

RPG/400



Unidade - 4

Tópicos Adicionais

```
Action: USRSRC    Entry  
*. 1 ...+... 2 ...+... 3  
CL0N01Factor1++++++Opc0  
C          EVAL  
'3=Exit . F12=Cancel ....
```

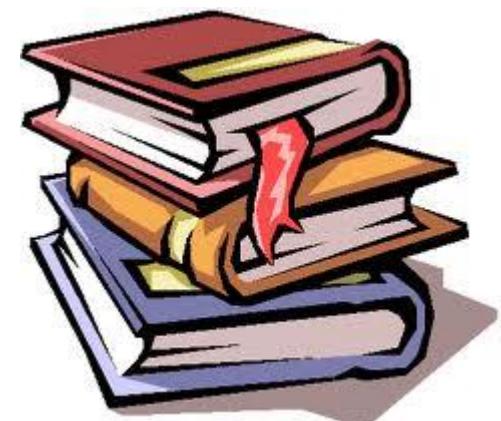
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aparecidovfreitas@gmail.com



Referências

- ✿ RPG/400 – User Guide

- ✿ RPG/400 – Reference



Sub-Programas

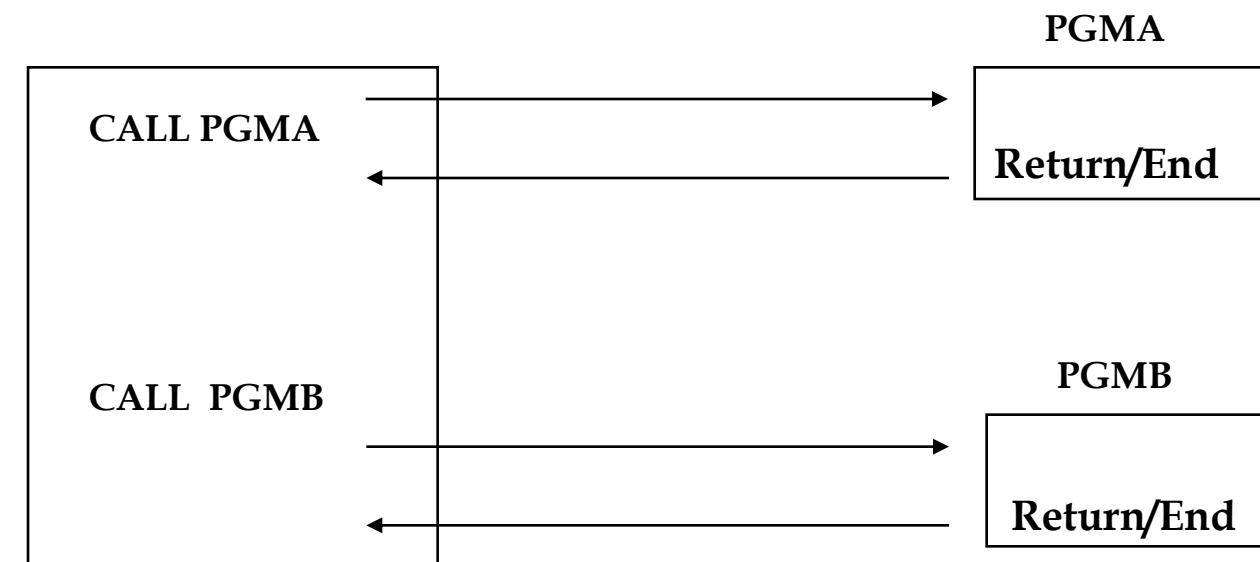
A decisão de Subprograma

Programa
Multifunção



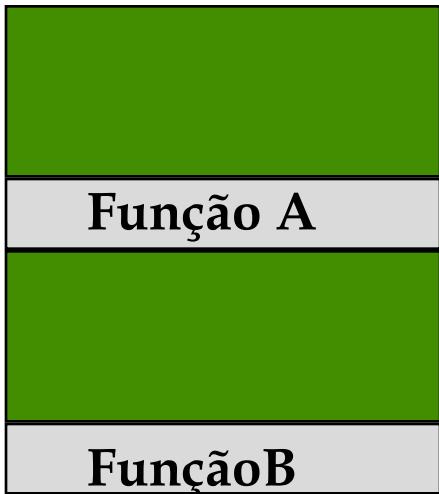
OU

Subprograma



Frequência de Uso do Código

PGMA

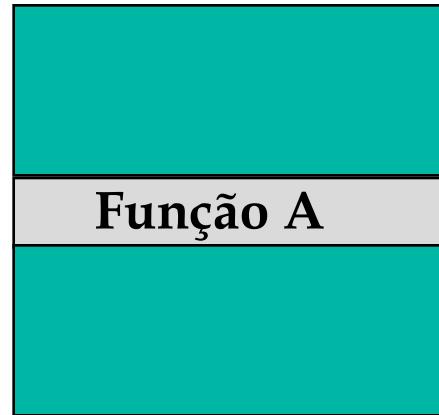


Codificação em Muitos Programas

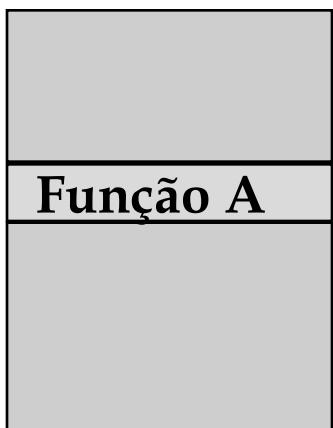
PGMA



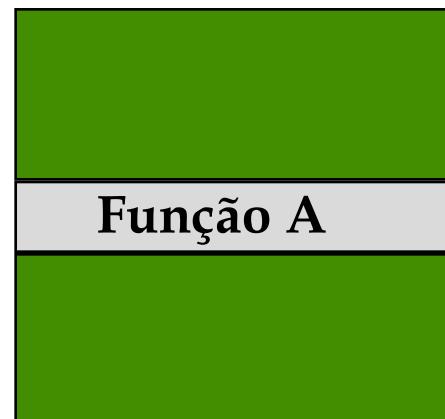
PGMB



PGMC

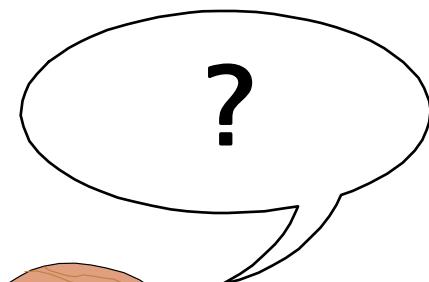


PGMD

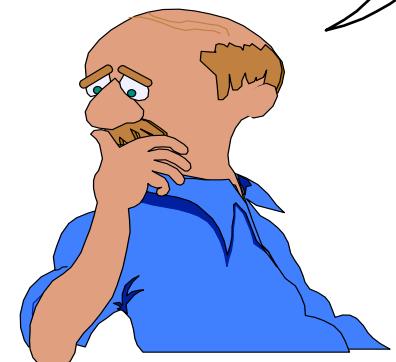


Subprogramas

- ✓ Rotinas Usadas em muitos Programas
- ✓ Aproveita características da Linguagem



Porém....



- ✓ Tempo de Inicialização do Programa
- ✓ Abertura e Fechamento de Arquivos
- ✓ Entradas Adicionais ODP

Passagem de Dados

Programa Principal

Define ITEM

Define QTY

Call Subprogram

Use QTY

ITEM



Subprograma

Use ITEM

Determine QTY

Return

QTY



PARM - Identify Parameters

- ✓ A declarativa **PARM** define os parâmetros que compõem uma lista de parâmetros (**PLIST**).
- ✓ Pode aparecer em qualquer posição imediatamente após a operação **PLIST** ou **CALL** a que se refere.
- ✓ Devem estar na ordem esperada pelo programa chamado.

Passagem de Parâmetros

Programa Chamador

FATOR1



PARM

FATOR2



RESULT



OPCIONAL ANTES DA CHAMADA

Programa Chamado

FATOR1



PARM

FATOR2



RESULT



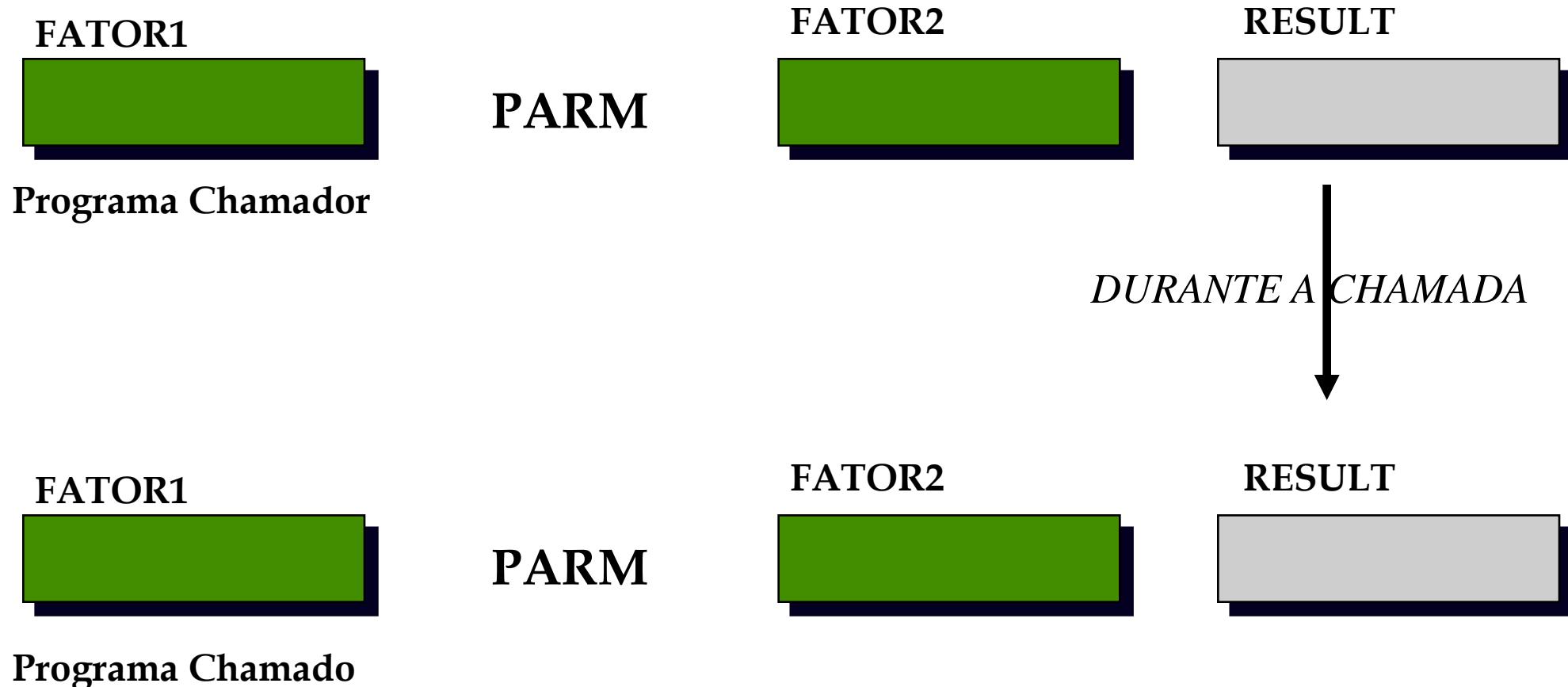
PARM

Programa Chamador



- **FATOR1 e FATOR2 são opcionais**
- **No programa Chamador, o conteúdo do FATOR2 de cada operação PARM é copiado para o campo RESULT daquele PARM.**

Passagem de Parâmetros



Passagem de Parâmetros

FATOR1



FATOR2



RESULT



Programa Chamador

PARM

Programa Chamado
FATOR1



PARM

FATOR2



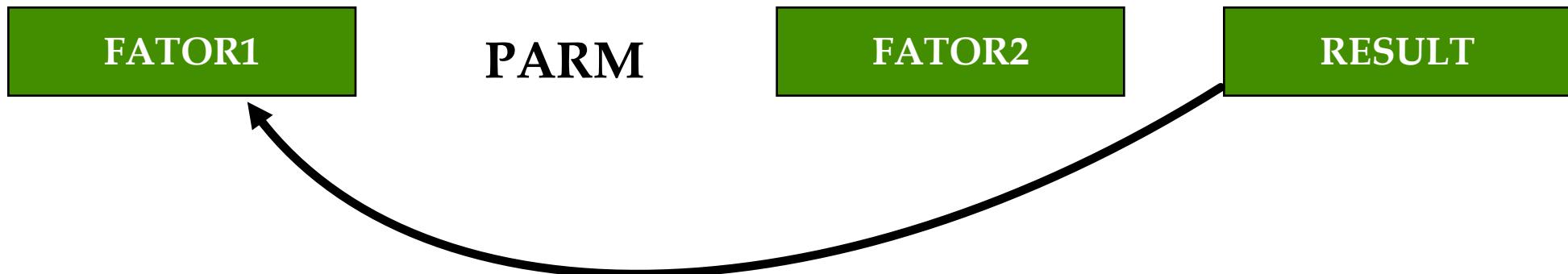
RESULT



OPCIONAL DEPOIS DA CHAMADA

PARM

Programa Chamado



No programa Chamado, após receber o controle e completar a inicialização normal do programa, o conteúdo do campo RESULT de cada PARM é copiado para o Fator1 do mesmo PARM.

Passagem de Parâmetros

Programa Chamador

FATOR1



PARM

FATOR2



RESULT



Programa Chamado

FATOR1



PARM

FATOR2



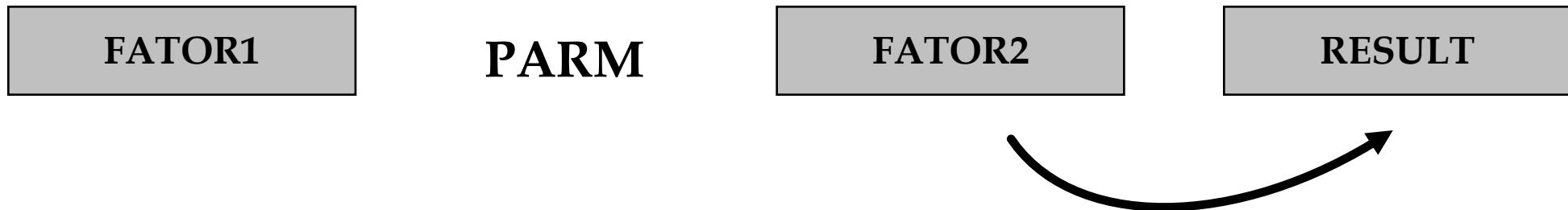
RESULT



OPCIONAL ANTES DO RETORNO

PARM

Programa Chamado



Quando o programa chamado passa o controle de volta para o programa chamador, o conteúdo do Fator2 de cada PARM é copiado para o campo RESULT daquele PARM.

