

Instead of background compiles WINZOS uses a foreground compile panel.
 This would replace zOS ISPF Option 5 and / or zOS ISPF Option 4.
 Key "C" in the Option - Press Enter

```

Screen : ZOSPD195
----- WINZOS Primary Option Menu Version 7.E -----
Option ==> C
          Z/OS SIMULATION USING THE WINDOWS OPERATING SYSTEM

0 Settings      Terminal and WINZOS user parameters   Date. . . : 01/23/25
1 Browse        Display source data or listings      Time. . . : 11:34
2 Edit          Create or edit source programs      Terminal. : 3278-2
3 Utilities     Perform utility functions          PF Keys.  : 12
4 C Cobol Compile Foreground COBOL compile / link   Language. : English
5 P Set Project Project setting for debug / execute  Appl ID.  : ISR
6 E Extensions  User defined functions / processes   TSO logon.: EXAMPLES
7 6 Windows CMD Execute Windows Commands          System ID : WINZOS
8 S SDSF        SDSF Panels                          Release.  : 7.E
9 T Trans Manager CICS Execute / Resource definitions (FCT,PPT,etc.)
X Exit          Terminate WINZOS using log/list defaults
                                     Released.  : JAN 15 2025

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URL:  https://www.WinCOBOL.com
Email: development@www.WinCOBOL.com
Ready
  
```

The compile panel is displayed. The Project is EXAMPLES (provided with the install)
 Instead of keying a member WINZOS will display the PDS members in EXAMPLES.Z.COBOL
 Press Enter

```

Screen : ZOSPD195
ISRFP02----- WINZOS COBOL Compile -----
COMMAND ==>
M ->COMPILE E ->EDIT V ->LISTING Z ->EBCDIC A ->ANIMATE R ->RESTORE ASCII
    Use the ENTER KEY to display the member list
COMPILER ==> G          GNUCOBOL Micro Focus / Fujitsu require license fees

PROJECT ==> EXAMPLES          EBCDIC ==> Y
GROUP ==> Z                   PREPROCESSOR OPTIONS ==> A
TYPE ==> COBOL                (C CICS S SQL A Dynamic M Member )
MEMBER ==>                     SYMBOL / PARSE TREE ==> Y
OTHER DATA SET NAME ==> Z.COBOL

SYSLMOD OVERRIDE DSN ==>
COBOL COMPILER: ==> ZOS

COBOL OPTIONS: ==> --DEBUG -O(0) -FSIGN=EBCDIC
==>
==>
==>

COPYBOOK LIBRARIES:
==>
==>
==>
==>

Ready
  
```

"S or E" in FX will edit the member

"M" will compile the member for normal execution, that is no animation

"Z" will compile the member to interact with EBCDIC datasets (more on "Z" later in a follow up doc)

Key "A" in FX AGROUP - Press Enter - This will compile and build the animation interface

```
Screen : ZOSPD195
COMPILER:----- PDS SERVICES -----
COMMAND ==>
----- UPDATED ----- COMPILED --- PREPROC
FX NAME  RENAME  MODLV  CREATED  --DATE-- --TIME-- --DATE-- --TIME-- C S D
- A1CALLED      6 24/05/16 05/17/20 12:57:15 24/06/28 22:50:31
- A1CALLER     12 24/05/16 05/30/20 10:17:00 24/06/24 14:51:27
- A2CANIM       4 24/03/28 03/28/20 13:53:33 24/03/28 14:56:36
- ACCT00        5 22/06/02 11/10/20 12:08:06 24/10/22 10:55:06
- ACCT01        4 23/04/30 10/26/20 21:04:50 24/10/22 10:55:13
- ACCT02        1 23/01/28 -----
- ACCT13        2 23/11/01 11/01/20 22:25:44 -----
A AGROUP       101 24/05/27 01/11/20 15:58:33 25/01/23 11:33:47
- ARTBATCH      2 22/02/22 02/22/20 17:51:12 24/11/18 11:28:13
- AVARYSEQ     154 23/11/02 12/16/20 22:14:48 25/01/21 12:03:31
- AWRITE1       3 24/11/27 12/10/20 21:57:42 25/01/22 11:13:40
- AWRITEBC     171 24/10/27 01/16/20 15:04:31 25/01/21 12:00:54
- E5            25 23/09/13 06/26/20 15:59:53 25/01/10 16:44:26
- E6            24 23/09/18 07/25/20 21:36:31 24/07/28 18:21:27
- E7            7 23/10/06 10/29/20 14:16:28 23/11/12 17:02:10
- EBCDEMO1     14 23/09/19 09/08/20 23:14:53 24/10/22 12:47:21
- EBCREAD      17 24/09/25 12/06/20 17:07:01 24/12/06 17:08:04
- EBCTEST      17 24/07/28 10/16/20 18:58:27 24/10/16 16:58:56
- EBCWRITE     29 24/09/29 11/06/20 16:57:46 24/11/06 16:58:21
- MAKEVSAM     7 23/09/29 09/29/20 11:05:58 24/08/02 21:33:00
Ready
```

