



INTEROFFICE MEMORANDUM

M-1096

DATE January 19, 1961

SUBJECT MULTIPLY SUBROUTINE¹

TO PDP Distribution List

FROM Computer Division

,MULTIPLY SUBROUTINE
 ,
 ,
 ,
 ,if mpy is called the answer returned is a sign and 34 bits and a sign
 ,in the AC-IO.
 ,if i-mpy is called the answer is a sign and 17 bits in the AC - the
 ,bits are the low 17 of the product

lac one-factor
 jda mpy or i-mpy
 lac other-factor
 R,

ext i-mpy

org i-mpy
 loc
 dap i-mpy & 2

xct
 jda mpy
 idx i-mpy & 2

lac i-mpy

rir s1
 rcr s9
 rcr s9
 jmp * i-mpy & 2

ext mpy

loc, temporary storage
 0

dap mpy & 7
 lac mpy

spa
 cma
 rcr s9
 rcr s9

xct
 spa
 cma
 dac mpy - 1
 cla
 mus mpy - 1
 mus mpy - 1
 mus mpy - 1

```
mus mpy - 1  
mus mpy - 1  
mus mpy - 1  
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mus mpy - 1  
mus mpy - 1  
mus mpy - 1  
mus mpy - 1  
  
dac mpy - 1  
xct mpy & 7  
xor mpy  
sma  
jmp mpy & 52  
lac mpy - 1  
cma  
rcr s9  
rcr s9  
cma  
rcr s9  
rcr s9  
dac mpy - 1  
idx mpy & 7  
lac mpy - 1  
jmp * mpy & 7  
jmp end
```

1. Acknowledgment

The above library subroutine has been written for the PDP-1 by Bolt, Beranek and Newman, Cambridge, Massachusetts.