



z/OS Learning Center: Introduction to ISPF

Unit 2: Editing with ISPF Module 2: Using ISPF Editing Commands

```
di, 3444  
mov ax, Score  
call PrintNumber  
  
di, 219  
call DrawShape  
  
ah, 1  
call GetKey
```



```
xor di, di  
mov cx, 2000  
mov ax, 700h  
rep stosw  
  
call DrawBorders  
  
mov di, 184  
mov si, offset sNext  
call PrintText  
mov di, 272  
mov si, offset sHiScore  
call PrintText
```

```
mov al, 0- mov ah, 7  
Clear screen and set color 7  
  
mov di, 3430  
mov si, offset sStop  
call PrintText  
mov di, 450  
mov si, offset sSpeed  
call PrintText
```

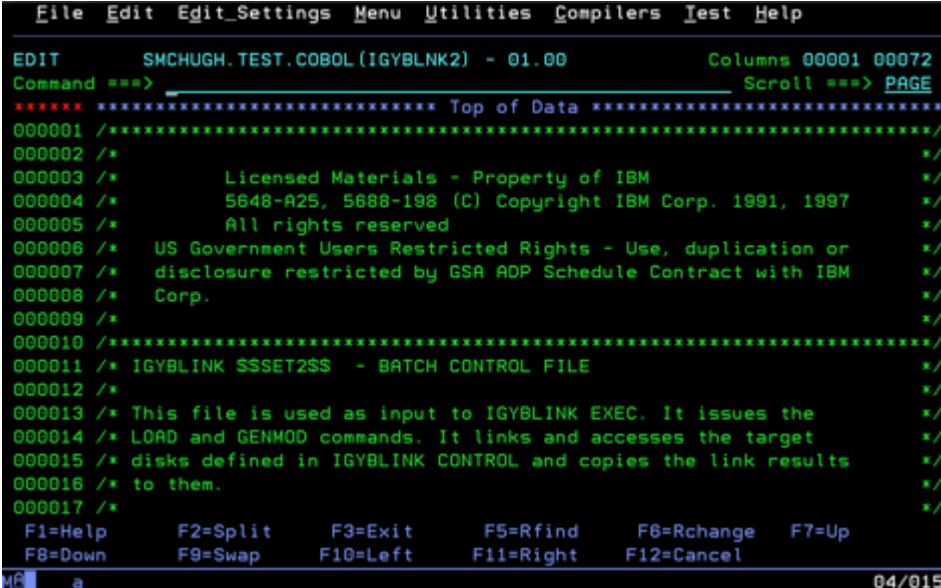
```
mov di, 292  
mov ax, HiScore  
call PrintNumber  
  
mov Score, 0  
  
call ChooseGame  
  
call Rand  
mov NextShape, ax  
call NewShape  
call DrawNextShape
```



Using ISPF Editing Commands – Introduction

This module, Using ISPF Editing Commands, introduces you to the z/OS Interactive System Productivity Facility (ISPF) editor, editing commands, and editing profiles.

Time to complete: 25 – 30 minutes



The screenshot displays the ISPF editor interface. At the top, a menu bar includes File, Edit, Edit_Settings, Menu, Utilities, Compilers, Test, and Help. Below the menu, the editor title bar shows 'EDIT SMCHUGH.TEST.COBOL (IGYBLNK2) - 01.00' and 'Columns 00001 00072'. The main editing area contains a COBOL program with several lines of code, including comments and a control file definition. The bottom of the screen features a function key legend with F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, and F12=Cancel. The status bar at the bottom left shows 'MR a' and the bottom right shows '04/015'.

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYBLNK2) - 01.00 Columns 00001 00072
Command ==> Scroll ==> PAGE
***** Top of Data *****
000001 /*****
000002 /*
000003 /* Licensed Materials - Property of IBM
000004 /* 5648-A25, 5688-198 (C) Copyright IBM Corp. 1991, 1997
000005 /* All rights reserved
000006 /* US Government Users Restricted Rights - Use, duplication or
000007 /* disclosure restricted by GSA ADP Schedule Contract with IBM
000008 /* Corp.
000009 /*
000010 /*****
000011 /* IGYBLINK $$SET2$$ - BATCH CONTROL FILE
000012 /*
000013 /* This file is used as input to IGYBLINK EXEC. It issues the
000014 /* LOAD and GENMOD commands. It links and accesses the target
000015 /* disks defined in IGYBLINK CONTROL and copies the link results
000016 /* to them.
000017 /*
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
MR a 04/015
```

Using ISPF Editing Commands – Objectives

Upon completing this unit, you should be able to:

- Distinguish between ISPF primary commands and line commands
- Insert, delete, copy, move, and repeat lines
- Create and save new members to data sets
- View and change an edit profile
- Customize your editing environment

Using ISPF Editing Commands – The Types of Editing Commands

In the ISPF editor, there are two places you can enter commands:

- Line command fields
- The command line

You enter line commands by typing over the numbers in the line command area. Line commands affect the data on the corresponding individual line or block of lines.

On the command line, you can enter primary edit commands, edit macro commands, and TSO commands. You can enter multiple commands separated by semicolons on the command line. This is known as stacking. Edit primary commands apply to the entire source member.

The screenshot displays the ISPF editor interface. At the top, a menu bar includes 'File', 'Edit', 'Edit Settings', 'Menu', 'Utilities', 'Compilers', 'Test', and 'Help'. Below the menu, the title bar reads 'Primary command line' and 'EDIT SMCHUGH.TEST.COBOL (IGYBLNK2) - 01.00'. The main editing area shows a list of lines with line numbers (000001 to 000017) and text. A yellow box highlights the line numbers, and a yellow arrow points to the line number 000017, which is labeled 'Line command field'. The command line at the bottom shows 'Command ==>' followed by a yellow box and the text 'Scroll ==> PAGE'. The bottom status bar shows 'MF a' and '04/015'.

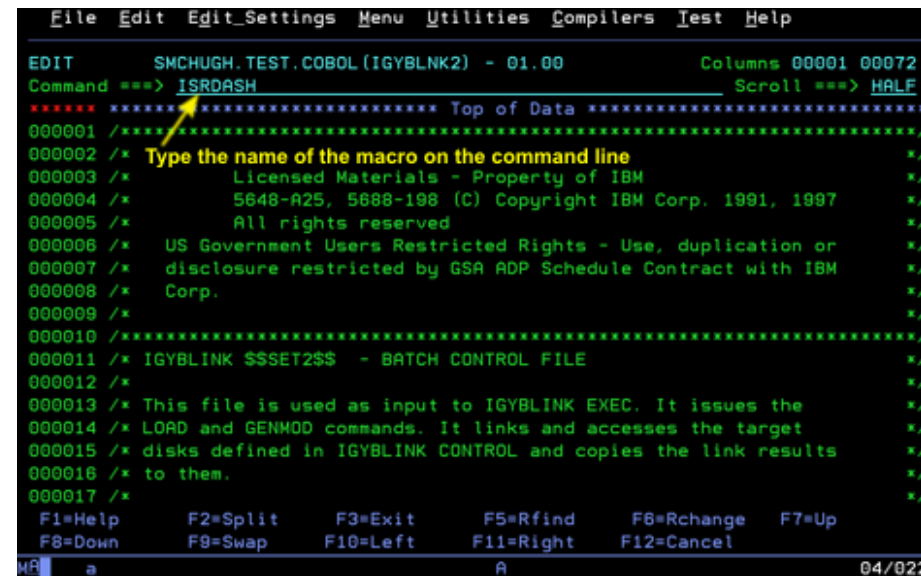
Using ISPF Editing Commands – Edit Macros

You can use edit macros to extend and customize the editor. You can use edit macros to:

- Perform repeated tasks
- Simplify complex tasks
- Pass parameters or retrieve and return information.

You can write edit macros as a CLIST or REXX exec, or in a programming language such as FORTRAN, PL/I, or COBOL.

To create an edit macro, type a series of commands into a data set or member. You can then run the series of commands by typing the macro name (for example, ISRDASH) on the command line and pressing the Enter key.