The compile with animation ended with return code 0

Using the express feature of ISPF key "=2" on the command line.

The =2 on the command line will display the ISPF Edit Panel

```
Screen : ZOSPD195
COMPILER:----- PDS SERVICES -----
COMMAND ==> =2
----- UPDATED ----- COMPILED --- PREPROC
FX NAME  RENAME  MODLV  CREATED  --DATE-- --TIME-- --DATE-- --TIME-- C S D
- A1CALLED      6 24/05/16 05/17/20 12:57:15 24/06/28 22:50:31
- A1CALLER     12 24/05/16 05/30/20 10:17:00 24/06/24 14:51:27
- A2CANIM       4 24/03/28 03/28/20 13:53:33 24/03/28 14:56:36
- ACCT00        5 22/06/02 11/10/20 12:08:06 24/10/22 10:55:06
- ACCT01        4 23/04/30 10/26/20 21:04:50 24/10/22 10:55:13
- ACCT02        1 23/01/28 -----
- ACCT13        2 23/11/01 11/01/20 22:25:44 -----
AGROUP       101 24/05/27 01/11/20 15:58:33 25/01/23 11:33:47
- ARTBATCH      2 22/02/22 02/22/20 17:51:12 24/11/18 11:28:13
- AVARYSEQ     154 23/11/02 12/16/20 22:14:48 25/01/21 12:03:31
- AWRITE1       3 24/11/27 12/10/20 21:57:42 25/01/22 11:13:40
- AWRITEBC     171 24/10/27 01/16/20 15:04:31 25/01/21 12:00:54
- E5            25 23/09/13 06/26/20 15:59:53 25/01/10 16:44:26
- E6            24 23/09/18 07/25/20 21:36:31 24/07/28 18:21:27
- E7            7 23/10/06 10/29/20 14:16:28 23/11/12 17:02:10
- EBCDEMO1     14 23/09/19 09/08/20 23:14:53 24/10/22 12:47:21
- EBCREAD      17 24/09/25 12/06/20 17:07:01 24/12/06 17:08:04
- EBCTEST      17 24/07/28 10/16/20 18:58:27 24/10/16 16:58:56
- EBCWRITE     29 24/09/29 11/06/20 16:57:46 24/11/06 16:58:21
- MAKEVSAM     7 23/09/29 09/29/20 11:05:58 24/08/02 21:33:00
Ready
```

Press enter to display the PDS / PDSE members of EXAMPLES.Z.CNTL

```
Screen : ZOSPD195
----- EDIT DATASET PANEL -----
COMMAND ===>

ISPF LIBRARY:
PROJECT ===> EXAMPLES
LIBRARY ===> Z
TYPE ===> CNTL
MEMBER ===>

OTHER PARTITIONED OR SEQUENTIAL DATA SET:
DATA SET NAME ===>

Ready
```