Passagem de Parâmetros

Programa Chamador

FATOR1



FATOR2



RESULT



PARM

DURANTE O RETORNO

Programa Chamado

FATOR1



FATOR2



RESULT



PARM

Passagem de Parâmetros

Programa Chamador

FATOR1



PARM

FATOR2



RESULT



Programa Chamado

FATOR1



PARM

FATOR2

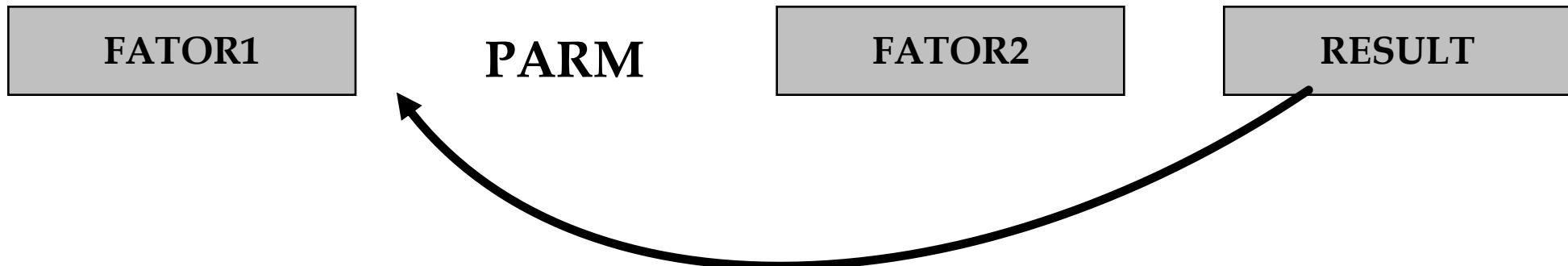


RESULT



PARM

Programa Chamador



Quando o programa chamador receber o controle de volta do programa chamado, o conteúdo do campo Result de cada PARM é copiado para o Fator1 do mesmo PARM.

Codificação do programa Chamador

Form Type	Fator1	Op.	Fator2	Result	Tam
C	PESQUISA	PLIST			
C		PARM		COD	5 0
C		PARM	QTDE	QT	3 0
C	*IN51	PARM		IND51	1
C	DEPOIS	PARM	ANTES	STAT	1 0
C		_____			
C		_____			
C		_____			
C		_____			
C		_____			
C	CALL	'ROT'	PESQUISA		

Codificação do Sub-Programa

Form Type	Fator1	Op.	Fator2	Result	Tam
C	*ENTRY	PLIST			
C	CODIGO	PARM		CODN	5 0
C		PARM		QUANT	3 0
C		PARM	*IN51	I51	1
C	*INLR	PARM		END	
C	CODIGO	CHAIN	ARQ	22	
C		-----			
C		-----			
C		-----			
		RETRN			

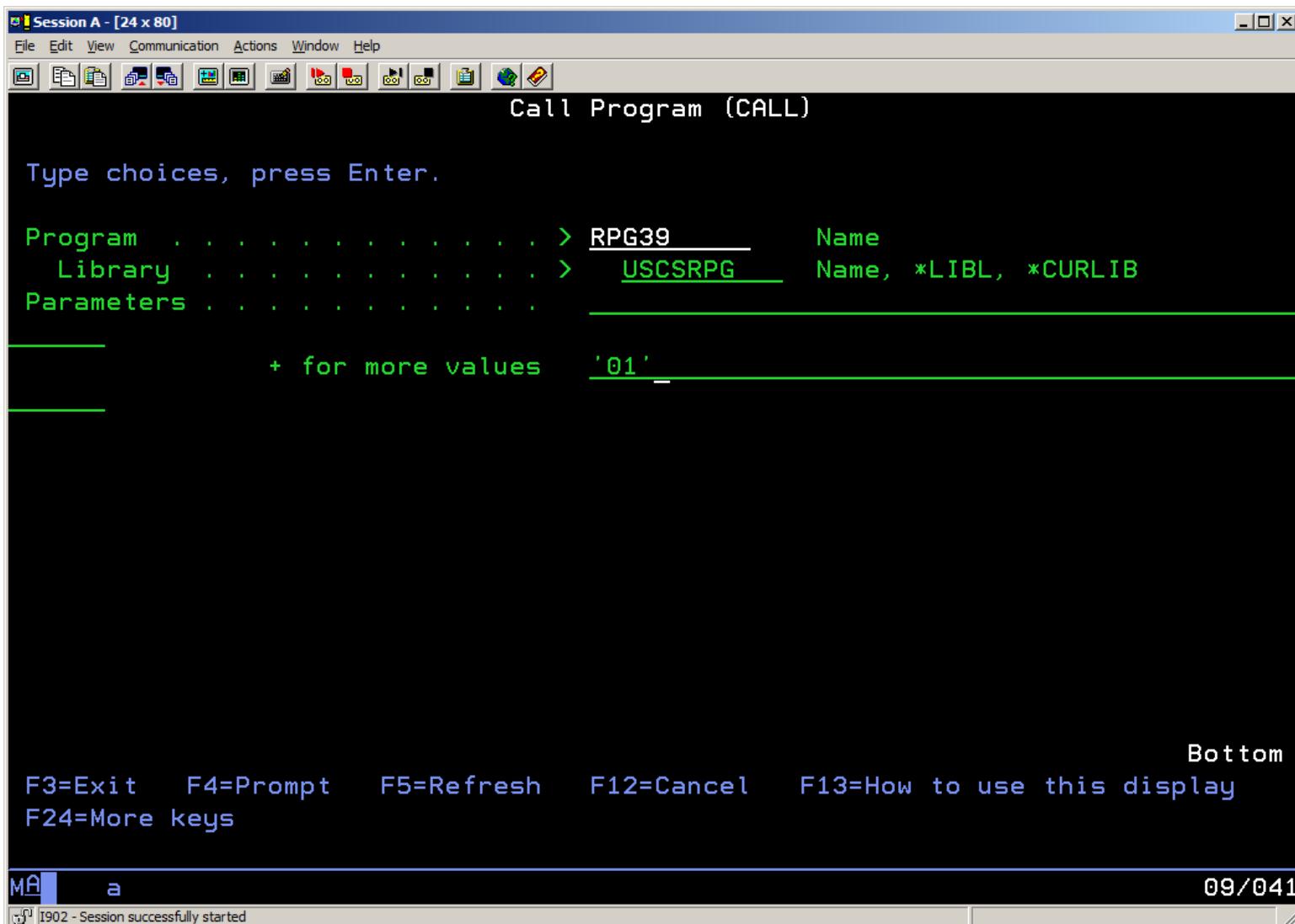
A LISTA DE PARÂMETROS *ENTRY SERÁ RECEBIDA DURANTE A INICIALIZAÇÃO DO PROGRAMA.

Atividade – 39

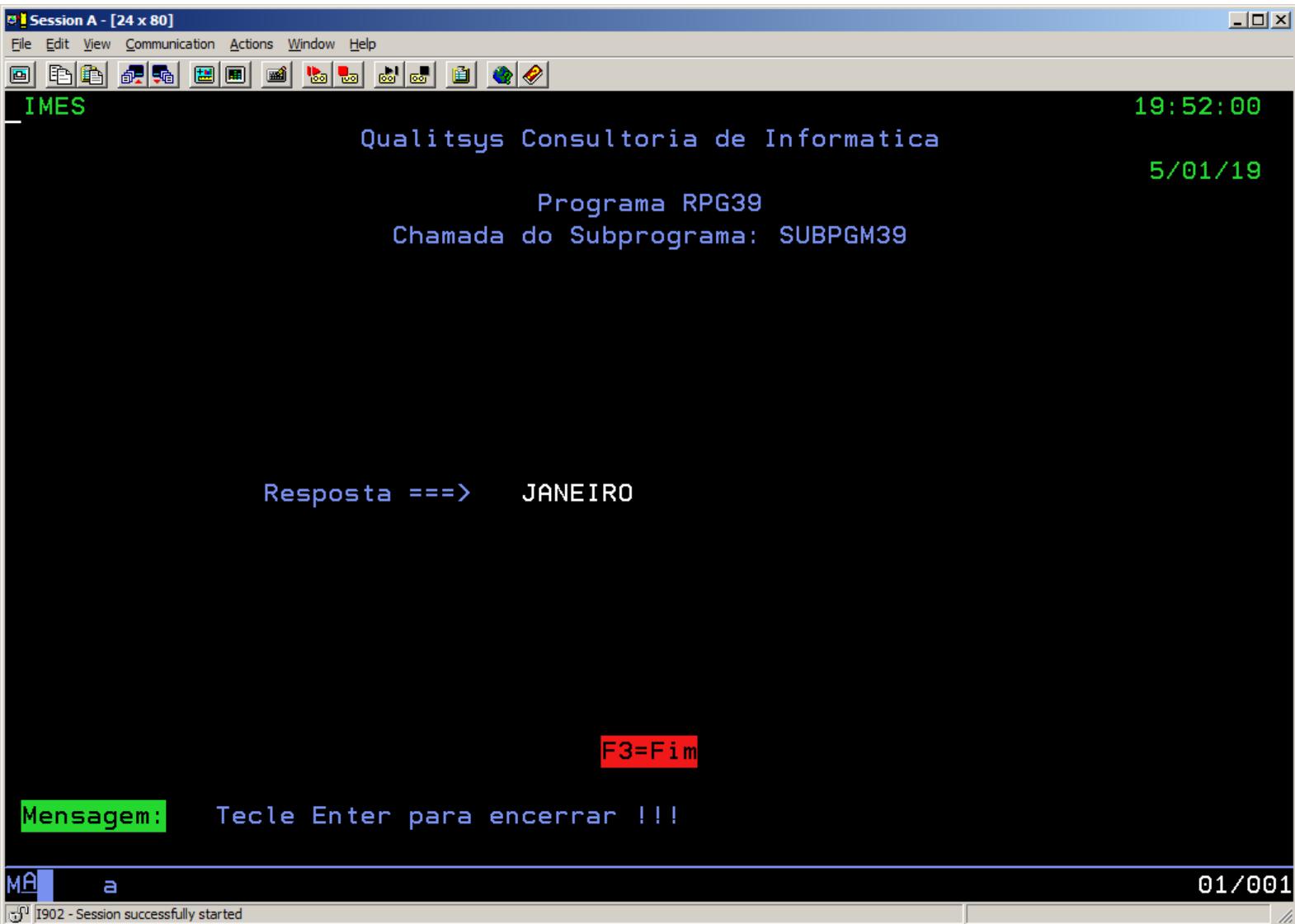
- ✓ Programa **RPG39** – O programa deverá receber (via linha de comando) um número de 1 a 12 que corresponde a um mês.
- ✓ Em seguida, o programa deverá passar esse valor para um subprograma chamado **SUBPGM**.
- ✓ O programa **SUBPGM** deverá enviar uma tela informando qual o mês especificado.
- ✓ Arquivo de Telas: **ARQTELAS**
- ✓ Chamada para execução **CALL LIB/RPG39 '01'**



Atividade - 39



Atividade - 39



Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 19:52:00

Qualitsys Consultoria de Informatica 5/01/19

Programa RPG39

Chamada do Subprograma: SUBPGM39

Resposta ===> JANEIRO

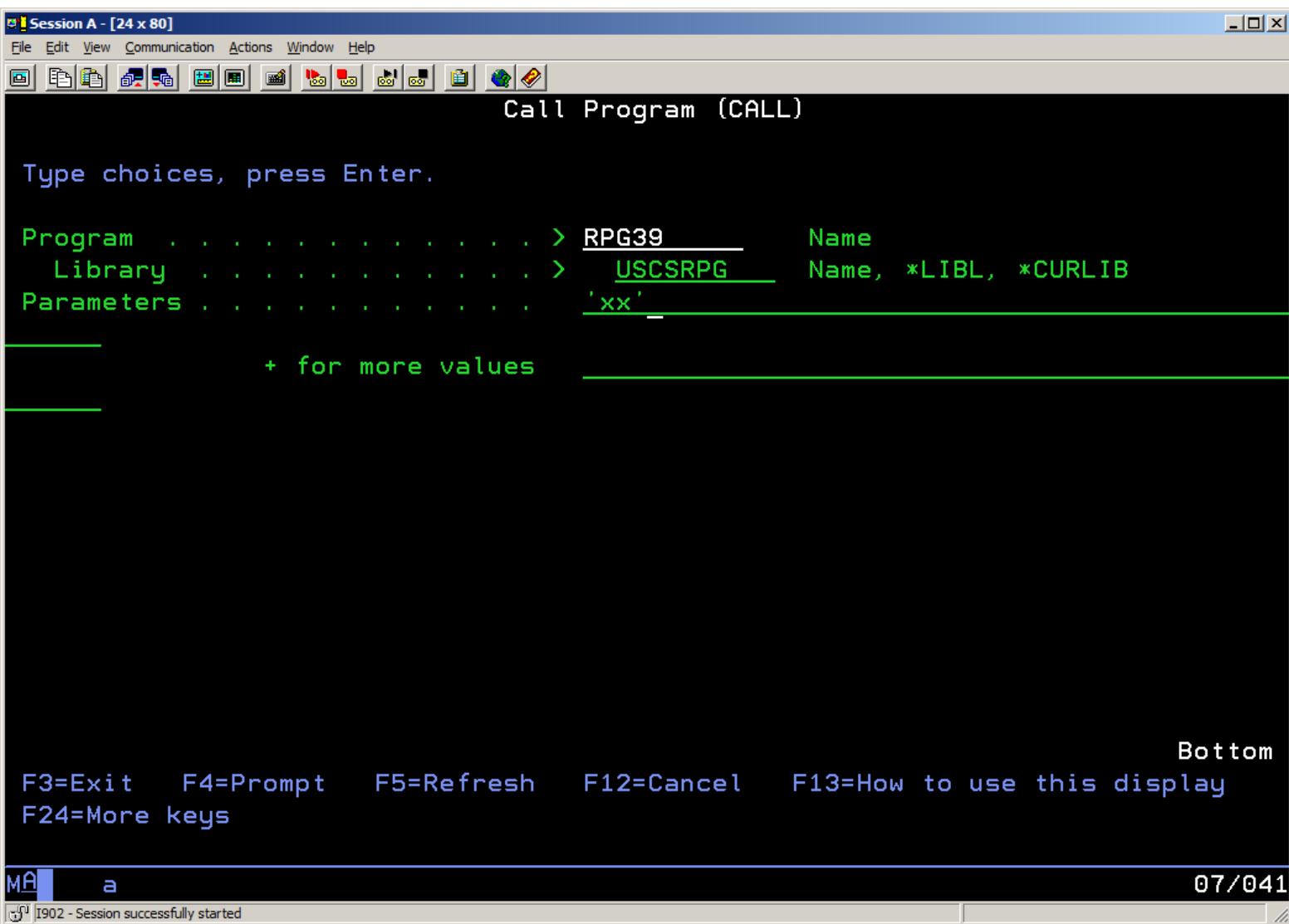
F3=Fim

Mensagem: Tecle Enter para encerrar !!!

