Paul Glassco

LANGUAGE SYSTEM:
INTERIM COMMAND LANGUAGE

THIS DOCUMENT DESCRIBES THE "MICRO-COMMAND" INTERFACE
TO THE LANGUAGE SYSTEM. THE FULL-BLOWN COMMAND LANGUAGE WILL
COMPLETELY REPLACE THE ONE DETAILED HERE, SO THIS DOCUMENT IS
TEMPORARY ONLY.

COMMANDS

THE GENERAL FORM OF ALL COMMANDS IS:
          <ACTION> (<PARAMETER>)*
WHERE THE ACTION IS A TWO LETTER CODE, AND THE PARAMETERS ARE
SEPARATED FROM EACH OTHER AND FROM THE ACTION BY BLANKS.
TRAILING PARAMETERS MAY BE OMITTED IN MANY CASES.
IN PARTICULAR:
        A) AN OMITTED LINE POINTER IS TAKEN TO BE THE "CURRENT"
           POINTER.
        B) AN OMITTED LINE ADDRESS IS TAKEN TO BE THE "CURRENT"
           LINE (I.E. POINTED TO BY "CURRENT" POINTER.)

LINE ADDRESSES

    SYNTAX:

        LINEADDRESS = ABS [RELLIST]

          ABS = POINTER ! '/' FUNCTION '/'

            FUNCTION = IDENTIFIER

            IDENTIFIER = LETTER ! IDENTIFIER (LETTER ! DIGIT)

          RELLIST = REL [RELLIST]

            REL = ['+' ! '-'] TARGET

              TARGET = INTEGER ! '"' STRING '"' ! ':' LABEL ':'

                LABEL = STRING

                STRING = CHAR [STRING]

                INTEGER = DIGIT [INTEGER]

          POINTER = ['A' ! 'B' ! 'C' ! 'D']

SEMANTICS:

AS SHOWN IN THE SYNTAX ABOVE, A LINE ADDRESS CONSISTS
OF AN ABSOLUTE ADDRESS, FOLLOWED BY AN OPTIONAL SEQUENCE
OF RELATIVE ADDRESSES. EVALUATION CONSISTS OF STARTING AT
THE ABSOLUTE ADDRESS, AND MAKING THE SEQUENCE OF RELATIVE
MOVES SPECIFIED BY THE RELATIVE ADDRESSES.
AN ABSOLUTE ADDRESS IS EITHER A BLOCK NAME (FUNCTION
NAME OR "GLOBALS") MEANING THE FIRST LINE OF THAT BLOCK,
OR A POINTER NAME, MAENING THE LINE POINTED TO BY THAT POINTER
(SEE BELOW ABOUT POINTERS.)
A RELATIVE ADDRESS SPECIFIES A DIRECTION TO SEARCH IN
("+" = FORWARD, "-" = BACKWARD; DEFAULT = "+"), AND A
TARGET TP SEARCH FOR. THE TARGET MEY BE AN INTEGER DISPLACEMENT,
OR A CONTEXT SEARCH EITHER FOR AN ARBITRARY STRING, OR
FOR A LABEL.

LINE POINTERS

LINE POINTERS ARE NAMED VARIABLES IN THE LANGUAGE SYSTEM
WHICH CAN BE USED TO REMEMBER EVALUATED LINE ADDRESSES.
POINTERS REMAIN VALID THROUGH INSERTIONS/DELETIONS OF TEXT
AT PREVIOUS POINTS IN THE PROGRAM. A POINTER IS SET TO "NULL"
IF IT HAS NEVER BEEN SET TO ANY OTHER VALUE, OR IF THE LINE
IT POINTED TO HAS BEEN DELETED. THERE ARE CURRENTLY FIVE
LINE POINTERS IN THE LANGUAGE SYSTEM, NAMED "A", "B", "C",
"D", AND "" (I.E. THE CURRENT POINTER). ANY POINTER CAN
BE SET USING THE MOVE-POINTER ("MV") MICRO-COMMAND. IN
ADDITION, THE CURRENT POINTER IS SET BY VARIOUS OTHER COMMANDS.
(SEE INDIVIDUAL COMMAND WDESCRIPTIONS.

NP ("NEW PROGRAM")

    P1: PROGRAM NAME (<5 CHARACTERS)

    CLOSES THE CURRENT PROGRAM (IF ANY) AND CREATES THE
NAMED PROGRAM AS THE NEW CURRENT PROGRAM. MAKES NEW TEXT,
CODE, AND DEBUG SEGMENTS (I.E. 940 DRUM FILES)
SETS CURRENT POINTER TO FIRST LINE OF GLOBAL BLOCK.

SP ("SELECT PROGRAM")

    P1: PROGRAM NAME (<5 CHARACTERS)

    CLOSES THE CURRENT PROGRAM (IF ANY) AND SELECTS THE
NAMED PROGRAM AS THE NEW CURRENT ONE. LOOKS FOR EXISTING
TEXT, CODE, AND DEBUG SEGMENTS.
SETS CURRENT POINTER TO FIRST LINE OF GLOBAL BLOCK.