The member list of the Z.CNTL PDS is displayed

Key an "S or E" in front of AGROUP

Press Enter

The edit dialog of EXAMPLES.Z.CNTL(AGROUP) will be displayed

```
Screen : ZOSPD195
ISRFPM----- EDIT SELECTION PANEL ----- ROW 1 OF 70
COMMAND ===> SCROLL===> HALF

NAME      STATUS  MODLV  CREATED  --- UPDATED ---  --- COMPILED ---  PREPROC
--DATE-- --TIME-- --DATE-- --TIME--  C S D
A1CALLER  0002   24/05/16 24/05/16 16:01:55  -----
AAA       0002   24/01/02 24/11/23 14:36:14  -----
AGDG      0002   23/09/14 24/01/23 22:38:01  -----
AGDGTST   0004   23/09/28 24/01/23 22:50:28  -----
S AGROUP  0008   24/05/27 24/11/12 15:06:47  -----
AIX5      0001   23/10/07  -----
AIX6      0001   22/02/26  -----
AIX7      0001   22/01/12  -----
AIXTEST   0001   23/09/23  -----
AIXTEST8  0001   22/02/13  -----
AREADEBC  0007   24/11/09 24/11/12 15:53:56  -----
ATESTVSM  0001   22/01/16  -----
AVARYSEQ  0022   23/12/27 24/09/29 23:40:11  -----
AVSMPRT   0001   22/01/09  -----
AWRITEBC  0002   24/10/27 24/10/27 18:25:36  -----
BGROUP    0001   25/01/01  -----
CATALPDS  0001   23/09/18  -----
CATALSEQ  0001   23/09/15  -----
CATLGMBR  0001   23/07/30  -----

Ready
```

To invoke animation of a JCL member - "DEBUG" on the command line
Press Enter

```
Screen : ZOSPD195
PD405_EDIT:==>-C:\WINZOS\JCL\AGROUP.JCL----- COLS 00001 00072
COMMAND ==> DEBUG SCROLL ==> HALF
***** TOP OF DATA *****
0000001 //AGROUP JOB 'WINZOS',CLASS=A,MSGCLASS=A
0000002 //STEP10F1 EXEC PGM=AGROUP,PARM='ABCDEFGHIJ'
0000003 /*
***** BOTTOM OF DATA *****
Ready UNDO= 0 R 02 C
```

The animation of program AGROUP is started

```
Screen : ZANIMK
ZANIM1:====>\WINZOS\LOADLIB\AGROUP.IBZ----- COLS 00001 00072
COMMAND ==> _ SCROLL ==> HALF
- 000140 MOVE
- 000141 'PAGO PROCESADO CON LA INFORMACI#N DE FACTURACI#N'
- 000142 TO TEXT-SPANISH
- 000143 DISPLAY TEXT-SPANISH
- 000144 DISPLAY TEXT-GERMAN
- 000145 MOVE '1' TO DO-NOTHING
- 000146 MOVE '1' TO DO-NOTHING
- 000147 DISPLAY TEXT-SPANISH
- 000148 MOVE 456.78 TO Z117
- 000149 MOVE 2 TO J
- 000150 MOVE 1 TO I
- 000151 MOVE 567 TO ZCOMP4 (J)
- 000152 SET IX1 TO 2
- 000153 MOVE 456 TO ZCOMP4 (I)
- 000154 MOVE 789 TO ZCOMP4 (1)
- 000155 MOVE SPACES TO WORKING2
- 000156 STRING
- 000157 WORKING1 DELIMITED BY SIZE
- 000158 INTO
- 000159 WORKING2.
- 000160 PERFORM VARYING IDS FROM 1 BY 1 UNTIL IDS > 20
- 000161 MOVE IDS TO SM1 (IDS)
- 000162 END-PERFORM
- 000163 MOVE 'SSSSS' TO SM1 (06).
- 000164 MOVE '1' TO DO-NOTHING
- 000165 MOVE '1' TO DO-NOTHING
- 000166 MOVE 785 TO Z115.
- 000167 ADD 1 TO Z116
- 000168 ADD 1 TO Z111
- 000169 ADD 1 TO Z112
ANIMATING KEY:<S>tep <H>elp <E>Command <Z>oom <0-2> <Q>uiet <A>nim <I>ntUp
```

Notice the KEY: on the animation panel (last line after statement 169)