```

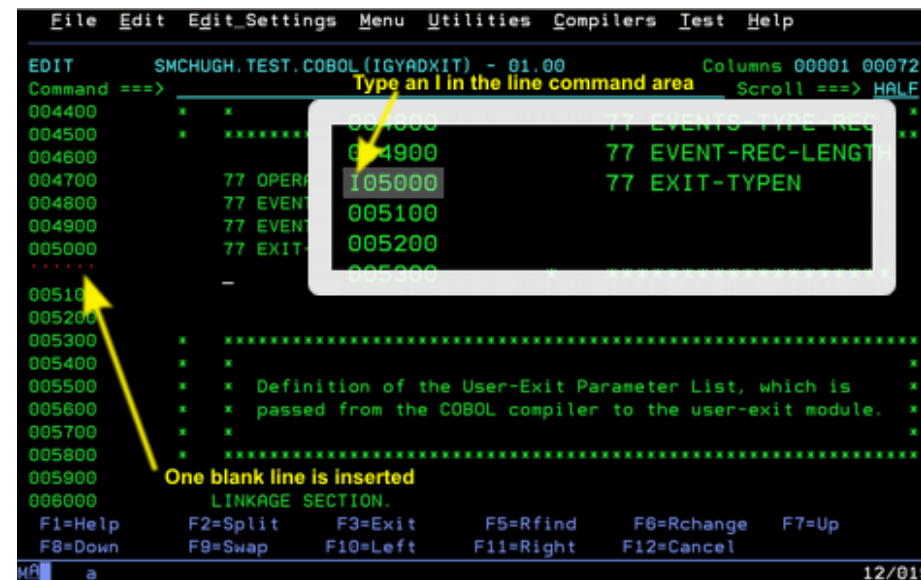
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      SMCHUGH.TEST.COBOL(IGYBLNK2) - 01.00      Columns 00001 00072
Command ==> ISRDASH      Scroll ==> HALF
***** Top of Data *****
000001 /******
000002 /* Type the name of the macro on the command line */
000003 /*      Licensed Materials - Property of IBM */
000004 /*      5648-A25, 5688-198 (C) Copyright IBM Corp. 1991, 1997 */
000005 /*      All rights reserved */
000006 /*      US Government Users Restricted Rights - Use, duplication or */
000007 /*      disclosure restricted by GSA ADP Schedule Contract with IBM */
000008 /*      Corp. */
000009 /*
000010 /******
000011 /* IGYBLINK $$SET2$$ - BATCH CONTROL FILE */
000012 /*
000013 /* This file is used as input to IGYBLINK EXEC. It issues the */
000014 /* LOAD and GENMOD commands. It links and accesses the target */
000015 /* disks defined in IGYBLINK CONTROL and copies the link results */
000016 /* to them. */
000017 /*
F1=Help      F2=Split      F3=Exit      F5=Rfind      F6=Rchange      F7=Up
F8=Down      F9=Swap      F10=Left     F11=Right     F12=Cancel
MR a A 04/022
  
```

Using ISPF Editing Commands – The Insert Line Command – Frame 1

Use the Insert (I) command to insert lines in a file. There are two forms of this command:

- I Inserts a single line
- In Inserts *n* lines (where *n* is a number)

Type I in the line number area at the spot where you want to insert a new line and press the Enter key. The I command creates a blank line and shifts the following lines further down in the file.



The screenshot displays the ISPF EDIT frame for a file named SMCHUGH.TEST.COBOL (IGYADXT) at line 01.00. The interface includes a menu bar at the top with options: File, Edit, Edit Settings, Menu, Utilities, Compilers, Test, and Help. The main editing area shows a list of lines with their corresponding line numbers. A yellow box highlights the line number area, and a yellow arrow points to the 'I' command being entered. A text overlay states 'Type an I in the line command area'. Below the editing area, a status bar shows the command 'I' and the text 'One blank line is inserted'. The bottom of the frame displays function key definitions: F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, and F12=Cancel. The date 12/019 is visible in the bottom right corner.