MA a 01/001

I902 - Session successfully started

Atividade - 39



Session A - [24 x 80]

File Edit View Communication Actions Window Help

Call Program (CALL)

Type choices, press Enter.

Program > RPG39 Name
Library > USCSRPG Name, *LIBL, *CURLIB
Parameters 'xx'

+ for more values

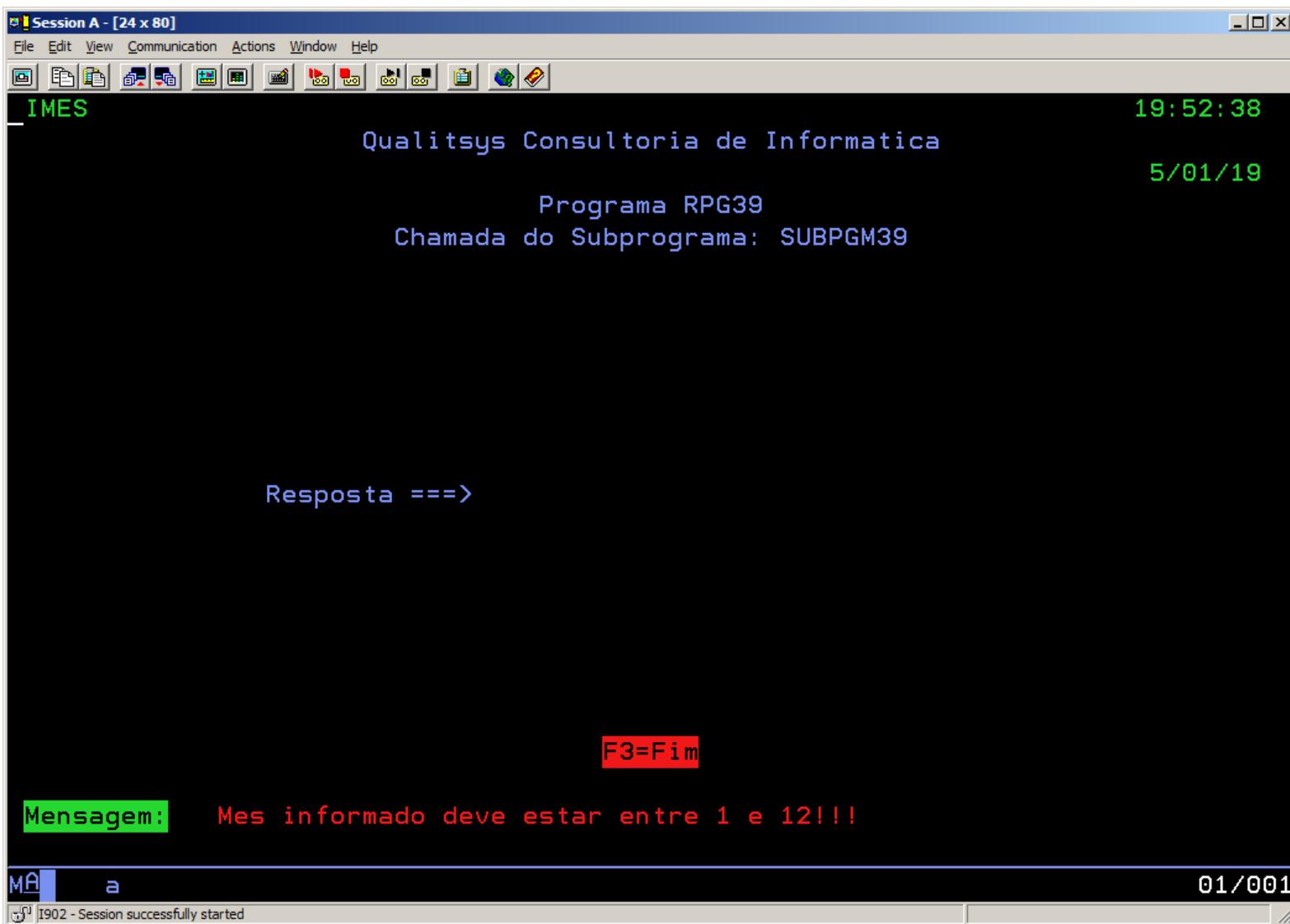
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

Bottom

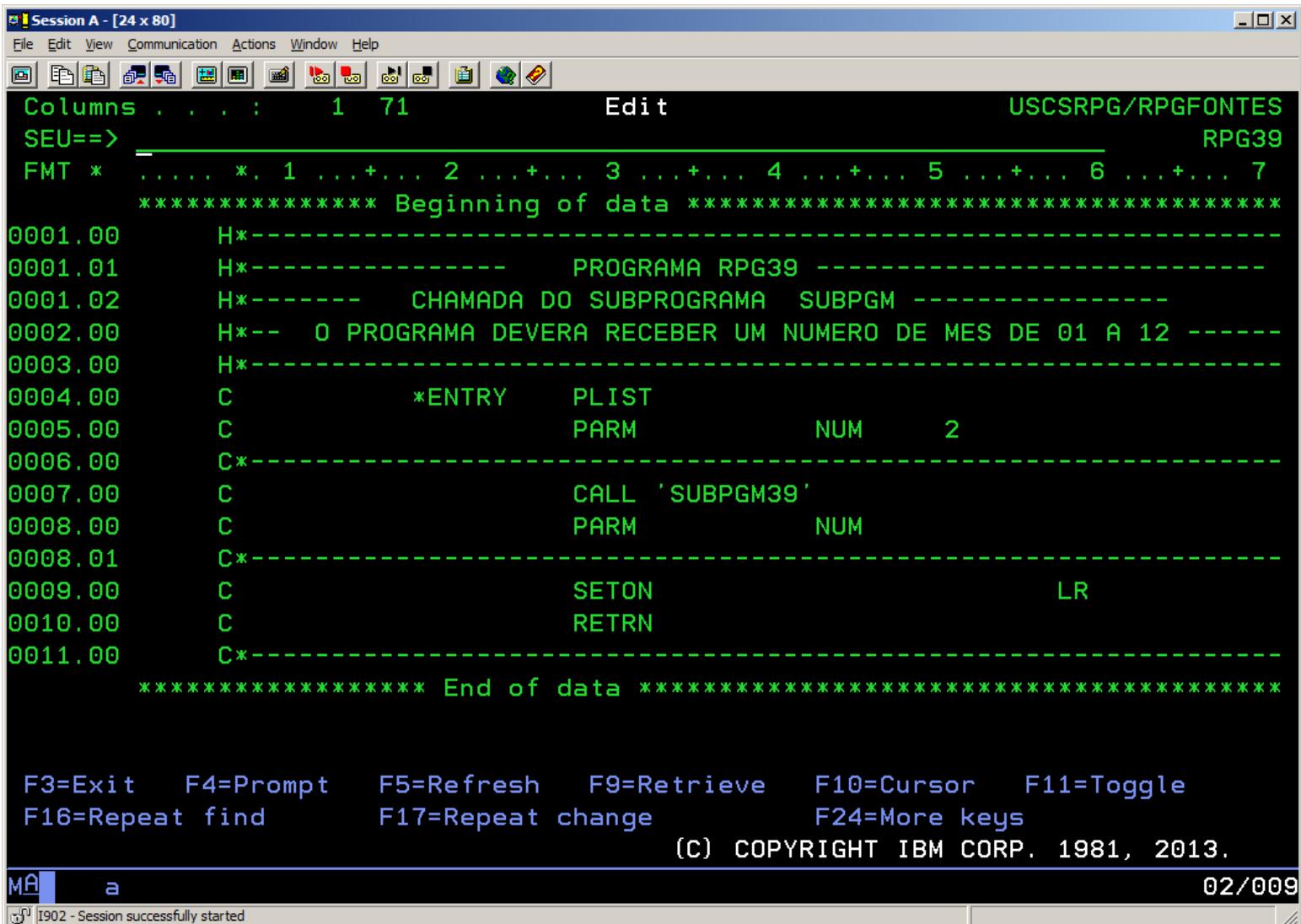
MA a 07/041

I902 - Session successfully started

Atividade - 39



Atividade - 39- Solução



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU==> _                                     RPG39
FMT * ..... * 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
      ***** Beginning of data *****
0001.00      H*-----
0001.01      H*----- PROGRAMA RPG39 -----
0001.02      H*----- CHAMADA DO SUBPROGRAMA SUBPGM -----
0002.00      H*** O PROGRAMA DEVERA RECEBER UM NUMERO DE MES DE 01 A 12 -----
0003.00      H*-----
0004.00      C      *ENTRY     PLIST
0005.00      C      PARM           NUM      2
0006.00      C*-----
0007.00      C      CALL 'SUBPGM39'
0008.00      C      PARM           NUM
0008.01      C*-----
0009.00      C      SETON           LR
0010.00      C      RETRN
0011.00      C*-----
      ***** End of data *****

F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F10=Cursor   F11=Toggle
F16=Repeat find   F17=Repeat change   F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.
MA a
02/009
I902 - Session successfully started
```

Atividade - 39- Solução



The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window contains the following RPG source code:

```
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU==>_
FMT * . . . * . 1 . . + . . 2 . . + . . 3 . . + . . 4 . . + . . 5 . . + . . 6 . . + . . 7
***** Beginning of data *****

0001.00      H-----+
0001.01      H-----+      SUBPROGRAMA SUBPGM39
0001.02      H-----+      CHAMADO PELO PROGRAMA RPG39
0001.03      H-----+      RECEBE PARAMETRO COM 2 CARACTERES
0001.04      H-----+      REFERENTE AO MES DO ANO
0001.05      H-----+
0002.00      FRPGTELASCF E      WORKSTN
0003.00      I-----+
0004.00      IW1      DS          50
0005.00      I I      'Tecle Enter para enc-  01 50 WMENS
0006.00      I      'errar !!!'
0007.00      I-----+
0008.00      IW2      DS          02
0009.00      I I      01 02 WNUM
0010.00      I-----+
0011.00      IW3      DS          10
```

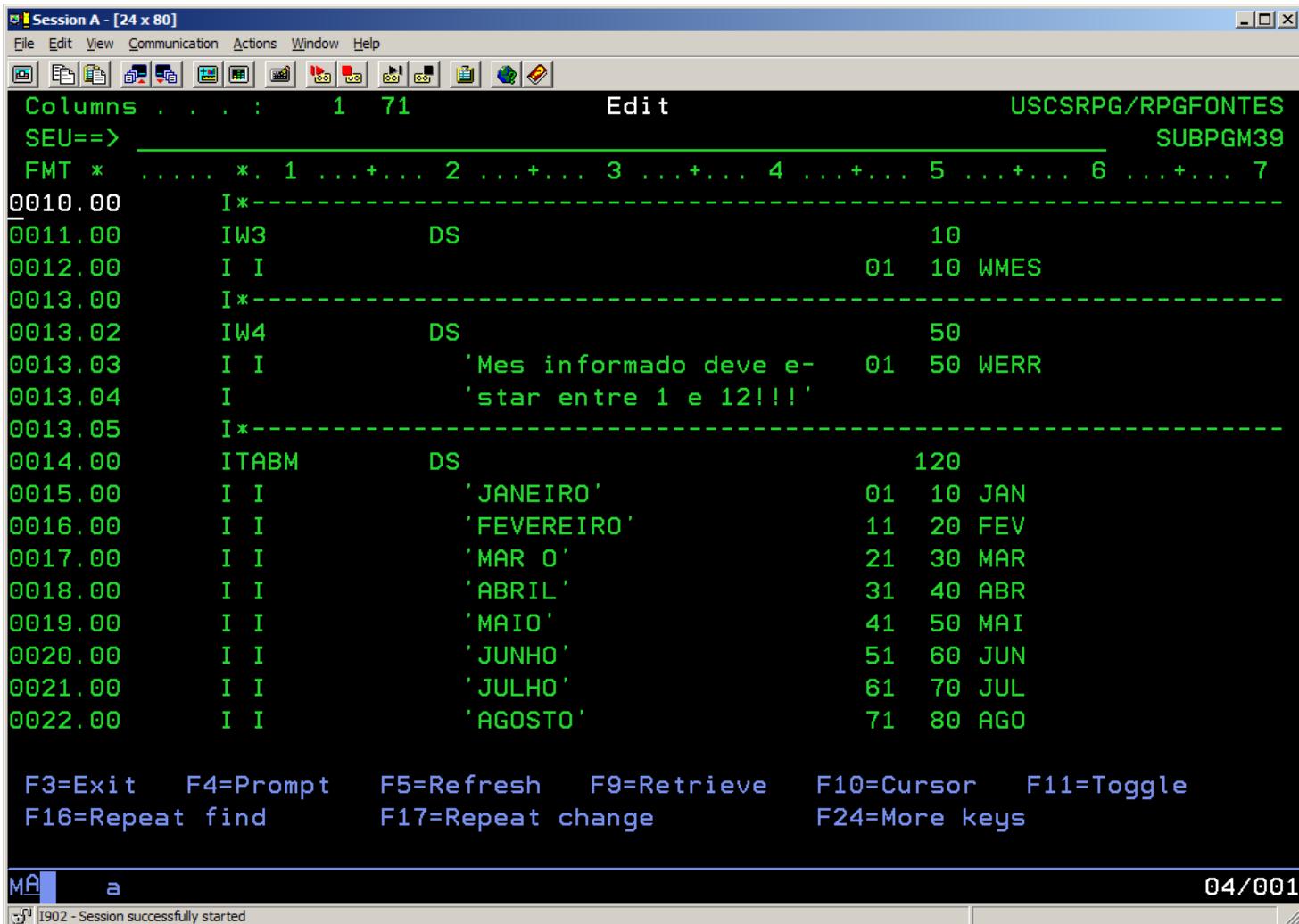
At the bottom of the screen, function key definitions are listed:

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

The status bar at the bottom shows "I902 - Session successfully started" and the date "02/009".

Atividade - 39- Solução



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU=>                                     SUBPGM39
FMT * ..... * . 1 . . + . . 2 . . + . . 3 . . + . . 4 . . + . . 5 . . + . . 6 . . + . . 7
0010.00      I*-----
0011.00      IW3           DS               10
0012.00      I I            DS               01 10 WMES
0013.00      I*-----
0013.02      IW4           DS               50
0013.03      I I            'Mes informado deve e- 01 50 WERR
0013.04      I              'star entre 1 e 12!!!'
0013.05      I*-----
0014.00      ITABM         DS               120
0015.00      I I            'JANEIRO'        01 10 JAN
0016.00      I I            'FEVEREIRO'       11 20 FEV
0017.00      I I            'MAR O'          21 30 MAR
0018.00      I I            'ABRIL'           31 40 ABR
0019.00      I I            'MAIO'            41 50 MAI
0020.00      I I            'JUNHO'           51 60 JUN
0021.00      I I            'JULHO'           61 70 JUL
0022.00      I I            'AGOSTO'          71 80 AGO

F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F10=Cursor   F11=Toggle
F16=Repeat find   F17=Repeat change   F24=More keys

MA a          04/001
I902 - Session successfully started
```

