516 - 70
RFG
11/29/72

Bell Laboratories

subject: Routines to Perform Character String I/O in a FSNAP Program

date: November 27, 19

from: R. F. Garcia

MEMORANDUM FOR RECORD

This memorandum describes the usage of two FSNAP[1] callable subroutines, called FILINE and FOLINE, to perform character string I/O. A sample listing of a FSNAP program which uses these subroutines is included at the end of this paper.

FILINE requires as argument the name of a dimensioned variable. When called, FILINE accepts a character string terminated by a carriage return from the user's terminal and stores their decimal value in the argument array, one character per element. Normally the carriage return will appear in the array; thus the program can detect if the array size was long enough to hold the input string, or if text truncation occurred. Three characters are treated as special characters and may not be used as part of the text: The @ sign signifies delete previous character. Control x signifies delete line and Control C signifies the escape to executive.

FOLINE takes as argument the name of the array where the characters are stored in decimal equivalent form. The second argument is optional; if given, it is the file code of a currently open (by means of "WRITE(6)" where 6 is the file code)

output file where the output will be sent. Note that file code 0 is treated as the terminal. The third argument is also optional; if given, it is the termination character in decimal equivalent form. By default the termination character is a carriage return. If the termination character is a carriage return, a line feed is also output to maintain file format compatibility.

FOLINE will output characters from the array until one of the following conditions is met:

a) A termination character was encountered.

b) All the characters in the array have been output.

c) An undefined array element was encountered.

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REFERENCE

1. FSNAP User's Guide, Heinz Lycklama, Document 516-51, September 29, 1971.

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DEPT. 2223 TSS

USR? RUDY

SYS? PRINT,LINETEST

\PRØGRAM TØ ACCEPT INPUT FRØM TERMINAL AND ECHØ THE INPUT TEXT
\BACK TØ THE TERMINAL.
  IF THE TEXT STRING IS "EXIT" STØP PRØGRAM EXECUTIØN.
  IF THE TEXT STRING IS "FILE" ØUTPUT SUBSEQUENT LINES TØ A FILE.
  IF THE TEXT STRING IS "TTY" REVERT TØ ECHØING TEXT TØ THE TERMINAL.
\
      DIM ARRY(30)  \ARRAY DIMENSIØNED FØR 30 CHARACTER LINES.
\DEFINE VALUE ØF SPECIAL STRINGS.
      EXIT=$E +100*$X +10000*$I +10↑6*$T
      FILE=$F +100*$I +10000*$L +10↑6*$E
      TTY=$T +100*$T +10000*$Y +10↑6*13
\WHERE 13 IS THE DECIMAL EQUIVALENT ØF CARRIAGE RETURN.

      SWITCH=0  \0 FØR TERMINAL ØUTPUT. 1 FØR FILE ØUTPUT.
\
\WRITE ACCESS THE FILE.
      WRITE(1)
\
\TYPE PRØMPT AND INPUT LINE.
  5   TYPE !"* "
      CALL FILINE(ARRY)
\
\TRY TØ DECØDE 1ST. FØUR CHARACTERS.
      STRING=ARRY(1)+100*ARRY(2)+10000*ARRY(3)+10↑6*ARRY(4)
      IF(STRING=EXIT)STØP
      IF(STRING=FILE)GØTØ 50
      IF(STRING=TTY)GØTØ 100
\
\ØUTPUT TEXT STRING.
      TYPE !    \ØUTPUT C-RET. LINE FEED
      IF(SWITCH=0)CALL FØLINE(ARRY)
      IF(SWITCH=1)CALL FØLINE(ARRY,1)
\
\GET MØRE TEXT.
      GØTØ 5

SET SWITCH FØR FILE ØUTPUT.
  50  SWITCH=1
      GØTØ 5
\
\SET SWITCH FØR TERMINAL ØUTPUT.
  100 SWITCH=0
      GØTØ 5

SYS?
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)S? FSNAP,LINETEST

FSNAP- G

ØUTPUT FILE     1?EXAMPLE

* THIS LINE SHØULD BE TYPED BACK.
THIS LINE SHØULD BE TYPED BACK.
* NØTICE THAT "." WAS LØST.
NØTICE THAT "." WAS LØST.

* DUE TØ TRUNCATIØN.
DUE TØ TRUNCATIØN.

* THE AMPERSAND DEPE@@LETES CHARS.
THE AMPERSAND DELETES CHARS.

* CØNTRØL X DELETES THE LINE LIKE THIS:CØNTRØL X WAS TYPED AFTER ":"
CØNTRØL X WAS TYPED AFTER ":"

* FILE
* THIS SHØULD GØ ØN THE FILE

* NAMED EXAMPLE.

* 1234567890

* TTY
* THIS LINE IS THE END.
THIS LINE IS THE END.

* EXIT
FSNAP- X


SYS? PRINT,EXAMPLE

THIS SHØULD GØ ØN THE FILE
NAMED EXAMPLE.
1234567890


SYS? Q

BYE
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