"S" is Step to the next instruction

"E" is enter command Mode

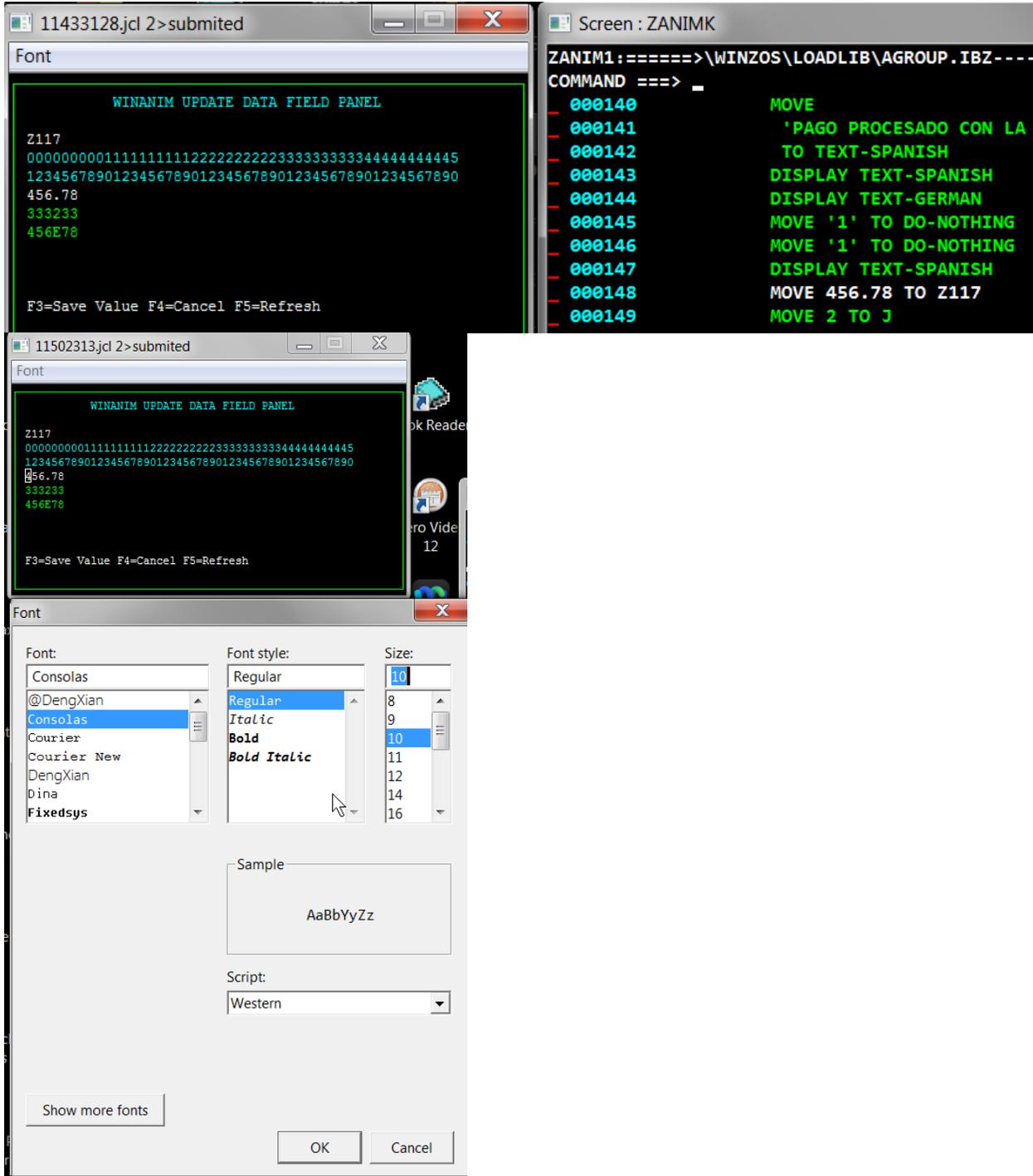
"H" will display a help panel

Animation responds to commands indicated on the Animation KEY:

Use "S" to step to statement 148 (S S S S S . . .)