DP ("DELETE PROGRAM")

    DELETES THE CURRENT PROGRAM. DESTROYS THE TEXT, CODE, AND DEBUG
SEGMENTS. AFTER THIS COMMAND, THERE IS NO CURRENT PROGRAM. (SAME
STATE AS AT INITIAL ENTRY.)

CP ("COMPILE PROGRAM")

    CAUSES COMPILATION OF ANY BLOCK WHOSE CODE IS INVALID.
CURRENTLY, THIS IS THE ONLY WAY TO INVOKE THE COMPILER.

SI ("SET INVALID")

    CAUSES ALL CODE FOR THE PROGRAM TO BE CONSIDERED INVALID.
(I.E. IN NEED OF RECOMPILATION)

ET ("ENTER TEXT")

    CAUSES ALL FOLLOWING LINES (THROUGH ONE ENDING WITH CTRL-U)
TO BE PLACED IN THE TEXT-BUFFER. COMPLAINS IF THE TEXT BUFFER
FILLS UP.

MT ("MODIFY TEXT")

    CAUSES THE LINES IN THE TEXT BUFFER TO BE MODIFED BY THE
LINE EDITOR. LINE EDITING WILL BE DONE FOR EACH LINE IN THE
BUFFER, OR UNTIL A LINE IS TERMINATED WITH CTRL-U, WHICH
WILL CAUSE THE REMAINING LINES TO BE RETAINED UNCHANGED.

    NOTE: TEMPORARY RESTRICTION -- CURRENTLY, ONLY ONE LINE
AT A TIME MAY BE MODIFIED. IF MORE THAN ONE LINE IS IN
THE TEXT BUFFER WHEN 'MT' IS DONE, AN ERROR MESSAGE IS PRINTED.

TT ("TYPE TEXT")

    CAUSES ALL LINES IN THE TEXT-BUFFER TO BE TYPED OUT.

LT   ("LOAD TEXT")

    P1: LINE ADDRESS
    P2: LINE ADDRESS

    CAUSES ALL LINES BETWEEN P1 AND P2 (INCLUSIVE) TO BE
LOADED INTO THE TEXT BUFFER. THE ORIGINAL LINES IN THE
TEXT SEGMENT ARE NOT AFFECTED. COMPLAINS IF THE TEXT BUFFER
FILLS UP OR IF THE POINTERS ARE NOT ARRANGED REASONABLY:
    A) P1 OR P2 IS NULL
    B) P2 POINTS BEFORE P1
    C) P1 AND P2 POINT TO DIFFERENT FUNCTIONS
SETS CURRENT POINTER TO FIRST LINE LOADED.

DT   ("DELETE TEXT")

    P1: LINE ADDRESS
    P2: LINE ADDRESS

    CAUSES ALL LINES BEWTEEN P1 AND P2 (INCLUSIVE) TO BE
DELETED FROM THE TEXT SEGMENT, AND ALSO LOADED INTO
THE TEXT BUFFER. COMPLAINS AS IN THE 'LT' COMMAND. IF ALL LINES
IN A FUNCTION ARE DELETED, THE FUNCTION ITSELF GOES AWAY. (THIS
MAY NOT BE DONE TO THE GLOBAL BLOCK.)
SETS CURRENT POINTER TO NULL.

IT ("INSERT TEXT")

    P1: LINE ADDRESS

    INSERTS THE CONTENTS OF THE TEXT BUFFER BEFORE THE LINE
POINTED TO BY P1.
SETS CURRENT POINTER TO P1.

AT ("APPEND TEXT")

    P1: LINE ADDRESS

    APPENDS THE CONTENTS OF THE TEXT BUFFER AFTER THE LINE
POINTED TO BY P1.
SETS CURRENT POINTER TO P1.

AF ("APPEND FUNCTION")

    P1: LINE ADDRESS

    APPENDS THE CONTENTS OF THE TEXT BUFFER AS A NEW FUNCTION
AFTER THE FUNCTION (CONTAINING THE LINE) POINTED TO BY P1.
LEAVES "CURRENT" POINTER AT FIRST LINE OF APPENDED FUNCTION.
THERE IS NO "INSERT FUNCTION" COMMAND.

MV ("MOVE POINTER")

    P1: LINE ADDRESS
    P2: LINE POINTER

    MOVES THE POINTER P2 TO THE LINE P1. IF THE COMMAND FAILS,
(E.G. CONTEXT SEARCH), P2 IS UNAFFECTED. REFERENCES IN P1 TO POINTER
P2 REFER TO ITS VALUE AT THE START OF THE COMMAND.

TS   ("TYPE SEGMENT")

     P1:SEGMENT CODE

     TYPES (IN OCTAL) THE CONTENTS OF THE CURRENT PROGRAM'S
TEXT SEGMENT (P1 = 'T'), CODE SEGMENT (P1 = 'C'), OR DEBUG
SEGMENT (P1 = 'D'). ONLY NON-ZERO WORDS ARE TYPED.

EX   ("EXIT")

     RETURNS TO QRUN.