

REPLACEMENT

Description.

This subroutine reads one decimal number from a card and converts it to a binary fraction. First Order.

NOTE: This routine can be used to read and scale one number if the value in 2_{24} is suitably chosen (This value must be $\geq 2 \cdot 10^{S-1}$.)

Data.

a, the fraction, punched in decimal on a card with sign (Y positive, X negative) in DEUCE column 1 and S decimal digits in DEUCE columns 2 to (S+1): decimal point between columns 2 and 3. $-2 \leq a < 2$; $S \leq 10$.

Result.

a in binary, to 30 binary places.

Failure.

If the card is not punched decimally in DEUCE columns 2 to (S+1) the subroutine stops on 2, 12-24X. (Other columns are ignored). A negative number in 2_{12} indicates double punching, a positive number indicates the columns not punched. After a single-shot the subroutine attempts to read the same card again. No failure if a does not lie in the range $-2 \leq a < 2$.

Instructions for Use.

Stores Used.	13	14	15	16	21_2	21_3
Contents at Entry.	Link	-	-	-	-	-
Contents at Exit.	-	-	-	$2 \cdot 10^{(S-1)}$	a	-
Occupies.	m.c. 0-31.					
Entry.	in m.c. 28.					
Time.	1 m.s. before Y-row single-shot, $2\frac{1}{2}$ m.s. after 9-row single shot.					
Parameters.	P_2 to P_{S+1} inclusive in m.c. 5. P_2 to P_{S+2} inclusive in m.c. 4. P_{S+2} in m.c. 18 $2 \cdot 10^{(S-1)}$ in m.c. 24.					

Clear read.

The waste instruction in m.c. 12 can be used to clear the reader; it must take more than one major cycle before obeying the next instruction (to allow division to finish).

DEUCE Subroutine No. 228 (R01/3)

D.L. 2		Track					
Card Nos. 1 - 3							
mc	A	NIS	S	D	C	W	T
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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26							
27							
28							
29							
30							
31							

Read one decimal fraction

