                       |   |
|-----------------------|---|
| CALL FMTI (K, LN)     | INTEGER VARIABLE I TO<br>FORMAT I(LN)   |
| CALL FMTJ (K, LN)     | SAME AS FMTI BUT LN SPACES<br>IF K=0  |
| CALL FMTD (K, LN)     | SAME AS FMTI BUT UNSIGNED<br>OCTAL FORMAT   |
| CALL FMTF (R, LN, ID) | REAL VARIABLE R TO<br>FORMAT F(LN). (ID)  |
| CALL FMTD (D, LN, ID) | SAME AS FMTF BUT<br>D IS A DOUBLE PRECISION<br>VARIABLE   |
| CALL FMTA (H, LN)     | ALPHANUMERIC VARIABLE<br>OR CONSTANT H TO<br>FORMAT A(LN). H IS A<br>DOUBLE WORD.                         |
| CALL FMTR (ICHR)      | ICHR INTEGER VARIABLE<br>CONTAINING ONE 7-BIT-ASCII<br>CHARACTER RIGHT JUSTIFIED                          |
| CALL FMTX (LN)        | GENERATES LN BLANK<br>POSITIONS   |
| CALL FMTS (LN)        | WILL SKIP LN POSITION<br>WITHOUT CHANGING ITS<br>EARLIER CONTENTS I.E FMTS<br>WILL ONLY MOVE THE POINTER. |

LN IS AN INTEGER CONSTANT OR VARIABLE WHICH SPECIFIES  
 THE FIELD WITH IN CHARACTERS, AND ID IS THE  
 NUMBER OF DECIMALS IN FMTF AND FMTD.  
 FOR EACH CALL THE POINTER WILL BE MOVED LN POSITIONS  
 FORWARD. THE SIZE OF LN IS ONLY LIMITED OF SPACE  
 RESERVED FOR LINE.  
 .EJECT

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SPECIAL NOTES:

A)

ALL ROUTINES.  
 IF LN<1 THE ROUTINE WILL RETURN WITHOUT ANY PROCESSING.  
 IT IS NOT POSSIBLE TO MOVE THE POINTER BACKWARD IF LN < 0

- B) IN FMTS=CALL,  
 FMTI,FMTJ  
 IF THE INTEGER IS TOO BIG FOR A FIELD OF LN POSITIONS,  
 ONLY THE LAST LN DIGITS OF THE INTEGER WILL BE STORED  
 IN THE FIELD. NO ERROR INDICATION.
- C) FMTA  
 IF LN > 5 THE LN CHARACTERS WILL BE FETCHED FROM  
 CONSECUTIVE DOUBLEWORDS H(1),H(2),.....
- D) FMTF,FMTD  
 RESTRICTIONS  
 1 -(2\*\*17) <R< 2\*\*17  
 -(2\*\*17) <D< 2\*\*17  
 2 LN > ID+1+ NUMBER OF INTEGER PLACES  
 LN > ID+ NUMBER OF INTEGER PLACES IF POSITIVE R,D  
 ONE LESS IF ID=0  
 EXCEPTION LN > ID+1 IF (R,D) IS LESS THAN 1  
 AND (R,D) GREATER OR EQUAL TO 0.
- 3 -1 < ID < 6  
 OUTPUT FORMAT  
 <SPACES>< - IF R,D NEGATIVE><INTEGER PART>  
 (<POINT><DECIMAL PART> IF ID>0)  
 IF -1 < R,D <= 0 THEN  
 <SPACES><-><POINT><DECIMAL PART>  
 IF 0 <= R,D < 1 THEN  
 <SPACES><ZERO><POINT><DECIMAL POINT>  
 IF THE NUMBER IS TOO LARGE TO FIT, OR SOME OTHER  
 VIOLATION OF THE RESTRICTIONS, THEN THE FIELD  
 IS FILLED WITH \*\*\*
- E) THERE IS A ROUTINE AVAILABLE TO SAVE AND RESET THE ENCODE  
 POINTER.  
 CALL ENCPNT (R) STORE ENCODE POINTER IN DOUBLE-  
 WORD R.  
 CALL ENCRS (R) RESET ENCODE POINTER.