Atividade - 39- Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM39

FMT SVI.I..... Init-value++++++PFFromTo++DField+.....

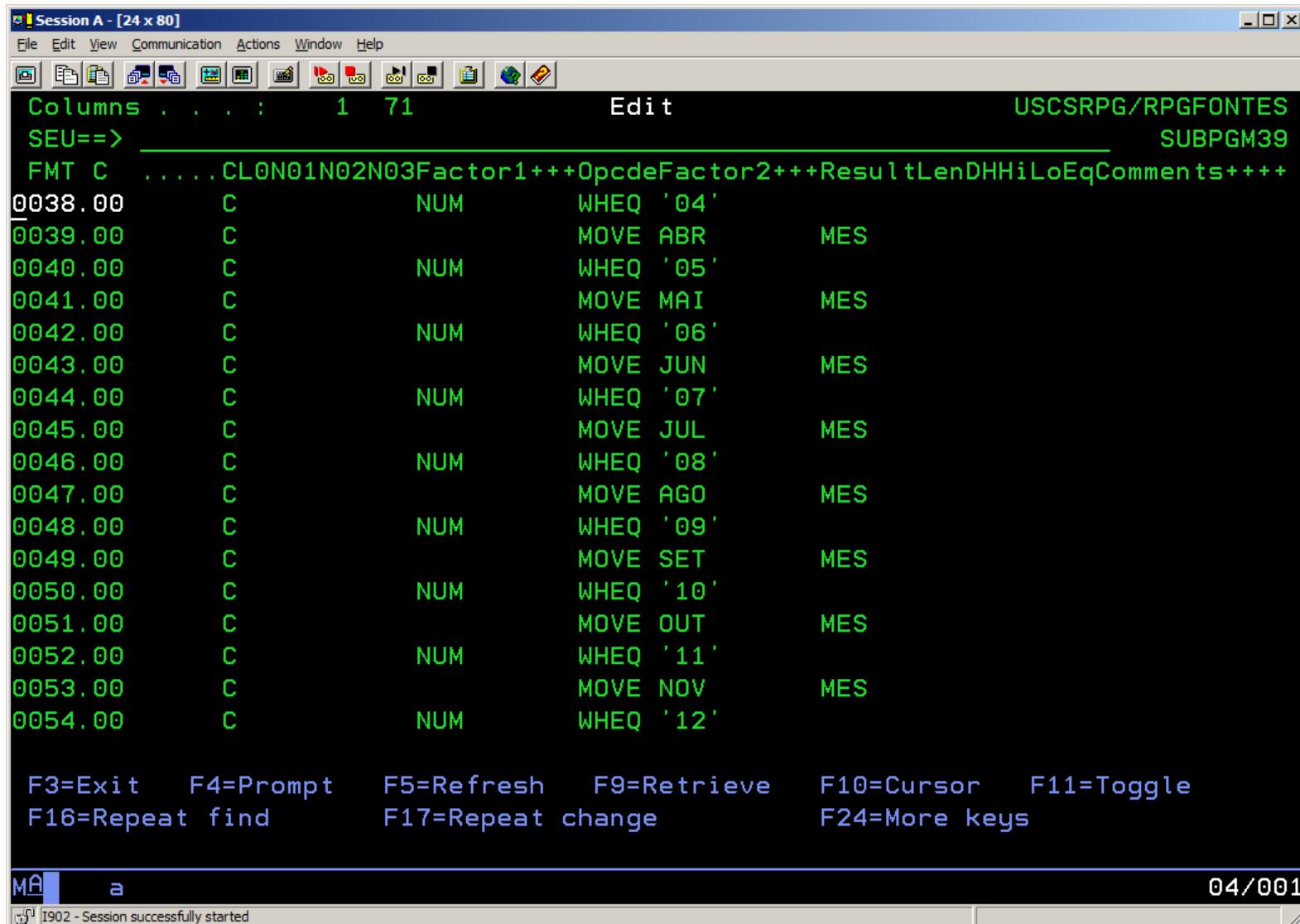
```
0022.00    I I      'AGOSTO'          71 80 AGO
0023.00    I I      'SETEMBRO'        81 90 SET
0024.00    I I      'OUTUBRO'         91 100 OUT
0025.00    I I      'NOVEMBRO'       101 110 NOV
0026.00    I I      'DEZEMBRO'        111 120 DEZ
0027.00    C*-----*
0028.00    C *ENTRY    PLIST
0029.00    C PARM      NUM      2
0030.09    C*-----*
0031.00    C SELEC
0032.00    C NUM      WHEQ '01'
0033.00    C MOVE     JAN      MES
0034.00    C NUM      WHEQ '02'
0035.00    C MOVE     FEV      MES
0036.00    C NUM      WHEQ '03'
0037.00    C MOVE     MAR      MES
0038.00    C NUM      WHEQ '04'
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 39- Solução



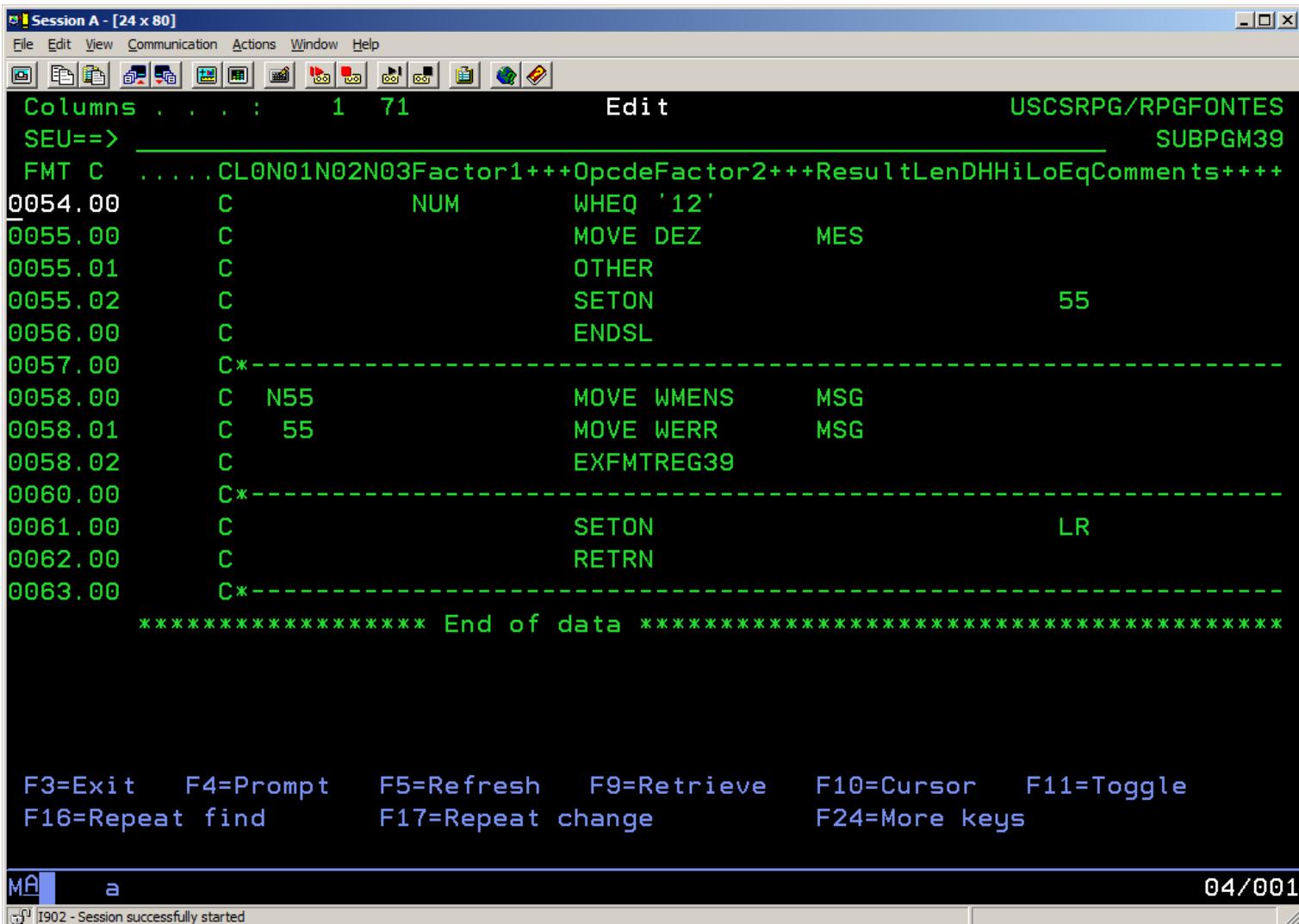
The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window contains RPG source code for a subroutine named SUBPGM39. The code defines a parameter FMT with a format of CL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments++++. The subroutine then processes twelve months from January to December, moving the month name from a character variable WHEQ to a character variable ABR, and setting a numeric variable MES to the corresponding month number (01 through 12). The code uses MOVE and WHEQ instructions. At the bottom of the screen, function key definitions are provided: F3=Exit, F4=Prompt, F5=Refresh, F9=Retrieve, F10=Cursor, F11=Toggle, F16=Repeat find, F17=Repeat change, and F24=More keys.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU=> _____ SUBPGM39
FMT C .....CL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments++++
0038.00    C      NUM      WHEQ '04'
0039.00    C      MOVE ABR      MES
0040.00    C      NUM      WHEQ '05'
0041.00    C      MOVE MAI      MES
0042.00    C      NUM      WHEQ '06'
0043.00    C      MOVE JUN      MES
0044.00    C      NUM      WHEQ '07'
0045.00    C      MOVE JUL      MES
0046.00    C      NUM      WHEQ '08'
0047.00    C      MOVE AGO      MES
0048.00    C      NUM      WHEQ '09'
0049.00    C      MOVE SET      MES
0050.00    C      NUM      WHEQ '10'
0051.00    C      MOVE OUT      MES
0052.00    C      NUM      WHEQ '11'
0053.00    C      MOVE NOV      MES
0054.00    C      NUM      WHEQ '12'

F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F10=Cursor   F11=Toggle
F16=Repeat find   F17=Repeat change   F24=More keys

MA a          04/001
I902 - Session successfully started
```

Atividade - 39- Solução



The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window contains RPG source code for a program named "SUBPGM39". The code includes various RPG instructions such as FMT, MOVE, SETON, and RETRN, along with comments and data definitions. The terminal has a standard menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar with various icons. At the bottom, there is a status bar showing the date "04/001" and a message "I902 - Session successfully started".