```
File Edit Edit Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYADXT) - 01.00 Columns 00001 00072
Command ==> Type an I in the line command area Scroll ==> HALL
004400 * *
004500 * *****
004600 * 77 OPER
004700 * 77 EVENT
004800 * 77 EXIT-TYPEN
004900 *
005000 *
005100 *
005200 *
005300 * *****
005400 * *
005500 * * Definition of the User-Exit Parameter List, which is *
005600 * * passed from the COBOL compiler to the user-exit module. *
005700 * *
005800 * *****
005900 *
006000 *
LINKAGE SECTION.
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
12/019
```

Using ISPF Editing Commands – The Insert Line Command – Frame 2

To insert more than one line type In , where n is the number of lines you want to insert.

For example, here we have typed I3 in the line number area and pressed the Enter key. This creates three blank lines and shifts the following lines further down in the file.

The inserted lines contain apostrophes in the line number area until you type in the source data. When you finish typing in the new source data, press the Enter key again. The editor deletes any inserted lines that do not contain data.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYADKIT) - 01.00 Columns 00001 00072
Command ==> Type I3 in the command line area Scroll ==> HALF
004400 * *
004500 * *****
004600 *
004700 77 OPER
004800 77 EVEN
004900 77 EVEN
005000 77 EXIT
005100
005200
005300 * *****
005400 * *
005500 * * Definition of the User-Exit Parameter List, which is *
005600 * * passed from the COBOL compiler to the user-exit module. *
005700 * *
005800 * *****
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
MC a 12/019
  
```


Use the delete line command to delete one or more lines from a data set. There are three forms of this command:

- You use D and Dn to delete one or more lines just as you use I and In to add one or more lines.

The screenshot shows the SMCHUGH.TEST.COBOL (IGYADXIT) editor. The command line indicates the file is SMCHUGH.TEST.COBOL (IGYADXIT) - 01.01. The editor displays a list of lines, with lines 001711 through 001747 highlighted in a yellow box. A yellow arrow points to the first line of the block (001711) and another yellow arrow points to the last line of the block (001747). The text "The editor deleted lines 001711 through 001747" is written in yellow. The text "Type DD at both the beginning and ending lines of the block you want to delete." is written in yellow. The editor also shows a list of function keys at the bottom: F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel.

File Edit Edit Settings Menu Utilities Compilers Test Help

EDIT SMCHUGH.TEST.COBOL (IGYADXIT) - 01.01 Columns 00001 00072

Command ===> Scroll ===> HALF

001600 * END

001705 * The editor deleted lines 001711 through 001747

001753 * Include th

001759 * Include th

001764 * 001705 *

001770 * DD1711 * See the

001776 * 001717 * Programm

001782 * 001723 * Referenc

001788 * 001724 * Type DD at both the for OS/2

001800 * 001725 * beginning and ending and Prog

001900 IDENTIFICATION D 001726 * more int

002000 PROGRAM-ID. IGY 001729 * There is

002100 ENVIRONMENT DIVI 001735 * sample

002200 * 001741 * LE Insta

002300 INPUT-OUTPUT S 001747 * (SC26-48

002400 FILE-CONTROL. 001753 *

002500 SELECT SYS 001753 *

002600 ASSIGN STATEMENT

F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up

F8=Down F9=Swap F10=Left F11=Right F12=Cancel

07/00

Using ISPF Editing Commands – The Repeat Line Command – Frame 1

Use the Repeat command to repeat a single line or a group of lines one or more times. The R command has several forms:

- R Repeat this line
- Rn Repeat this line *n* times
- RR Repeat a block of lines

The repeated line falls in immediately after the original line.

In this example, typing the R command in the line number area and pressing the Enter key, repeats the line directly below the line on which you entered the command.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL(IGYMKDIR) - 01.02 Columns 00001 00072
Command ==> Scroll ==> 2
000044
000045
000046
000047
000048
000049 'usr/
000050 'usr/
000051 'usr/
000052 'usr/
000053 'usr/lpp/cobol/include 755',
000054 'usr/lpp/cobol/demo 755',
000055 R00055 'usr/lpp/cobol/demo/oosample 755'
000056 End
000057 'usr/
000058 Else
000059 'usr/lpp/cobol/demo 755',
000055 'usr/lpp/cobol/demo/oosample 755'
000056 'usr/lpp/cobol/demo/oosample 755'
000057 End
000058
000059 Else
000060 Do
000061 dirs=,
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
MR a 17/002
  
```

The screenshot shows the ISPF EDIT frame with a list of lines. Line 000055 contains the command 'R00055' followed by a space and the text 'usr/lpp/cobol/demo/oosample 755'. A white box highlights the command entry area. A yellow arrow points from the command to the original line (000055), and another yellow arrow points from the command to the repeated line (000056). A yellow text box with the text 'Type an R in the line you want to repeat' is positioned near the command. Another yellow text box with the text 'The editor repeats the line directly below the original line' is positioned near the repeated line (000056).

Using ISPF Editing Commands – The Repeat Line Command – Frame 2

To repeat a line multiple times, enter Rn in the line number area, where n is the number of times you want the line repeated.

For example, typing R4 in the line number area and pressing the Enter key repeats the line four times directly below the original line, as shown here.

The screenshot shows the editor interface with the following elements:

- Menu Bar:** File, Edit, Edit_Settings, Menu, Utilities, Compilers, Test, Help
- Status Bar:** SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02, Columns 00001 00072, Scroll ==> HALF
- Command Line:** Command ==>
- Editor Content:**