Place the mouse cursor over Z117 - Click the mouse

Then press the "N" key

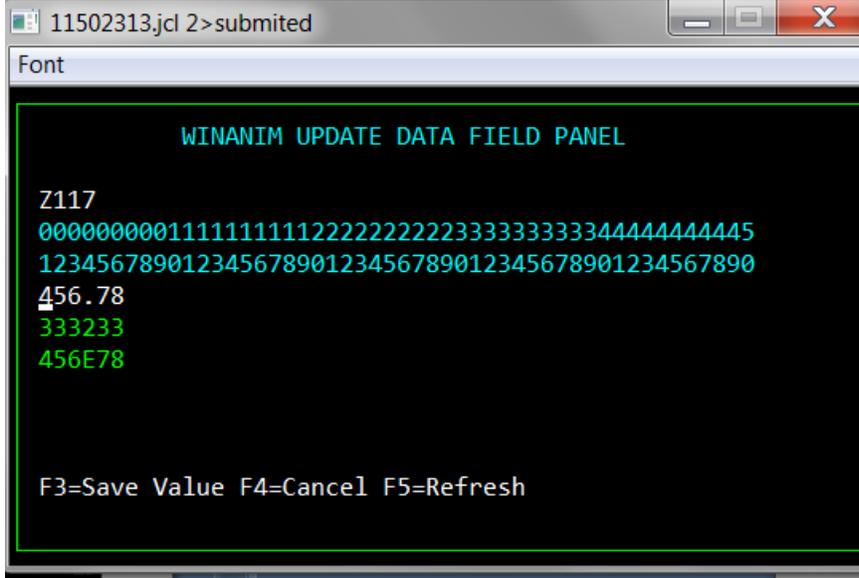


Animator displays the current value of the data field Z117

The font used for this panel can be changed - place the mouse on font - "Click"

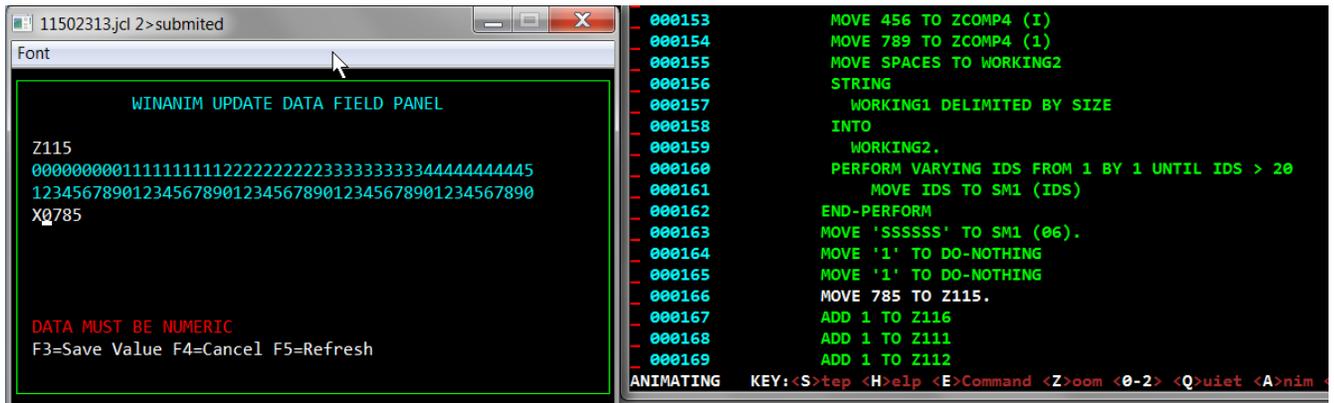
Select fonts and size from the dialog.

"Consoles" differs the display of zero and "0" - zeros are "slashed"
 The Display / Update panel using a font of CONSOLAS, size "10"



Key a new value then press F3
 OR- Pressing F4 will discard any changes
 Either returns to the animation process

"S" (step) down to statement 166
 Move the mouse cursor to statement 166 - "Click" on Z115
 Then press the "N" key
 Entering data that is not numeric in to a COMP, COMP-3, or NUMERIC USAGE Display is rejected