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU==> _____          SUBPGM39
FMT C . . . . CL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments++++
0054.00    C           NUM        WHEQ '12'
0055.00    C           MOVE DEZ      MES
0055.01    C           OTHER
0055.02    C           SETON
0056.00    C           ENDSL
0057.00    C*-----*
0058.00    C   N55       MOVE WMENS    MSG
0058.01    C   55        MOVE WERR      MSG
0058.02    C           EXFMTREG39
0060.00    C*-----*
0061.00    C           SETON
0062.00    C           RETRN
0063.00    C*-----*
***** End of data *****

F3=Exit  F4=Prompt  F5=Refresh  F9=Retrieve  F10=Cursor  F11=Toggle
F16=Repeat find  F17=Repeat change  F24=More keys

MA a
I902 - Session successfully started 04/001
```

Executando um comando CL

Form Type	Fator1	Op.	Fator2	Result	Tam
C* indicador *IN03 é setado pela F3					
C	*IN03	IFEQ	'1'		
C		CALL	'QCMDEXC'		
C		PARM	'DSPMSG'	CMD	6
C		PARM	6	LEN	15 5
C*					
C		END			

Atividade – 40

- ✓ Programa **RPG40** – O programa deverá executar um comando CL através de uma chamada ao utilitário **QCMDEXC**.
- ✓ Comando a ser utilizado: **DSPMSG**



Atividade – 40

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Work with Members Using PDM ASSRV34

File RPGFONTES
Library USCSRPG Position to

Type options, press Enter.

2>Edit 3=Copy 4=Delete 5=Display 6=Print 7=Rename
8=Display description 9=Save 13=Change text 14=Compile 15=Create module...

Opt	Member	Type	Text
	RPG39	RPG	<u>Chamada de SubPrograma SUBPGM39</u>
C	RPG40	RPG	<u>Call QCMDEXC</u>
	RPG41	RPG	<u>Call com Passagem de Parâmetros</u>
	RPG42	RPG	<u>Acesso a *LDA - Chamada de Subprograma SUBPGM42</u>
	RPG43	RPG	<u>Debug com STRISDB</u>
	RPG44	RPG	<u>Operações Aritméticas - Equação do Segundo Grau</u>
	RPG45	RPG	<u>Definição Interna de Arquivos - ALULF2</u>
	RPG50	RPG	<u>Subfile de Inquire</u>

More...
Parameters or command
==> _____

F3=Exit F4=Prompt F5=Refresh F6/Create
F9=Retrieve F10=Command entry F23=More options F24=More keys

MA a 12/003

I902 - Session successfully started

Atividade – 40

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Display Messages

Queue : IMES	System: ASSRV34
Library : QUSRSYS	Program : *DSPMSG
Severity : 00	Library :
	Delivery : *BREAK

Type reply (if required), press Enter.

Job 016446/IMES/RPG39 completed normally on 05/01/19 at 19:51:06.
Job 016447/IMES/SUBPGM39 completed normally on 05/01/19 at 19:51:42.
Job 016448/IMES/SUBPGM42 completed normally on 05/01/19 at 19:51:46.

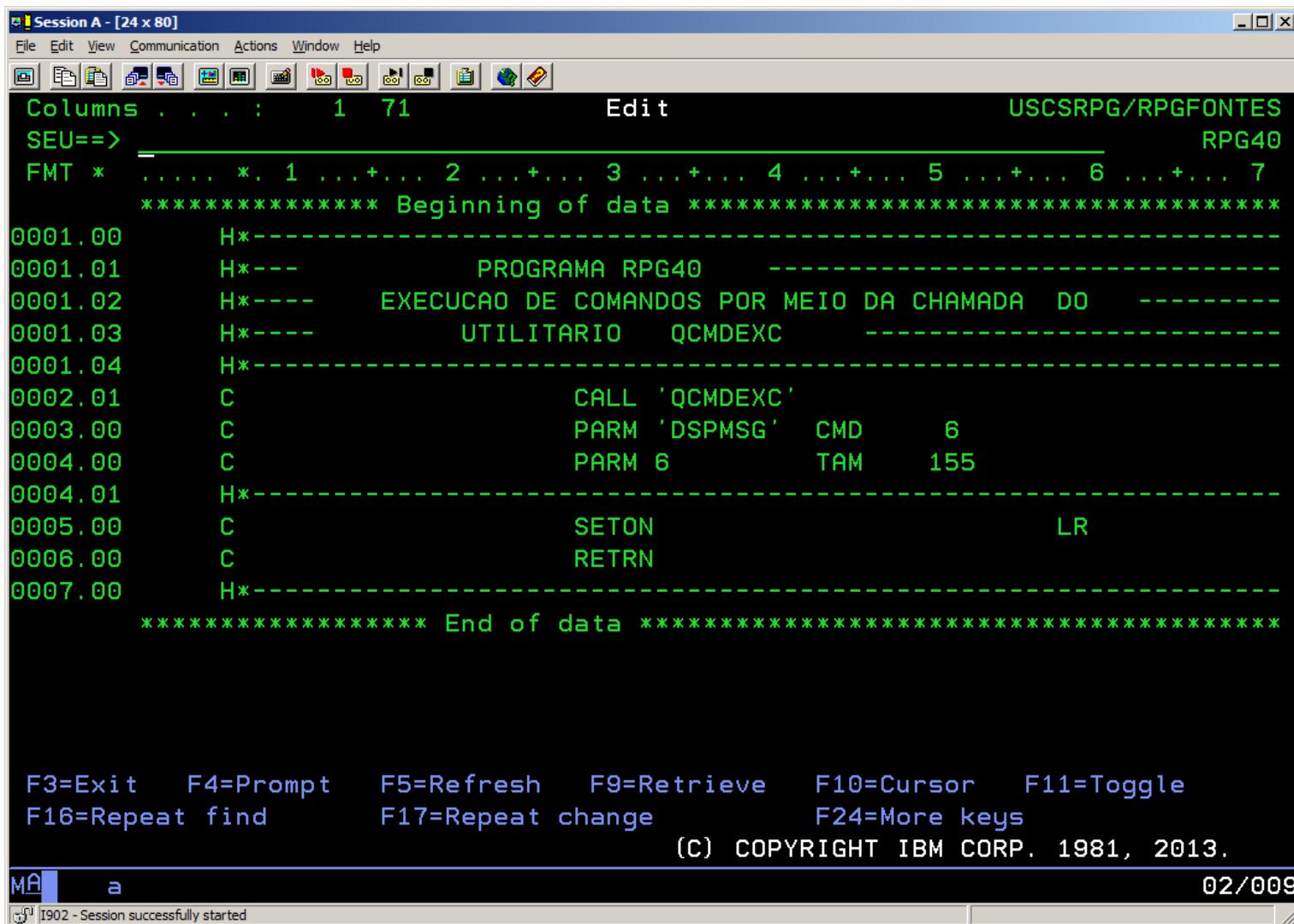
F3=Exit F11=Remove a message F12=Cancel
F13=Remove all F16=Remove all except unanswered F24=More keys

Bottom

MA a 08/001

I902 - Session successfully started

Atividade - 40 - Solução



The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window displays RPG40 source code. The code includes comments like "Beginning of data" and "End of data". The code defines a program named "PROGRAMA RPG40" which executes commands via QCMDEXC. It uses PARM parameters for DSPMSG, CMD, and TAM. The code ends with SETON and RETRN statements. The terminal window has a menu bar with File, Edit, View, Communication, Actions, Window, Help, and a toolbar with various icons.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG40
FMT * ..... *. 1 ....+... 2 ....+... 3 ....+... 4 ....+... 5 ....+... 6 ....+... 7
***** Beginning of data *****
0001.00      H*-----
0001.01      H*--- PROGRAMA RPG40 -----
0001.02      H*--- EXECUCAO DE COMANDOS POR MEIO DA CHAMADA DO -----
0001.03      H*--- UTILITARIO QCMDEXC -----
0001.04      H*-----
0002.01      C          CALL 'QCMDEXC'
0003.00      C          PARM 'DSPMSG'   CMD      6
0004.00      C          PARM 6        TAM     155
0004.01      H*-----
0005.00      C          SETON           LR
0006.00      C          RETRN
0007.00      H*-----
***** End of data *****

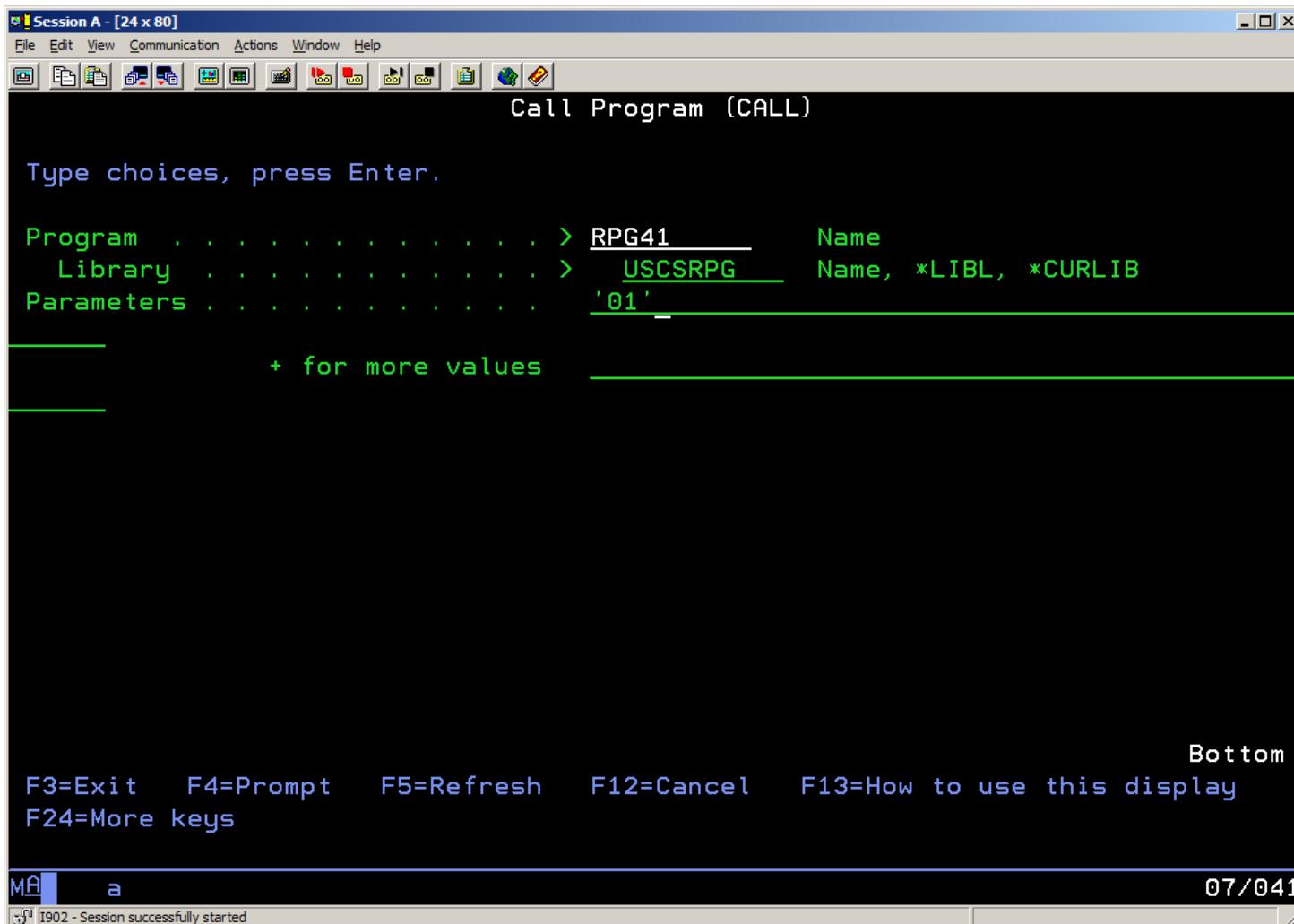
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.
MA a 02/009
I902 - Session successfully started
```

Atividade – 41

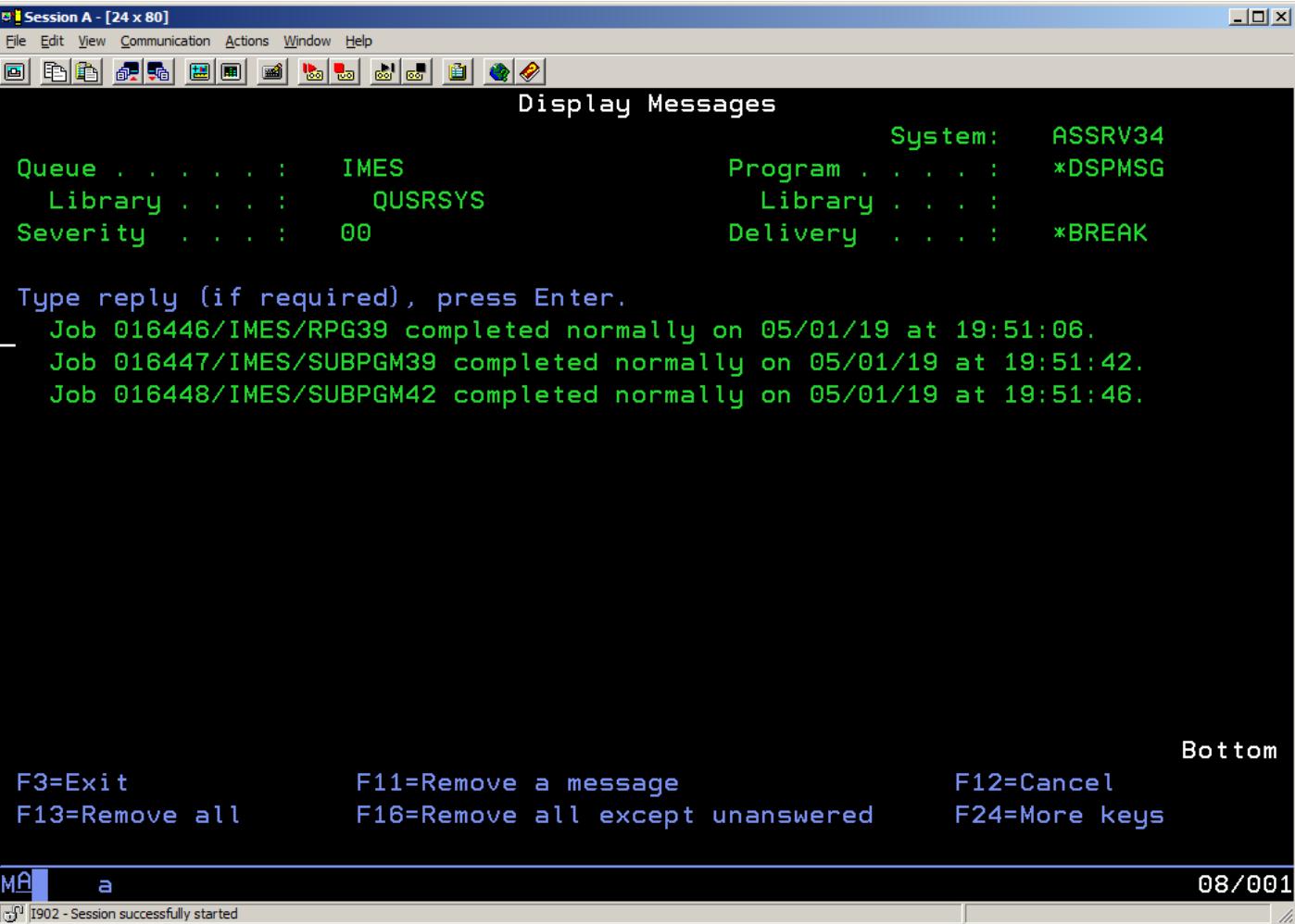
- ✓ Programa **RPG24** – O programa deverá receber por parâmetro os valores ‘01’ou ‘02’ ou ‘03’.
- ✓ Caso o parâmetro seja ‘01’o programa deverá executar o comando DSPMSG.
- ✓ Caso o parâmetro seja ‘02’ o programa deverá executar o comando DSPLIBL.
- ✓ Caso o parâmetro seja ‘03’ o programa deverá executar o comando DSPLIB LIB(IMESCURRPG).