```

000044
000045
000046
000047
000048
000049 'usr/
000050 'usr/
000051 'usr/
000052 'usr/
000053 'usr/
000054 'usr/lpp/cobol/demo 755'
000055 'usr/lpp/cobol/demo/oosample 755'
000056 'usr/lpp/cobol/demo/oosample 755'
000057 'usr/lpp/cobol/demo/oosample 755'
000058 'usr/lpp/cobol/demo/oosample 755'
000059 'usr/lpp/cobol/demo/oosample 755'
000060 End
000061

```
- Annotations:**
 - A yellow box highlights the command `R40055` in line 000052.
 - A yellow arrow points from the text "Type R4 in the line command area" to the `R40055` command.
 - Two yellow arrows point from the text "The editor repeats the line 4 times directly below the original line" to the four lines (000056-000059) that are repeated below the original line.
- Footer:**
 - F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up
 - F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel

Using ISPF Editing Commands – The Repeat Line Command – Frame 3

To repeat a block of lines, type RR in the line number area next to both the first line in the block and the last line in the block.

For example, typing RR on line 000052 and on line 000055 and pressing the Enter key, repeats this block of lines directly below the line on which you typed the second RR command.

[illegible]

Using ISPF Editing Commands – The Copy Line Command – Frame 1

Copying lines is similar to repeating them, except that you are able to specify a destination.

The C command has several forms:

- C Copies one line
- Cn Copies *n* lines
- CC Marks a block of lines for copying

Once you have marked the lines you want to copy, you then move to the line where you want the copy to appear and type either an A or a B and press the Enter key. If you type an A, the source lines are copied after the destination line. If you type a B, they are placed before the destination line.

In this example, we have made a copy of line 000049 after line 000055.

The screenshot shows the ISPF editor interface with a menu bar at the top: File, Edit, Edit Settings, Menu, Utilities, Compilers, Test, Help. The main window displays a COBOL program with line numbers 000044 through 000061. Line 000049 is highlighted in green and contains the text: 'usr/lpp/cobol 755',. A yellow arrow points to the 'C' command entered in the line command area next to line 000049. Another yellow arrow points to the 'A' command entered in the line command area next to line 000055. A third yellow arrow points to the text 'usr/lpp/cobol 755' on line 000056, which is the result of the copy operation. The status bar at the bottom shows 'MF a' and '17/002'.

Type a C in the line command area next to the line you want to copy

Type an A in the line command area of the destination line

The editor copies the line after the line on which we typed the A

Using ISPF Editing Commands – The Copy Line Command – Frame 2

To copy multiple lines, enter *Cn* in the line number area, where *n* is the number of lines you want to copy. Then move to the place you want to insert the copied lines, type A or B and then press the Enter key.

For example, typing C3 on line 000049 marks lines 000049-000051 for copying. Typing B on line 000056 and pressing the Enter key, inserts the three lines of copied code before the destination line, as shown here. The relative line numbers are adjusted accordingly.

The screenshot displays the ISPF editor interface. At the top, a menu bar includes File, Edit, Edit Settings, Menu, Utilities, Compilers, Test, and Help. Below the menu, a yellow text overlay reads: "Type C3 in the line command area of the first line you want to copy". The editor shows a list of lines with their command areas. Line 000049 has the command "C3" entered in its command area. Line 000056 has the command "B" entered in its command area. A yellow text overlay points to line 000056, stating: "Type B in the destination line command area". Another yellow text overlay points to the lines being copied, stating: "The editor copies the lines before the destination line". The bottom of the screen shows a status bar with function key definitions: F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel. The bottom right corner shows the page number 17/002.

```

File Edit Edit Settings Menu Utilities Compilers Test Help
Type C3 in the line command area of the first line you want to copy
EDIT
Command ==
000048
000049 C30049 'usr/lpp/cobol 755',
000050 000050 'usr/lpp/cobol/bin 755'
000051
000052
000053
000054
000055 'usr/lpp/cobol/demo 755'
000056 B00056 End
000057
000058
000059 End
000060
000061 Else
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
17/002

```

Using ISPF Editing Commands – The Copy Line Command – Frame 3

To copy a block of lines, type CC in the line number area next to the first line in the block and next to the last line in the block. Then move to the place you want to insert the copied lines, type A or B and then press the Enter key.

For example, typing CC next to line 000049 and next to line 000052, and then typing A next to line 000055 and pressing the Enter key inserts the copied block of lines after the destination line, as shown here.

The screenshot shows the ISPF editor interface with a menu bar at the top: File, Edit, Edit_Settings, Menu, Utilities, Compilers, Test, Help. Below the menu bar, a yellow text box says "Use CC in the line command area to mark a block of lines". The editor displays a list of lines with their line numbers and content. The line numbers are: 000044, 000045, 000046, 000047, 000048, 000049, 000050, 000051, 000052, 000053, 000054, 000055, 000056, 000057, 000058, 000059, 000060, 000061. The content of the lines is: 'usr/lpp/cobol 755', 'usr/lpp/cobol/bin 755', 'usr/lpp/cobol/bin/IBM 755', 'usr/lpp/cobol/lib 755', 'usr/lpp/cobol/include 755', 'usr/lpp/cobol/demo 755', 'usr/lpp/cobol/demo/oosample 755', 'usr/lpp/cobol/demo/oosample 755', 'usr/lpp/cobol/bin 755', 'usr/lpp/cobol/bin/IBM 755', 'usr/lpp/cobol/lib 755', 'End'. The line numbers 000049 and 000052 are highlighted with a yellow box, and the line number 000055 is highlighted with a yellow box. A yellow arrow points from the text "Type A to mark destination" to the line number 000055. Another yellow arrow points from the text "The editor copies the block of lines after the destination line" to the line number 000056. The bottom of the screen shows function key definitions: F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel. The bottom right corner shows the page number 17/002.

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
Use CC in the line command area to mark a block of lines
EDIT SMCHUGH
Command ==>
000044
000045
000046
000047
000048
000049 'usr/lpp/cobol 755',
000050 'usr/lpp/cobol/bin 755',
000051 'usr/lpp/cobol/bin/IBM 755',
000052 'usr/lpp/cobol/lib 755',
000053 'usr/lpp/cobol/include 755',
000054 'usr/lpp/cobol/demo 755',
000055 'usr/lpp/cobol/demo/oosample 755',
000056 'usr/lpp/cobol/demo/oosample 755',
000057 'usr/lpp/cobol/bin 755',
000058 'usr/lpp/cobol/bin/IBM 755',
000059 'usr/lpp/cobol/lib 755',
000060 End
000061
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
17/002
```

Using ISPF Editing Commands – The Move Line Command

Moving lines is similar to copying them, except that moving also deletes the source lines from the original location once the move is complete.

The M command has several forms:

- M Moves one line
- Mn Moves *n* lines
- MM Marks a block of lines for moving

Once you have marked the lines you want to move, you then move to the line where you want the moved lines to appear and type either an A or a B and press the Enter key. If you type an A, the source lines are moved after the destination line. If you type a B, they are placed before the destination line. The moved lines no longer appear in their original place.

```

File Edit Edit_Settin... Menu Utilities Services Test Help
EDIT SMCHUGH.TEST.C
Command ==>
000060      dirs=,
000061      Use the MM line
000062      commands to mark
000063      a block of lines
000064      /*-----
000065      /* HFS di
000066      /*-----
000067      'usr/lpp/cobol/'$subdir'/lib 755',
000068      'usr/lpp/cobol/'$subdir'/include 755',
000069      'usr/lpp/cobol/'$subdir'/demo 755',
000070      'usr/lpp/cobol/'$subdir'/demo/oosample 755'
000071      'usr/lpp/cobol 755',
000072      'usr/lpp/cobol/'$subdir' 755',
000073      'usr/lpp/cobol/'$subdir'/bin 755',
000074      'usr/lpp/cobol/'$subdir'/bin/IBM 755',
000075      'usr/lpp/cobol/'$subdir'/demo/oosample 755'
000076      End
000077
F1=Help      F2=Split      F3=Exit      F5=Rfind      F6=Rchange      F7=Up
F8=Down      F9=Swap      F10=Left     F11=Right     F12=Cancel
MR a
17/002
  