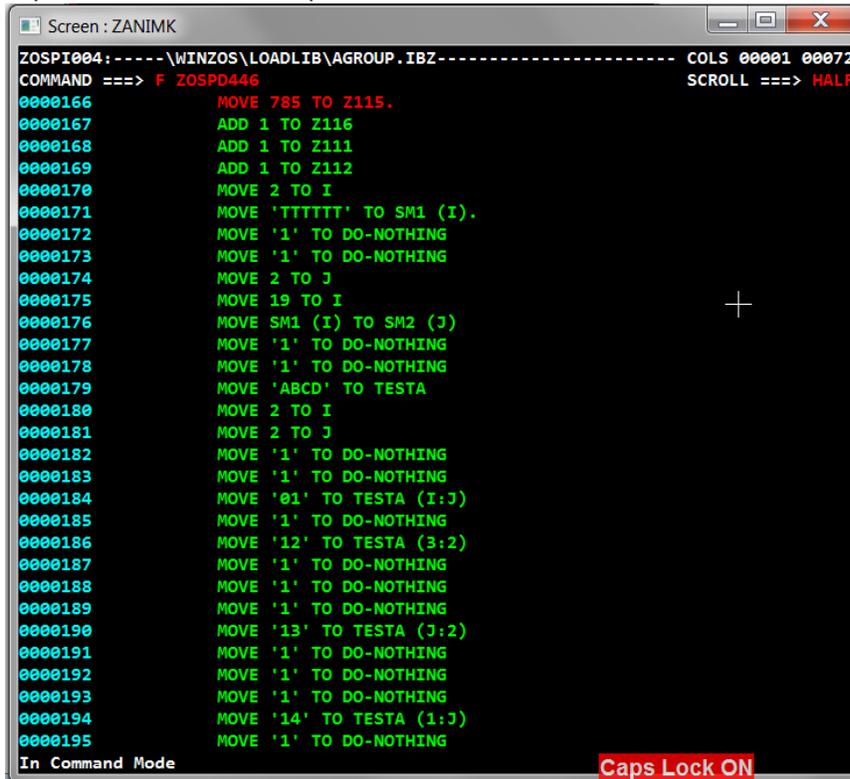


F3 will save the data keyed
 F4 will discard any update made
 F5 will refresh the display to the initial data received

Press "E" to enter **Command Mode**

Notice that animator is now in Command Mode (as opposed to "Animating")
Edit Mode has positioned to the source code line last executed

Key "F ZOSPD446" on the panel Command line - Press enter



The screenshot shows a terminal window titled "Screen : ZANIMK". The window displays assembly code for program ZOSPD446. The code consists of 30 lines, each starting with a hexadecimal address (0000166 to 0000195) and a command. The commands include MOVE, ADD, and DO-NOTHING. The terminal is in Command Mode, as indicated by the text "In Command Mode" at the bottom left. A red "Caps Lock ON" indicator is visible at the bottom right. The command line shows "COMMAND ==> F ZOSPD446" and "SCROLL ==> HALF". The window title bar includes standard minimize, maximize, and close buttons.

```
Screen : ZANIMK
ZOSPI004:-----\WINZOS\LOADLIB\AGROUP.IBZ----- COLS 00001 00072
COMMAND ==> F ZOSPD446 SCROLL ==> HALF
0000166 MOVE 785 TO Z115.
0000167 ADD 1 TO Z116
0000168 ADD 1 TO Z111
0000169 ADD 1 TO Z112
0000170 MOVE 2 TO I
0000171 MOVE 'TTTTTT' TO SM1 (I).
0000172 MOVE '1' TO DO-NOTHING
0000173 MOVE '1' TO DO-NOTHING
0000174 MOVE 2 TO J
0000175 MOVE 19 TO I
0000176 MOVE SM1 (I) TO SM2 (J)
0000177 MOVE '1' TO DO-NOTHING
0000178 MOVE '1' TO DO-NOTHING
0000179 MOVE 'ABCD' TO TESTA
0000180 MOVE 2 TO I
0000181 MOVE 2 TO J
0000182 MOVE '1' TO DO-NOTHING
0000183 MOVE '1' TO DO-NOTHING
0000184 MOVE '01' TO TESTA (I:J)
0000185 MOVE '1' TO DO-NOTHING
0000186 MOVE '12' TO TESTA (3:2)
0000187 MOVE '1' TO DO-NOTHING
0000188 MOVE '1' TO DO-NOTHING
0000189 MOVE '1' TO DO-NOTHING
0000190 MOVE '13' TO TESTA (J:2)
0000191 MOVE '1' TO DO-NOTHING
0000192 MOVE '1' TO DO-NOTHING
0000193 MOVE '1' TO DO-NOTHING
0000194 MOVE '14' TO TESTA (1:J)
0000195 MOVE '1' TO DO-NOTHING
In Command Mode Caps Lock ON
```