Atividade – 41



Atividade – 41



Session A - [24 x 80]
File Edit View Communication Actions Window Help
Display Messages

Queue : IMES	System: ASSRV34
Library : QUSRSYS	Program : *DSPMSG
Severity : 00	Library :
	Delivery : *BREAK

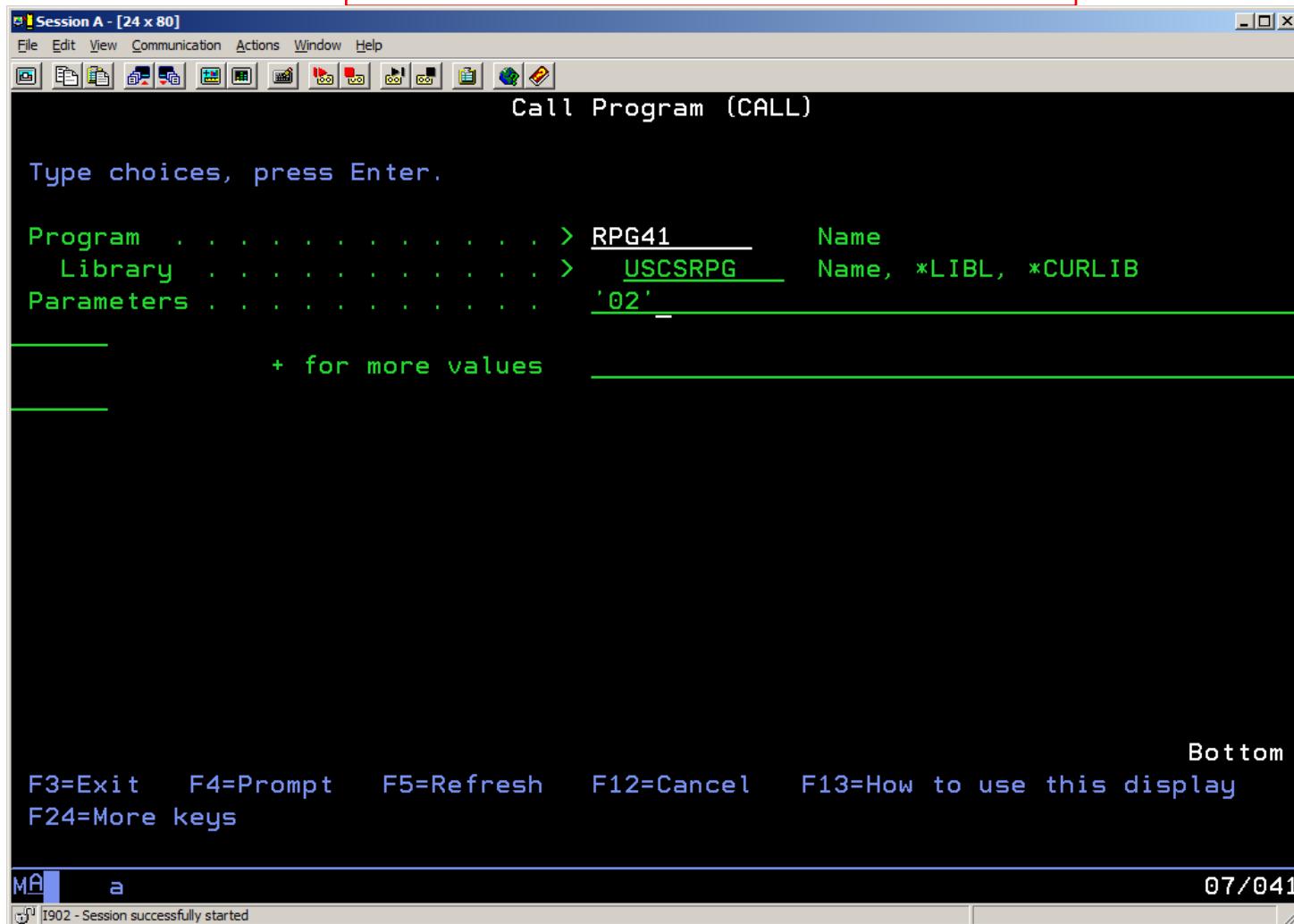
Type reply (if required), press Enter.
Job 016446/IMES/RPG39 completed normally on 05/01/19 at 19:51:06.
Job 016447/IMES/SUBPGM39 completed normally on 05/01/19 at 19:51:42.
Job 016448/IMES/SUBPGM42 completed normally on 05/01/19 at 19:51:46.

Bottom

F3=Exit F11=Remove a message F12=Cancel
F13=Remove all F16=Remove all except unanswered F24=More keys

MA a 08/001
I902 - Session successfully started

Atividade – 41



Atividade – 41

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Display Library List System: ASSRV34

Type options, press Enter.
5=Display objects in library

Opt	Library	Type	Device	Text
=	QSYS	SYS		System Library
=	QSYS2	SYS		System Library for CPI's
=	QHLPSYS	SYS		
=	QUSRSYS	SYS		System Library for Users
=	QTEMP	SYS		
=	QPDA	PRD		
=	USCSRPG	CUR		
=	QGPL	USR		General Purpose Library

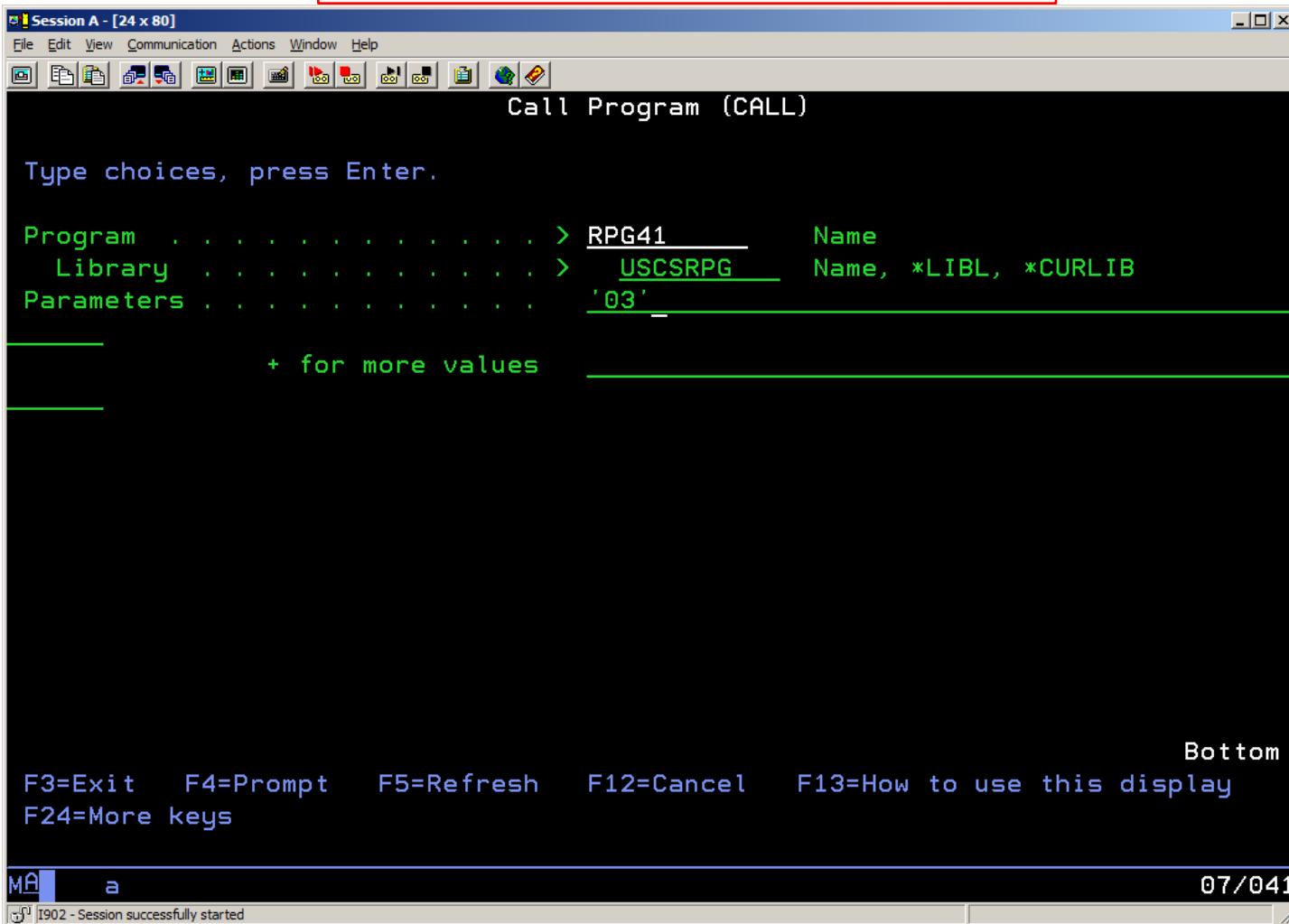
Bottom

F3=Exit F12=Cancel F17=Top F18=Bottom
(C) COPYRIGHT IBM CORP. 1980, 2013.