```

Use the MM line commands to mark a block of lines

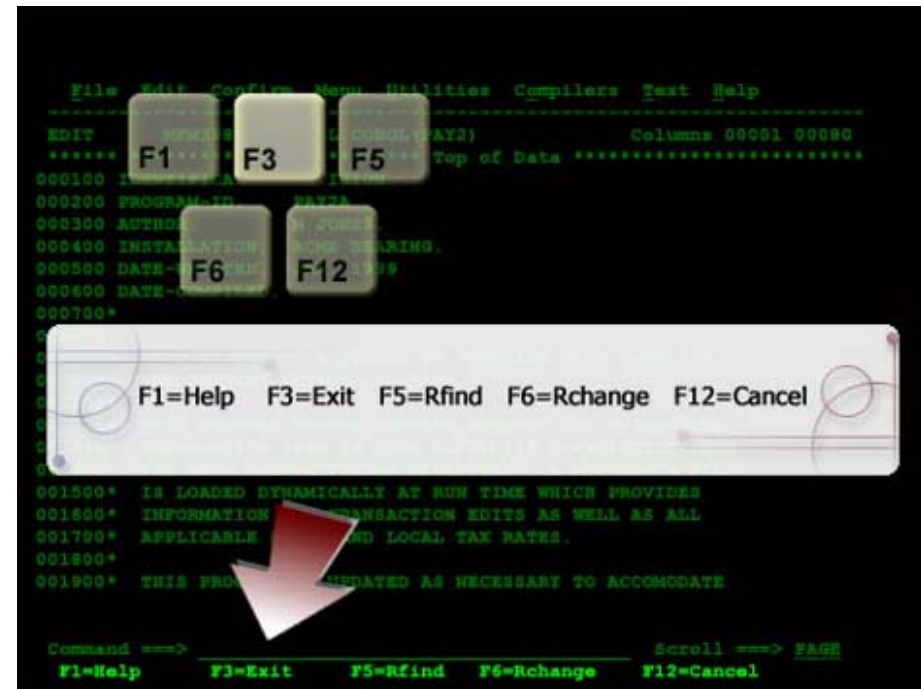
Type a B on the destination line

The editor moves the block of lines before the destination line and removes the original data

Using ISPF Editing Commands – Ending and Saving Your Changes

When you have completed all editing in the ISPF Edit Panel, press the Exit key, F3. ISPF saves your changed member to the primary library and returns you to the Edit Entry Panel. If you press F3 again, ISPF returns to the ISPF Primary Option Panel.

Alternatively, you can enter SAVE at the Command line to save the changed member. If you enter CANCEL on the Command line, any changes you have made will be discarded and you will return to the Edit Entry Panel.

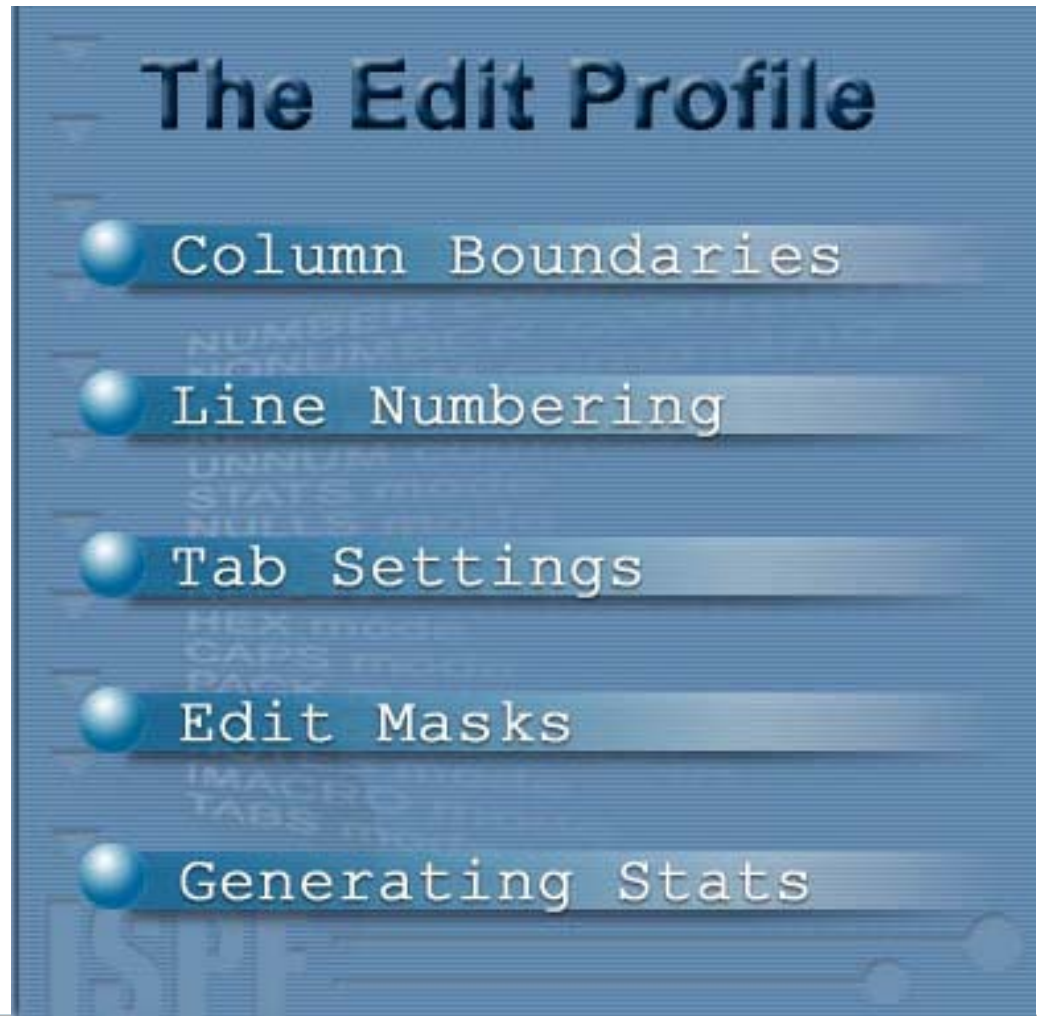


Using ISPF Editing Commands – The Edit Profile

The edit profile controls the editing environment, defining column boundaries, tab settings, line numbering, uppercase mode, and other items.