Edit mode found ZOSPD446

With the cursor on line 235 Press "B"

```
Screen : ZANIMK
ZOSPI004:-----\WINZOS\LOADLIB\AGROUP.IBZ----- COLS 00001 00072
COMMAND ==> SCROLL ==> HALF
0000232      MOVE 7654 TO ABCD1
0000233      MOVE 7654 TO ABCD1
0000234      MOVE 7654 TO ABCD1
0000235      CALL ZOSPD446 USING
0000236                      ZOSPC-DSN
0000237      MOVE 7654 TO ABCD1
0000238      MOVE '1' TO DO-NOTHING
0000239      GOBACK.
***** ***** BOTTOM OF DATA *****
+
In Command Mode BREAK POINT SET
```

Notice that the above edit mode message has indicated that a Break Point has been set at line 235

Return to Animation mode by pressing the Esc key

Press "Z" to "ZOOM"

The animation stops at the break point

```
Screen : ZANIMK
ZANIM1:=====>\WINZOS\LOADLIB\AGROUP.IBZ----- COLS 00001 00072
COMMAND ==> - SCROLL ==> HALF
000216 MOVE 1 TO J
000217 MOVE 'BZ' TO HOX-PL-POOL (J)
000218 MOVE '1' TO DO-NOTHING
000219 MOVE 9876 TO ABCD1
000220 MOVE '1' TO DO-NOTHING
000221 SET IX1 TO 2
000222 MOVE 2 TO IX1
000223 MOVE '222' TO DATA1 (IX1)
000224 MOVE 8765 TO ABCD1
000225 MOVE '1' TO DO-NOTHING
000226 SET IX2 TO 3
000227 MOVE '33' TO DATA2 (IX2)
000228 SET IX3 TO 2
000229 MOVE '1923' TO DATA3 (IX3)
000230 MOVE 7654 TO ABCD1
000231 MOVE 7654 TO ABCD1
000232 MOVE 7654 TO ABCD1
000233 MOVE 7654 TO ABCD1
000234 MOVE 7654 TO ABCD1
000235 CALL ZOSPD446 USING
000236 ZOSPC-DSN
000237 MOVE 7654 TO ABCD1
000238 MOVE '1' TO DO-NOTHING
000239 GOBACK.
***** BOTTOM OF DATA *****

ANIMATING KEY:<S>tep <H>elp <E>Command <Z>oom <0-2> <Q>uiet <A>nim <I>ntUp
```

Press "S" (step) Animation is now in program ZOSPD446

```
Screen : ZANIMK
ZANIM1:=====>\WINZOS\LOADLIB\ZOSPD446.IBZ----- COLS 00001 00072
COMMAND ==> SCROLL ==> HALF
000025 IF RECURSE = '1'
000026 MOVE '0' TO RECURSE
000027 END-IF
000028 IF SAVE-JCL-DSN = SPACES
000029 MOVE '1' TO DO-NOTHING
000030 MOVE LINK-DSN TO SAVE-JCL-DSN
000031 MOVE 'SYS1.UADS' TO SAVE-JCL-DSN
000032 MOVE '1' TO DO-NOTHING
000033 ELSE
000034 MOVE '1' TO DO-NOTHING
000035 MOVE SAVE-JCL-DSN TO LINK-DSN
000036 MOVE SPACES TO SAVE-JCL-DSN
000037 MOVE '1' TO DO-NOTHING
000038 END-IF.
000039 MOVE '1' TO DO-NOTHING.
000040 GOBACK.
***** BOTTOM OF DATA *****

ANIMATING KEY:<S>tep <H>elp <E>Command <Z>oom <0-2> <Q>uiet <A>nim <I>ntUp
```