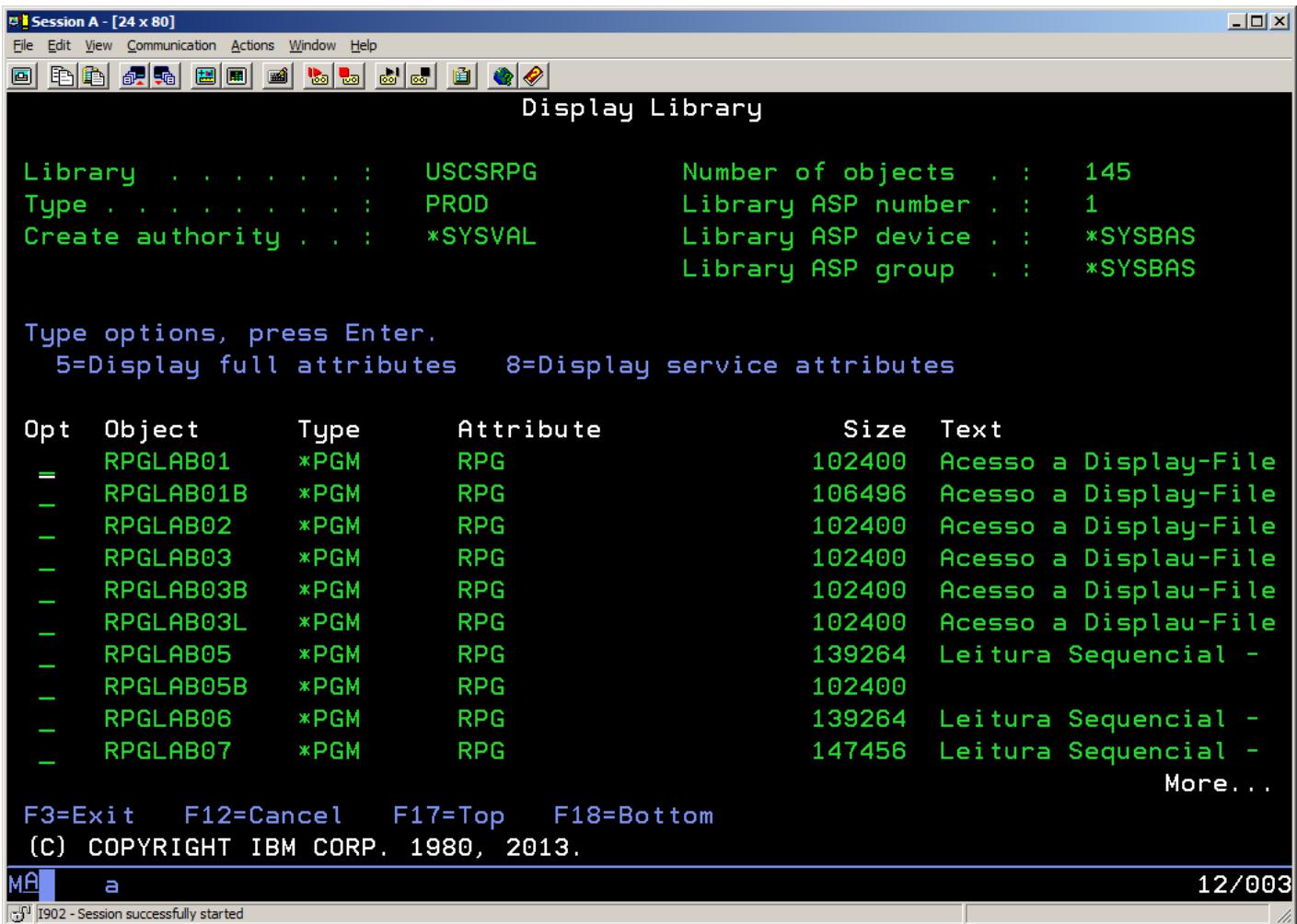
MA a 10/003

I902 - Session successfully started

Atividade – 41



Atividade – 41



Session A - [24 x 80]
File Edit View Communication Actions Window Help
Display Library

```
Library . . . . . : USCSRPG      Number of objects . . : 145
Type . . . . . : PROD          Library ASP number . . : 1
Create authority . . : *SYSVAL    Library ASP device . . : *SYSBAS
                                         Library ASP group . . : *SYSBAS

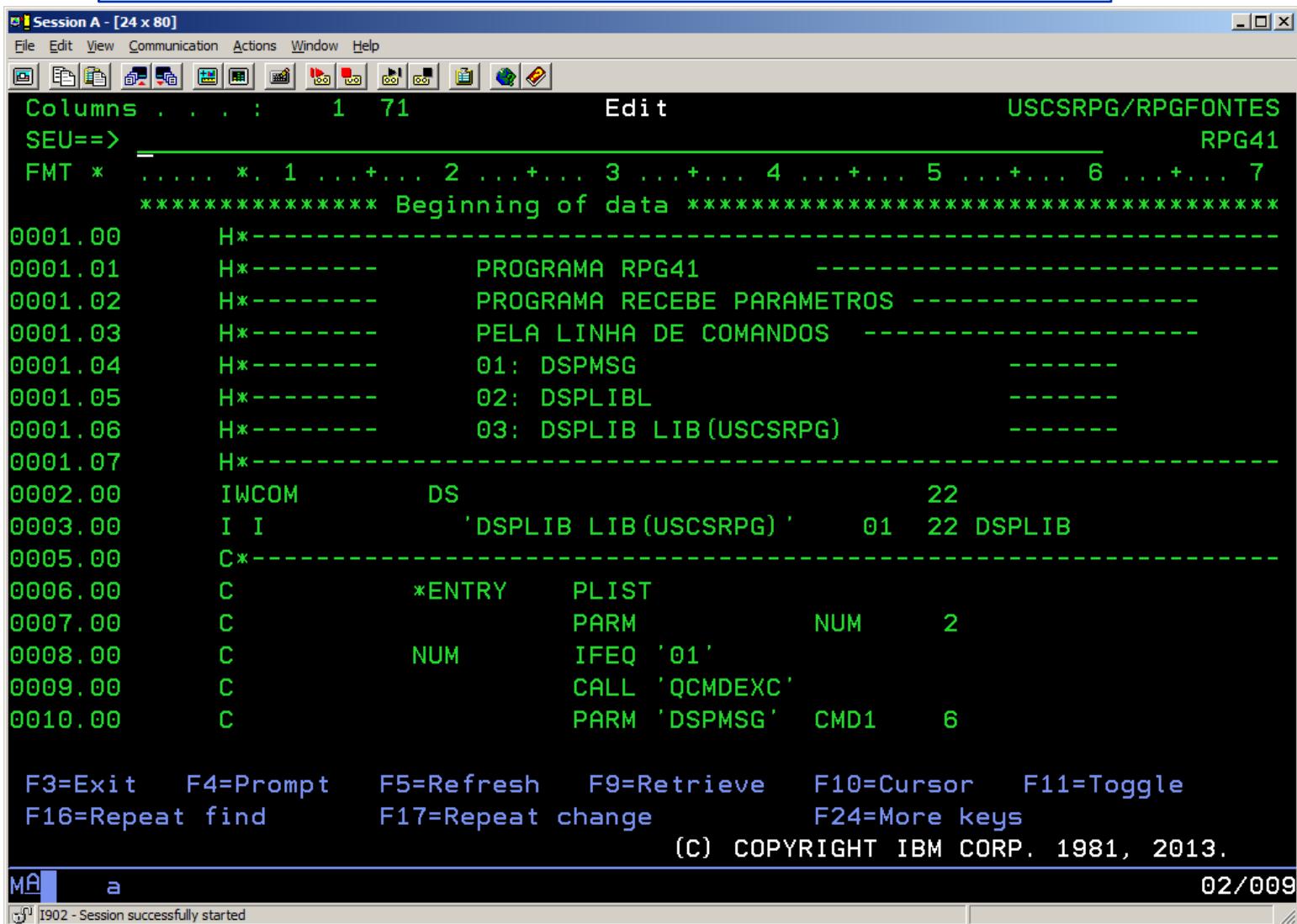
Type options, press Enter.
 5=Display full attributes  8=Display service attributes

Opt  Object        Type     Attribute           Size   Text
  =  RPGLAB01      *PGM      RPG                102400  Acesso a Display-File
  =  RPGLAB01B     *PGM      RPG                106496  Acesso a Display-File
  =  RPGLAB02      *PGM      RPG                102400  Acesso a Display-File
  =  RPGLAB03      *PGM      RPG                102400  Acesso a Displau-File
  =  RPGLAB03B     *PGM      RPG                102400  Acesso a Displau-File
  =  RPGLAB03L     *PGM      RPG                102400  Acesso a Displau-File
  =  RPGLAB05      *PGM      RPG                139264  Leitura Sequencial -
  =  RPGLAB05B     *PGM      RPG                102400
  =  RPGLAB06      *PGM      RPG                139264  Leitura Sequencial -
  =  RPGLAB07      *PGM      RPG                147456  Leitura Sequencial -
                                         More...
F3=Exit  F12=Cancel  F17=Top  F18=Bottom
(C) COPYRIGHT IBM CORP. 1980, 2013.
```

MA a 12/003

I902 - Session successfully started

Atividade - 41 - Solução



The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window displays RPG41 source code. The code defines a program that receives parameters via command line and displays messages from a library. The terminal includes standard navigation keys at the bottom and a status bar at the bottom right.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU==>_
RPG41
FMT * . . . *. 1 . . .+... 2 . . .+... 3 . . .+... 4 . . .+... 5 . . .+... 6 . . .+... 7
***** Beginning of data *****
0001.00      H*-----
0001.01      H*-----      PROGRAMA RPG41      -----
0001.02      H*-----      PROGRAMA RECEBE PARAMETROS -----
0001.03      H*-----      PELA LINHA DE COMANDOS -----
0001.04      H*-----      01: DSPMSG      -----
0001.05      H*-----      02: DSPLIB      -----
0001.06      H*-----      03: DSPLIB LIB(USCSRPG)      -----
0001.07      H*-----
0002.00      IWCOM      DS          22
0003.00      I I          'DSPLIB LIB(USCSRPG)'      01 22 DSPLIB
0005.00      C*-----
0006.00      C          *ENTRY      PLIST
0007.00      C          PARM          NUM      2
0008.00      C          NUM          IFEQ '01'
0009.00      C          CALL          'QCMDEXEC'
0010.00      C          PARM          'DSPMSG'  CMD1      6

F3=Exit    F4=Prompt    F5=Refresh    F9=Retrieve    F10=Cursor    F11=Toggle
F16=Repeat find    F17=Repeat change    F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.
MA a          02/009
I902 - Session successfully started
```

Atividade - 41 - Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES

SEU=> RPG41

FMT C CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments+++

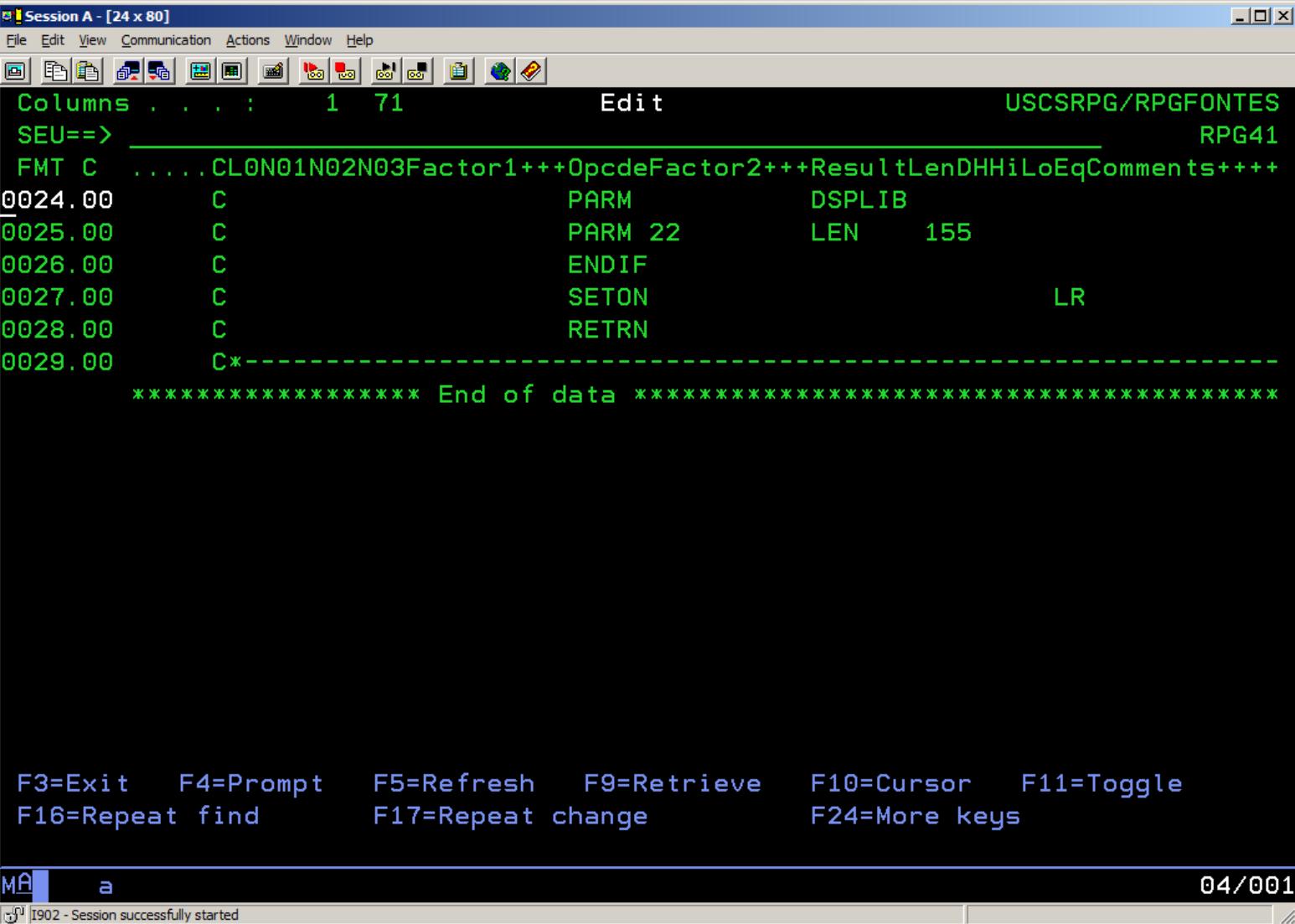
```
0010.00      C          PARM 'DSPMSG'    CMD1     6
0011.00      C          PARM 6           LEN     155
0012.00      C          SETON
0012.01      C          RETRN
0013.00      C          ENDIF
0014.00      C*-----*
0015.00      C          NUM       IFEQ '02'
0016.00      C          CALL 'QCMDEXC'
0017.00      C          PARM 'DSPLIBL'   CMD2     7
0018.00      C          PARM 7           LEN     155
0019.00      C          SETON
0019.01      C          RETRN
0020.00      C          ENDIF
0021.00      C*-----*
0022.00      C          NUM       IFEQ '03'
0023.00      C          CALL 'QCMDEXC'
0024.00      C          PARM      DSPLIB
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 41 - Solução



The screenshot shows a terminal window titled "Session A - [24 x 80]". The window contains the following text:

```
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU==> _____
FMT C .....CL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments++++
0024.00    C          PARM          DSPLIB
0025.00    C          PARM 22      LEN     155
0026.00    C          ENDIF
0027.00    C          SETON         LR
0028.00    C          RETRN
0029.00    C*-----+-----+-----+-----+-----+-----+-----+-----+
***** End of data *****
```

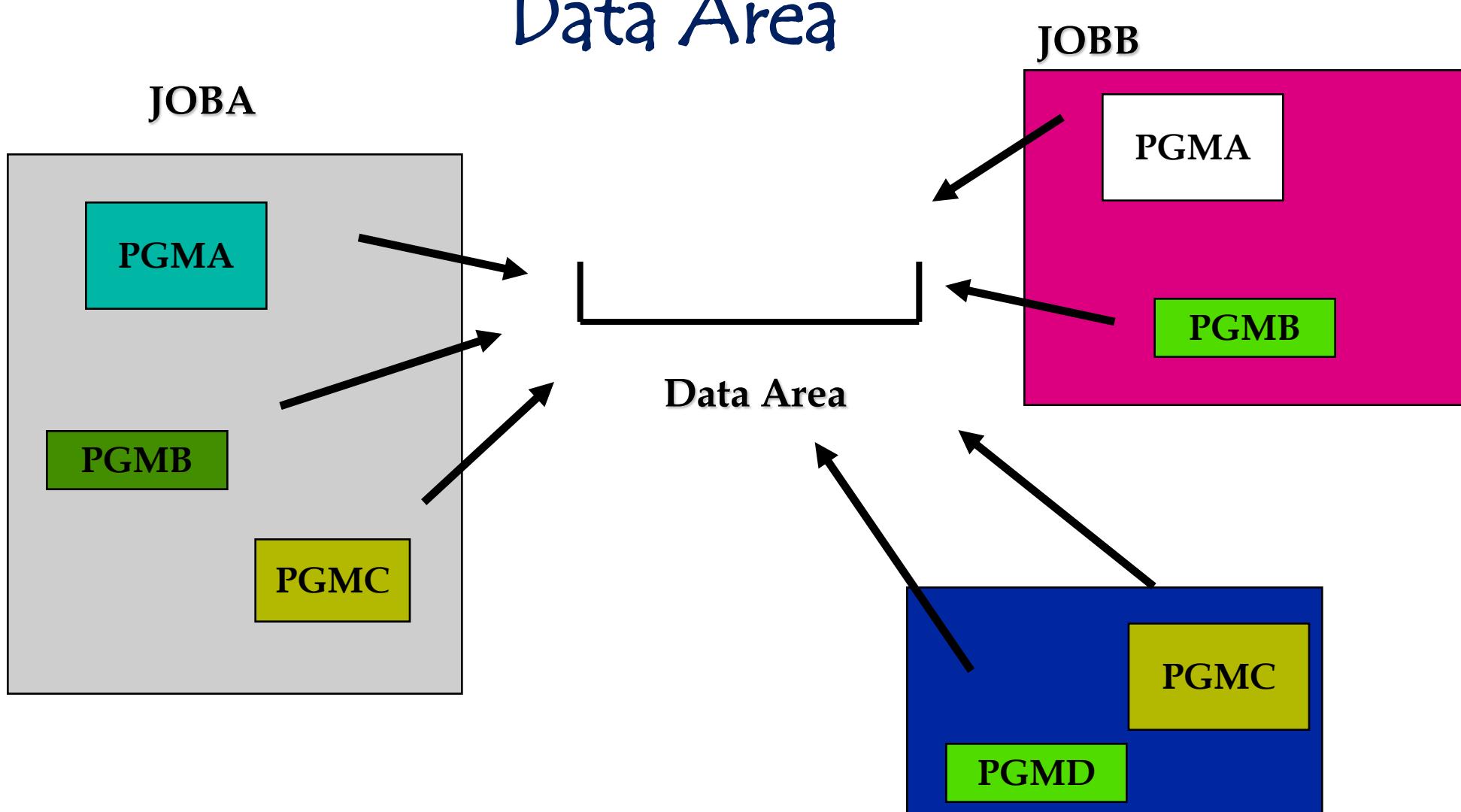
At the bottom of the window, function key definitions are listed:

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

The status bar at the bottom shows "I902 - Session successfully started" and the date "04/001".