You can have different edit profiles for different types of data. For example, you could have one edit profile for COBOL programs, another edit profile for memos, and a third edit profile for test data. Your installation determines how many different edit profiles are available to you.

To select a profile for an edit session, enter it in the Profile Name field on the Edit Entry Panel.



Using ISPF Editing Commands – Displaying the Edit Profile - Frame 1

To display the current edit profile, type PROFILE at the command line in the Editor Panel and press the Enter key. The top several lines of the display becomes shaded and =PROF> (or even =TABS> or =COLS>) appears in the line number command area for the lines displaying the profile. The profile shows the setting of various edit modes. In this example, the settings for NUMBER, CAPS, HEX, NULLS, TABS, AUTONUM, AUTOLIST, and PACK are all set to OFF, while RECOVERY, AUTOSAVE, STATS, and NOTE are set to ON. Other settings like PROFILE and IMACRO have different values.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL(IGYMKDIR) - 01.02 Columns 00001 00072
Command ==> Scroll ==> HALF
===== Top of Data =====
=PROF> ...COBOL (FIXED - 80)...RECOVERY ON...NUMBER OFF...
=PROF> ...CAPS OFF...HEX OFF...NULLS OFF...TABS OFF...
=PROF> ...AUTOSAVE ON...AUTONUM OFF...AUTOLIST OFF...STATS ON...
=PROF> ...PROFILE UNLOCK...IMACRO NONE...PACK OFF...NOTE ON...
=PROF> ...HILITE OFF CURSOR FIND...
000001 /* REXX */
000002 /*=====*/
000003 /* Licensed Materials - Property of IBM */
000004 /* 5655-G53 (C) Copyright IBM Corp. 2000, 2004 */
000005 /*=====*/
000006 /* */
000007 /* This REXX exec will create the necessary directories and other */
000008 /* files for product */
000009 /* IBM Enterprise COBOL for z/OS */
000010 /* Version 3 Release 3 Modification 0 */
000011 /* */
000012 /*=====*/
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
MF a 04/015

```

Using ISPF Editing Commands – Displaying the Edit Profile - Frame 2

You can activate an existing edit profile by typing its name in the PROFILE command.

For example, here we show that typing PROFILE COB2 on the command line retrieves the profile named COB2. If the profile name you specify does not exist, a new one is created using the current profile settings. This is a way to create new profiles. You can change the profiles settings as you wish, then issue a PROFILE command specifying the new profile name.

Changes you make to the PROFILE are saved when you exit the edit session.

To avoid changes to the profile being saved at the end of the session, use the PROFILE LOCK command.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02 Columns 00001 00072
Command ==> Scroll ==> HALF
***** Top of Data *****
=PROF> ...COB2 (FIXED - 80)...RECOVERY ON...NUMBER OFF...
=PROF> ...CAPS OFF...HEX OFF...NULLS OFF...TABS OFF...
=PROF> ...AUTOSAVE ON...AUTONUM OFF...AUTOLIST OFF...STATS ON...
=PROF> ...PROFILE UNLOCK...IMACRO NONE...PACK OFF...NOTE ON...
=PROF> ...HILITE OFF CURSOR FIND...
000001 /* REXX */
000002 /******
000003 /* Licensed Materials - Property of IBM */
000004 /* 5655-G53 (C) Copyright IBM Corp. 2000, 2004 */
000005 /******
000006 /*
000007 /* This REXX exec will create the necessary directories and other */
000008 /* files for product */
000009 /* IBM Enterprise COBOL for z/OS */
000010 /* Version 3 Release 3 Modification 0 */
000011 /*
000012 /******
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
MF a 04/015

```

Using ISPF Editing Commands – Column Boundaries

Column boundaries control the width of the area in which source data can be placed, and the range of columns for editing data. The area within the boundaries represent the columns to which editing commands apply. The `=BNDS>` line illustrates the current settings. To display the column boundaries, type BNDS in the line command area.

The COBOL default is 7 for the left boundary and 72 for the right boundary. For other types, such as an assembler source file (ASM), the standard left margin is 1 and the right margin is 71.

The screenshot shows the ISPF EDIT command window for the file SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02. The window title bar includes menus: File, Edit, Edit_Settings, Menu, Utilities, Compilers, Test, Help. The status bar at the top right shows 'Columns 00001 00072' and 'Scroll ==> HALE'. The command area shows '=BNDS>' with a yellow arrow pointing left to 'Left column boundary' and a yellow arrow pointing right to 'Right column boundary'. The main text area displays a REXX program with comments and a parse statement. The bottom status bar shows function key definitions: F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel. The bottom right corner shows '06/002'.

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02 Columns 00001 00072
Command ==> Scroll ==> HALE
***** Top of Data *****
=BNDS> <----- Left column boundary Right column boundary ----->
000001 /* REXX */
000002 /*-----*/
000003 /* Licensed Materials - Property of IBM */
000004 /* 5655-G53 (C) Copyright IBM Corp. 2000, 2004 */
000005 /*-----*/
000006 /* */
000007 /* This REXX exec will create the necessary directories and other */
000008 /* files for product */
000009 /* IBM Enterprise COBOL for z/OS */
000010 /* Version 3 Release 3 Modification 0 */
000011 /* */
000012 /*-----*/
000013
000014 parse arg Sroot $subdir .
000015
000016 /*-----*/
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
MR a 06/002
```

Using ISPF Editing Commands – Changing the BOUNDS Setting – Frame 1

Use the BOUNDS primary command to change the BOUNDS setting in the profile. At the command prompt, type a command like BOUNDS 7 70. This will cause a new, left boundary and a new right boundary to be set to 7 and 70, respectively.

To set only the left boundary, issue the same command, but use an asterisk for the right boundary. To set only the right boundary, use the asterisk in place of the left boundary. To reset to the default boundaries, issue the BOUNDS primary command with no parameters.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02 Columns 00001 00072
Command ==> BOUNDS 7 70 Scroll ==> HALF
***** Top of Data *****
=PROF> ...COB2 (FIXED - 80)...RECOVERY ON...NUMBER OFF...
=PROF> ...CAPS OFF...HEX OFF...NULLS OFF...TABS OFF...
=PROF> ...AUTOSAVE ON...AUTONUM OFF...AUTOLIST OFF...STATS ON...
=PROF> ...PROFILE UNLOCK...IMACRO NONE...PACK OFF...NOTE ON...
=PROF> ...HILITE OFF CURSOR FIND...
=BNDS> <-----New left boundary set to 7-----New right boundary set to 70----->
=COLS> -----1-----2-----3-----4-----5-----6-----7-----
000001 /* REXX */
000002 /******
000003 /* Licensed Materials
000004 /* 5655-G53 (C) Copyr
000005 /******
000006 /*
000007 /* This REXX exec will
000008 /* files for product
000009 /* IBM Enterprise
000010 /* Version 3 Rel
F1=Help F2=Split F3
F8=Down F9=Swap F10

