Identification.

DC--Desk Calculator
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Purpose.

DC performs the functions of a ten-key desk calculator. In addition, it has a small memory and variable radix input/output.

Usage

RESUME DC

initiates the calculator; when ready to accept the first request, DC types "Go". No further responses will be typed by DC unless it is asked to print a result or an illegal request is given. Successive requests are separated by new-line characters. All blanks are ignored. DC maintains one result register, called "A" here. The following requests modify the contents of "A" as shown: ("n" is any integer)

typed request		computation performed	
=n		A = n	initialize "A" with "n"
+n		A = A + n	add "n" to "A"
-n		A = A - n	subtract "n" from "A"
*n		A = A * n	multiply "A" by "n"
/n		A = A / n	divide "A" by "n"
%n		A = n / A	divide "n" by "A"
p			print out contents of "A"

Eight storage cells, named s, t, u, v, w, x, y, and z, may also be used as operands in the above requests by replacing the integer "n" with the name of a storage cell. A value may be stored in a storage cell by
        x=n
where storage cell "x" receives the value of "n". "x" may of course be any of the eight storage cell names. If "n" is omitted the value of "A" is used. Storage cell "s" is used as the radix for input/output conversion. It initially contains ten. "s" must be in the range from two to ten, inclusive. To print storage cell "x",
        p x

There is one additional request:
        q
will return the user to CTSS command level.

All computations are done with MAD integers, giving about ten digit precision when the radix is ten.

Examples.

1. Sum two columns of figures, then divide first sum by second.

```
RESUME DC              Command typed.
W 2347.1               CTSS response.
Go                     Response from desk calculator.
=0                     Make sure "A" contains zero to start.
+214                   Add first column.
+27                      ..
+818                     ..
p                      Request result be printed.
1059                   (DC types result.)
                       (DC types blank line.)
x=                     Save result in cell "x".
=0                     Reset "A" to zero for second addition
+14                    Form second sum.
+23                      ..
+79                     ..
p                      Print result.
116                     ..
                        ..
%x                     Read "%" as "divide 'A' into".
p                      If we had summed second column first, we
9                      would have used "/x" instead.
                       Note result of division was truncated
q                      to next lower integer.
*                      "*" means command is finished.
R .316+2.616           Back at command level.
```

2. Perform computation on octal numbers, print result in octal
and decimal.

```
s=8                    Set radix to octal.
=0                     Set A to zero.
+17747                 Add first octal number,
+3647                  then add second.
/117                   Now divide by a third one.
p                      Print result.
200                    (Octal response from DC.)

s=12                   Set radix back to decimal.
p                      print result.
128                    (Decimal response from DC.)
```