

UNIVERSITY OF ILLINOIS  
DIGITAL COMPUTER

LIBRARY ROUTINE P 2 - 52

TITLE Print A with or without sign to n places as determined  
by a program parameter.  
TYPE Closed with one program parameter  
NUMBER OF WORDS 18  
TEMPORARY STORAGE 1 word at 0  
DURATION Determined by punch speed  
READ AROUND Negligible  
PARAMETERS The routine is called into use by

p	50 nF	OR	p	J0 nF
	50 pF			50 pF
p + 1	26 qF		p + 1	26 qF

DESCRIPTION

according as a sign is or is not required.  
This routine will print a sign if the parameter is  
50 nF or omit it if parameter is J0 nF. It will then  
round off and punch the first n places of A followed  
by 2 spaces.

DATE	<u>12/3/53</u>	Rt:	<u>6/4/58</u>
PROGRAMMED BY	<u>D. Wheeler</u>		
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LOCATION	ORDER		NOTES	PAGE 1
0	40 F L1 16L			
1	S4 ( )L 46 1L	By 1 and 13	Address is used as a counter	
2	42 14L 36 6L			
3	L5 F 36 5L			
4	92 706F <u>22</u> 5L	- sign	Print sign if desired	
5	92 642F 00 2F	+ sign From 4		
6	J0 8L 7J 17L	From 2	Calculate round off = $1/2 \times 10^{-n}$	
7	42 8L 22 8L		$2^{-1} \times 2^{-(\log_{10} 2^2) \times n} = 2^{-1} \times$	
8	00 63F 19 ( )F	By 7		
9	L6 F 10 39F		roundoff	
10	75 15L 00 36F	From 10	Print one digit	
11	82 4F 10 40F			
12	L5 1L L0 16L		Count n digits	
13	46 1L 36 10L			
14	92 965F <u>22</u> ( )F	Link	Spaces	
15	00 F 00 10F		$10 \times 2^{-39}$	
16	S4 1F 00 1023F		Unit of Count	
17	00 1F K9 1000F		Constant = $\log_2 10 \times 2^{-20}$	