```


Using ISPF Editing Commands – Changing the BOUNDS Setting - Frame 2

You can also use the BOUNDS command as a line command. Type BOUNDS or BNDS in the line command area. The editor responds by displaying a =BNDS> line at the place where you entered the command. To set up new boundaries, delete the current boundary marks, move the cursor to the spots on the =BNDS> line where you want to set up new boundaries. Type a less-than sign (<) to mark the new left boundary, and type a greater-than sign (>) to mark a new right boundary.

```

File Edit Edit Settings Menu Utilities Compilers Test Help
Delete the < at column 1 and type a new < at column 7
EDIT SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02 Columns 00001 00072
Command ==> Scroll ==> HALF
***** Top of Data *****
=PROF> ....COB2 (FIXED - 80) ....RECOVERY ON....NUMBER OFF.....
=PROF> ....CAPS OFF....HEX OFF....NULLS OFF....TABS OFF.....
=PROF> ....AUTOSAVE ON ....AUTONUM OFF....AUTOLIST OFF....STATS ON.....
=PROF> ....PROFILE UNLOCK....IMACRO NONE....PACK OFF....NOTE ON.....
=PROF> ....HILITE OFF CURSOR FIND.....
=BNDS> < Delete the > at column 80 and type a new > at column 70 >
000001 /* REXX */
000002 /******
000003 /* Licensed Materials - Proprietary
000004 /* 5655-G53 (C) Copyright IBM Corp. 1988
000005 /******
000006 /*
000007 /* This REXX exec will create
000008 /* files for product
000009 /* IBM Enterprise COBOL
000010 /* Type BOUNDS in the line
000011 /* command area
F1=Help F2=Split F3=Exit F4=List F5=Go F6=Find F7=Save F8=Down F9=Swap F10=Left
a 11/079

```


Using ISPF Editing Commands – Tab Stops - Frame 1

Tab stops are especially important for editing members that contain source files like COBOL or Assembler, because certain constructs must begin in specific columns.

The ISPF editor supports two types of tab stops, hardware and logical. You move among hardware tab stops by pressing the Tab key on the 3270 terminal or terminal-emulator.

With logical tab stops you enter a special tab character like a @ or #. The editor will take the subsequent text and align it to the closest tab stop inserting spaces as necessary to position it.

The screenshot displays the ISPF editor interface for a COBOL program named SMCHUGH.TEST.COBOL (IGYIVP) at line 01.00. The editor shows several lines of COBOL code, including environment, configuration, and data divisions. Vertical lines are drawn at specific column positions (1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101) to represent hardware tab stops. Yellow arrows point from the text 'Hardware TAB Stops' to these vertical lines. The code is as follows:

```

000560 ENVIRONMENT DIVISION.
000570 CONFIGURATION SECTION.
000580 SOURCE-COMPUTER. IBM-390.
000590 OBJECT-COMPUTER. IBM-390.
000600
000610 DATA DIVISION.
000620 WORKING-STORAGE SECTION.
000630
000640 01 CALL-REC IS GLOBAL.
000650     05 CUST-NUM                PIC X(4).
000660     05 FILLER REDEFINES CUST-NUM.
000670         10 CUST-NUM12        PIC 9(2).
000680         10 CUST-NUM34        PIC 9(2).
000690     05 CUST-NAME              PIC X(10).
000700     05 CALLS-MADE             PIC 9(2).
000710     05 NUM-CALLS OCCURS 1 TO 10 TIMES
000720         DEPENDING ON CALLS-MADE.
  
```

The bottom of the screen shows function key definitions: F1=Help, F2=Split, F3=Exit, F5=Rfind, F6=Rchange, F7=Up, F8=Down, F9=Swap, F10=Left, F11=Right, F12=Cancel. The status bar at the bottom right shows '06/024'.

Using ISPF Editing Commands – Tab Stops - Frame 2

To activate hardware tab stops, type the TABS command in the line command area and press the Enter key. The editor responds by displaying a =TABS> line at the place where you entered the command. On this line you enter an asterisk (*) immediately to the left of the desired positions for tab stops.

The asterisk defines the position for an attribute byte, a special character recognizable by the 3270 hardware as a tab position. The attribute byte actually takes up a position and displays as blank. However, you will not be able to type any source data into this position. Source data will fall in starting at the position immediately to the right of the asterisk.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      SMCHUGH.TEST.COBOL (IGYMKDIR) - 01.02      Columns 00001 00072
Command ==>                                     Scroll ==> HALF
***** Top of Data *****
=TABS>
000001 /* REXX */
000002 /*
000003 /* Licensed Materials - Property of IBM
000004 /* 5655-G53 (C) Copyright IBM Corp. 2000, 2004
000005 /*
000006 /*
000007 /*
000008 /*
000009 /*
000010 /*
000011 /*
000012 /*
000013 /*
000014 /*
000015 /*
000016 /*
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel 06/066

```

Position cursor on =TABS> line and type an * to the left of the tab stops

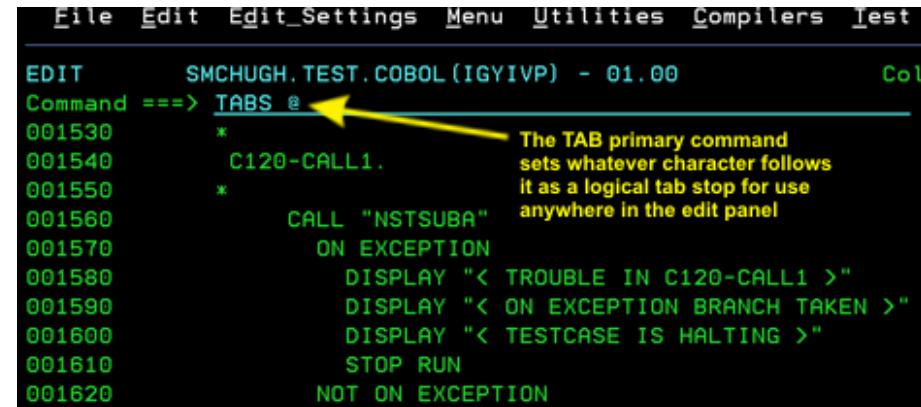
EDIT SMCHUGH.TEST
Command ==>
TABS01 /* REXX */
000002 /*
000003 /* Licensed Materials - Property of IBM

Type TABS in the line command area

Using ISPF Editing Commands – Tab Stops - Frame 3

To activate logical tabbing, type the TAB command at the command line, followed by the character to be used to mark the tab position. From then on, you can type that character in any source line to generate the logical tabbing effect. To turn off logical tabbing, TAB with no character on the command line and press the Enter key.

You can mix hardware and software tab stops. For example, in the DATA DIVISION of a COBOL program, you may want to use hardware tabbing to control the columns where level numbers, PIC, and VALUE clauses fall.



```
File Edit Edit_Settings Menu Utilities Compilers Test
EDIT      SMCHUGH.TEST.COBOL (IGYIVP) - 01.00      Col
Command ==> TABS e
001530      *
001540      C120-CALL1.
001550      *
001560      CALL "NSTSUBA"
001570      ON EXCEPTION
001580      DISPLAY "< TROUBLE IN C120-CALL1 >"
001590      DISPLAY "< ON EXCEPTION BRANCH TAKEN >"
001600      DISPLAY "< TESTCASE IS HALTING >"
001610      STOP RUN
001620      NOT ON EXCEPTION
```

The TAB primary command sets whatever character follows it as a logical tab stop for use anywhere in the edit panel

Using ISPF Editing Commands – Using an Editing Mask

You can use an edit mask to predefine the initial contents of each line you insert. Start by entering the MASK command in the line command area. The editor inserts a blank line containing =MASK> in the line command area. On the =MASK> line, enter the characters you want duplicated on each new line. Each line you insert will start with the contents of the mask line.

In this example, the =MASK> line includes the asterisks used to denote code comments.

You can change the characters in the mask line as needed. To remove the current mask line, use the D line command to delete it.

Alternatively, you can achieve the effect of a mask line by inserting one blank line, enter your data, and then repeat it using an R command.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      ISP.SISPSAMP (FLM01MD1) - 01.00          Columns 00001 00072
Command ==>                                     Scroll ==> HALF
***** Top of Data *****
000100 *****
000200 * ROUTINE INITIALIZATION
000210 *
000220 * 5847-A01 (C) COPYRIGHT IBM CORP. 1987
000230 *
000300 *****
000400 FLM01MD1 CSECT
000500      B      28(R15)
000600      DC      CL8'FLM01MD1'
000700      DC      CL8'&SYSDATE'
000800      DC      CL8'&SYSTIME'
*****
*****
000900      STM     R14,R12,12(R13)
001000      LR      R4,R13
*****
F1=Help  F2=Split  F3=Exit  F5=Rfind  F6=Rchange  F7=Up
F8=Down  F9=Swap   F10=Left F11=Right F12=Cancel
MC a                                           18/018
  
```

Using ISPF Editing Commands – The NUMBER Command - Frame 1

You can control the line numbering in the ISPF editor with a series of commands. To display line numbers use the NUMBER ON command.

You may also use NUMBER STD, NUMBER COBOL, or NUMBER STD COBOL to ensure that the source data has line numbers in standard format, line numbers in COBOL format, or both. With number mode on, the editor automatically maintains line numbers and generates new line numbers for inserted lines. It will even resequence existing lines if necessary.

The screenshot displays the ISPF editor interface for editing a COBOL program. The main window shows source code with line numbers. A yellow box highlights the first column of line numbers, and a yellow arrow points to the text "Scroll to the left to view the actual line numbers in the source data". A smaller inset window shows the command "NUMBER STD COBOL" being entered, with a yellow arrow pointing to it and the text "This command ensures that source data has standard COBOL line numbers".

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYTCARA) - 01.01 Columns 00001 00066
Command ==> Scroll ==> PAGE
=COLS> -----1-----2-----3-----4-----5-----6-----
002230 002230 *****
002240 002240 *****
002250 002250 *** WORKING - STORAGE SECTION
002260 002260 ***
002270 002270 *****
002280 002280 Working-storage
002290 002290 01 Working-
002300 002300
002310 002310 77 comp-cod
002320 002320 77 ws-type
002330 002330
002340 002340
002350 002350 01 i-f-stat
002360 002360 05 i-f-fi
002370 002370 88 i-o-
002380 002380
002390 002390

F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
ME a A 05/002
  
```

Using ISPF Editing Commands – The NUMBER Command - Frame 2

By default, automatic renumbering of lines is turned off. The AUTONUM command controls this mode. Type AUTONUM ON at the command line to allow for automatic line renumbering. AUTONUM OFF turns off this feature.

You can use the RENUM command in order to resequence the line numbers, as shown in this example. By default, resequencing starts with line 100 and increments by 100. RENUM ON turns this on, and RENUM OFF turns the feature off.

The UNNUM command removes all sequence numbers from the source member. You may restore sequence numbers by using RENUM or NUMBER ON.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT SMCHUGH.TEST.COBOL (IGYTH)
Command ==>
025900 IA1800 88 transacti
026000
026100 01 misc-values.
026200 With RENUM 05 location-tabl
026300 ON new 05 line-count
026400 lines 05 page-count
026500 incremented 05 error-on
026600 by 100 05 abend-item1
026700 05 abend-item2
026800 05 abend-item3
026900 05 abend-item4
027000
027100 01 ws-date.
027200 05 yyyy
027300 05 mm
027400 05 dd
027500 IA1940 01 ws-numeric-date
027600
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
04/015
  
```

Original line numbers

With RENUM OFF new lines incremented by 10

Using ISPF Editing Commands – Summary

In this module, Using ISPF Editing Commands, you learned:

- How to use the ISPF editor to make changes to a data set or data set member
- The two types of editing commands: primary and line commands
- How to create a new member of a partitioned data set
- What edit macros are
- How to insert, delete, repeat, copy, and move lines
- How to use editing profiles, tabs, columns, masks, and numbering functions to customize your editor environment