Data Areas

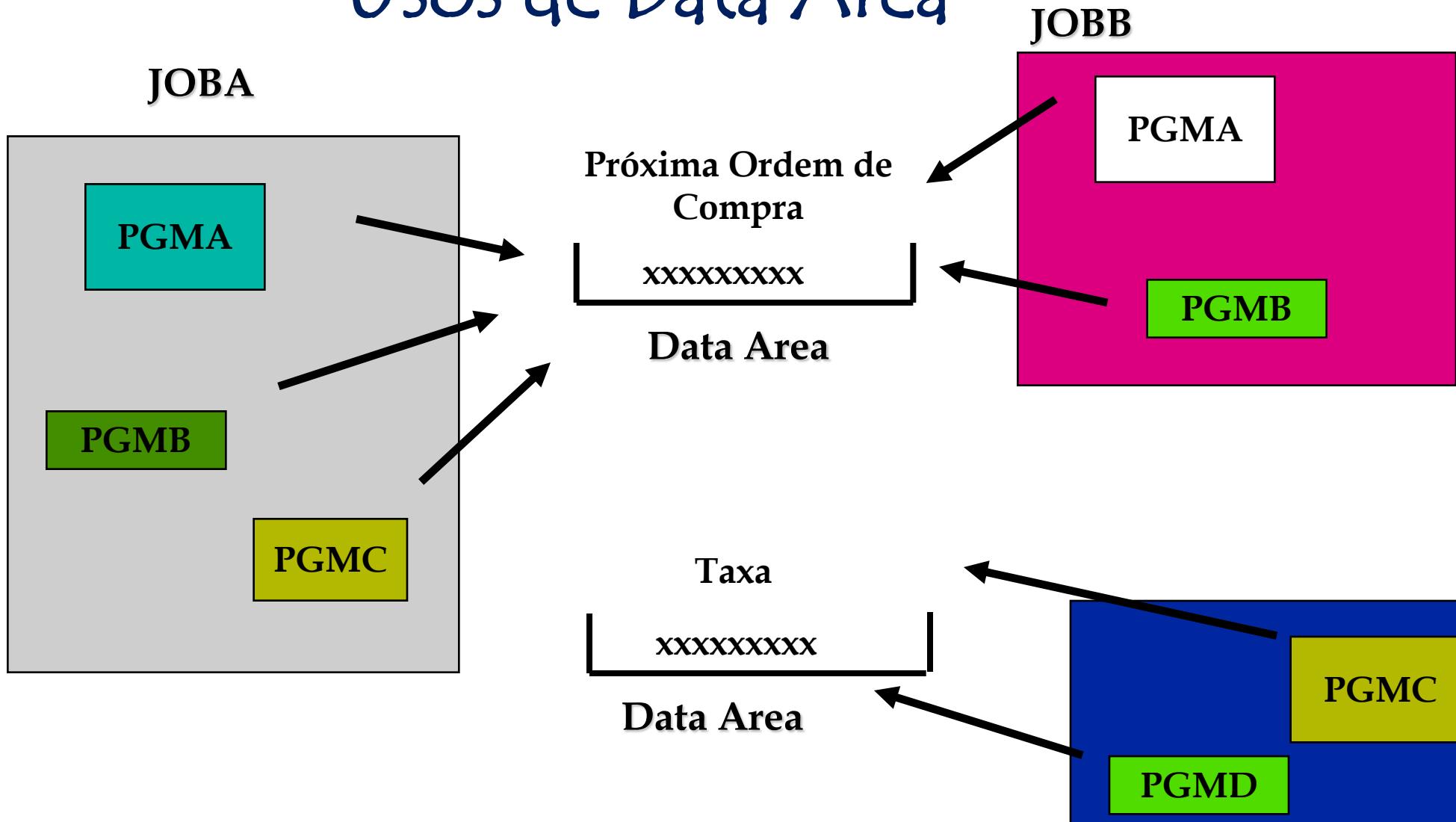
Data Area



Tipos de Data Area

- ✓ **Data Area**
- ✓ **Local Data Area**
- ✓ **Group Data Area**

Usos de Data Area



Instruções de Data Area

DEFN

IN/OUT

UNLCK

Definição de Data Areas

CRTDTAARA DTAARA(PEDNUM) TYPE(*DEC) LEN(6 0)

Form	Type	Fator1	Op.	Fator2	Result	Tam
	C*					
	C*					
	C	*NAMVAR		DEFN		
	C*				PEDNUM 6 0	

Requerido para Data Area

Nome da Data Area (Externo)

Nome usado pelo Programa

Definição de Data Areas

CRTDTAARA DTAARA(PEDNUM) TYPE(*DEC) LEN(6 0)

Form	Type	Fator1	Op.	Fator2	Result	Tam
C*						
C*						
C		*NAMVAR	DEFN	PEDNUM		
C*					PEDNR	6 0

Diagrama de Relacionamento:

- Requerido para Data Area** (Oval) aponta para ***NAMVAR**.
- Nome da Data Area (Externo)** (Oval) aponta para **PEDNUM**.
- Nome usado pelo Programa** (Oval) aponta para **PEDNR 6 0**.

Uso do IN, OUT e UNLCK p/Data Areas

Form	Type	Fator1	Op.	Fator2	Result	Tam
C			IN		PEDNUM	
C						
C			OUT		PEDNUM	
C						
C		*LOCK		IN	PEDNUM	
C						
C			OUT		PEDNUM	
C		*LOCK		IN	PEDNUM	
C						
C		*LOCK		OUT	PEDNUM	
C						
C			UNLCK		PEDNUM	

Local Data Area (*LDA)

- ✓ Área de 1024 Bytes de dados Caracteres criada e deletada pelo Sistema em tempo de Signon
- ✓ Referenciada como *LDA
- ✓ Restrita a seu Job
- ✓ O comando **SBMJOB** passa a Local Data Area para o Job Batch

Atualização da *LDA

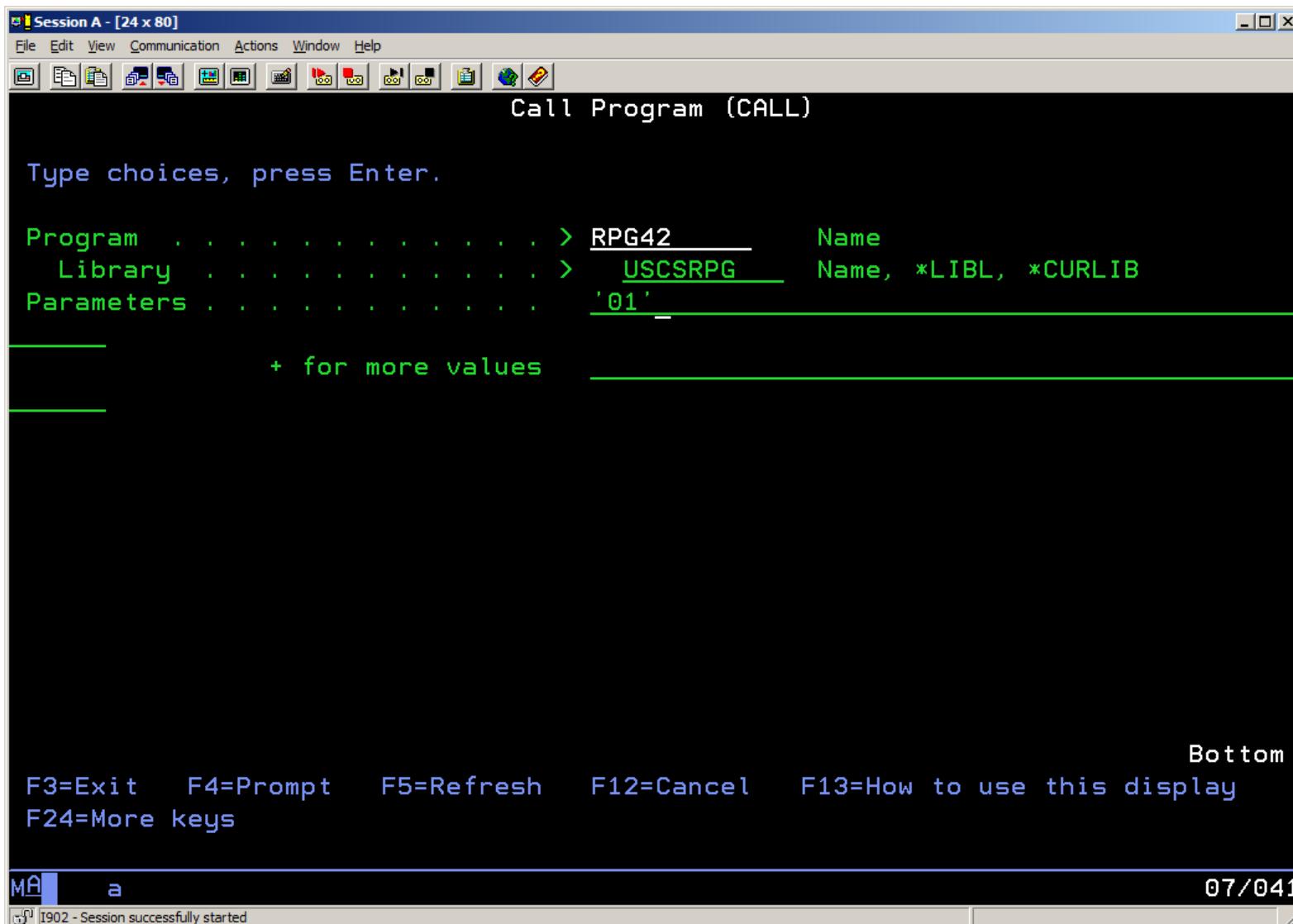
Form Type	Fator1	Op.	Fator2	Result	Tam
C* Para explicitamente atualizar as posições 1 a 5 da *LDA					
C*					
C*					
C	*NAMVAR	DEFN	*LDA	LOCAL	5
C		IN	LOCAL		
C		MOVE	'12345'	LOCAL	
C		OUT	LOCAL		

Atividade – 42

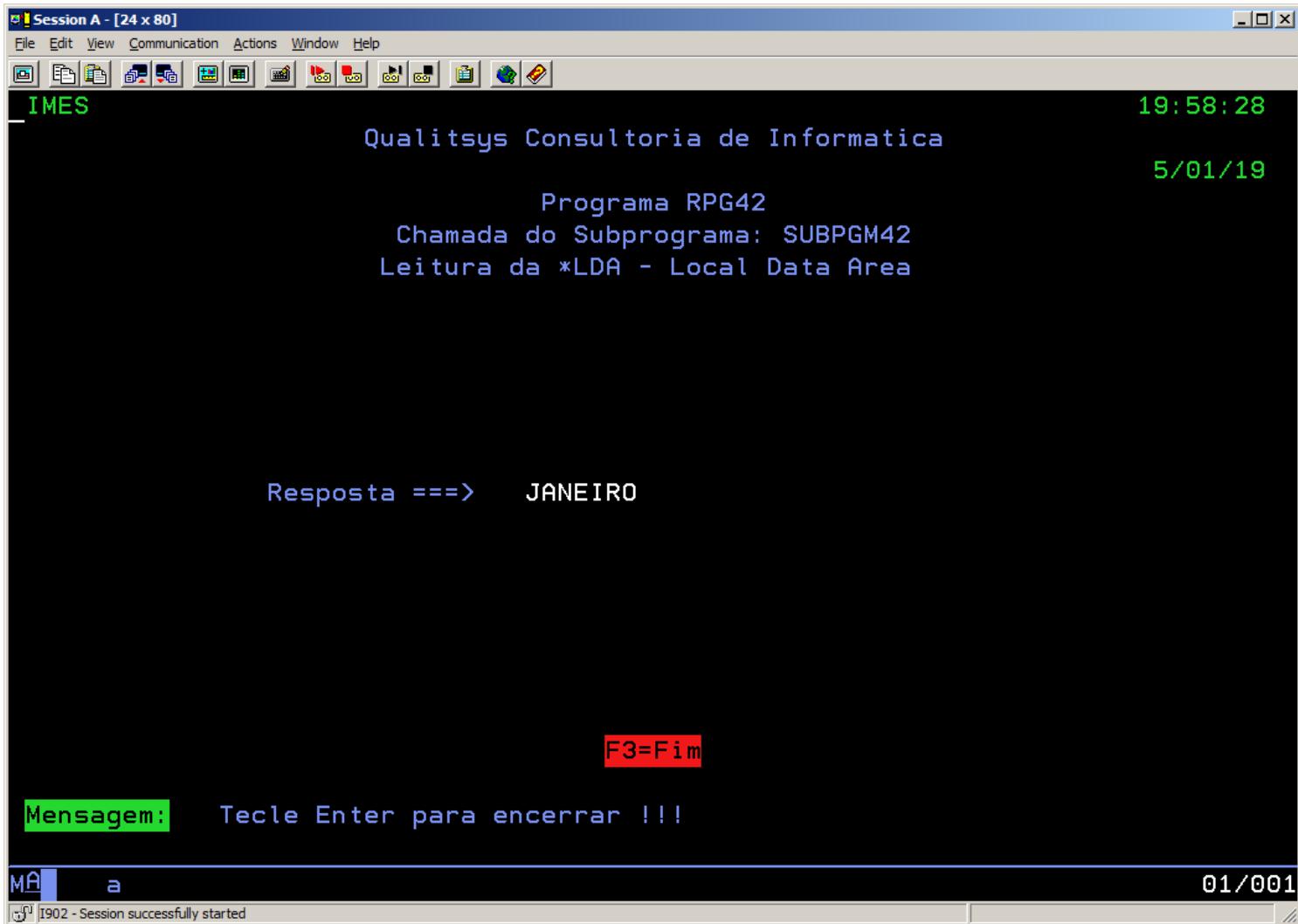
- ✓ Programa **RPG42** – O programa deverá receber por parâmetro um número de 01 a 12. Em seguida o programa deve gravar esta informação na Local Data Area (*LDA).
- ✓ O programa deverá também chamar um subprograma (**SUBPGM1**) que deverá acessar a Local Data Area e informar por extenso o mês correspondente.



Atividade - 42



Atividade - 42



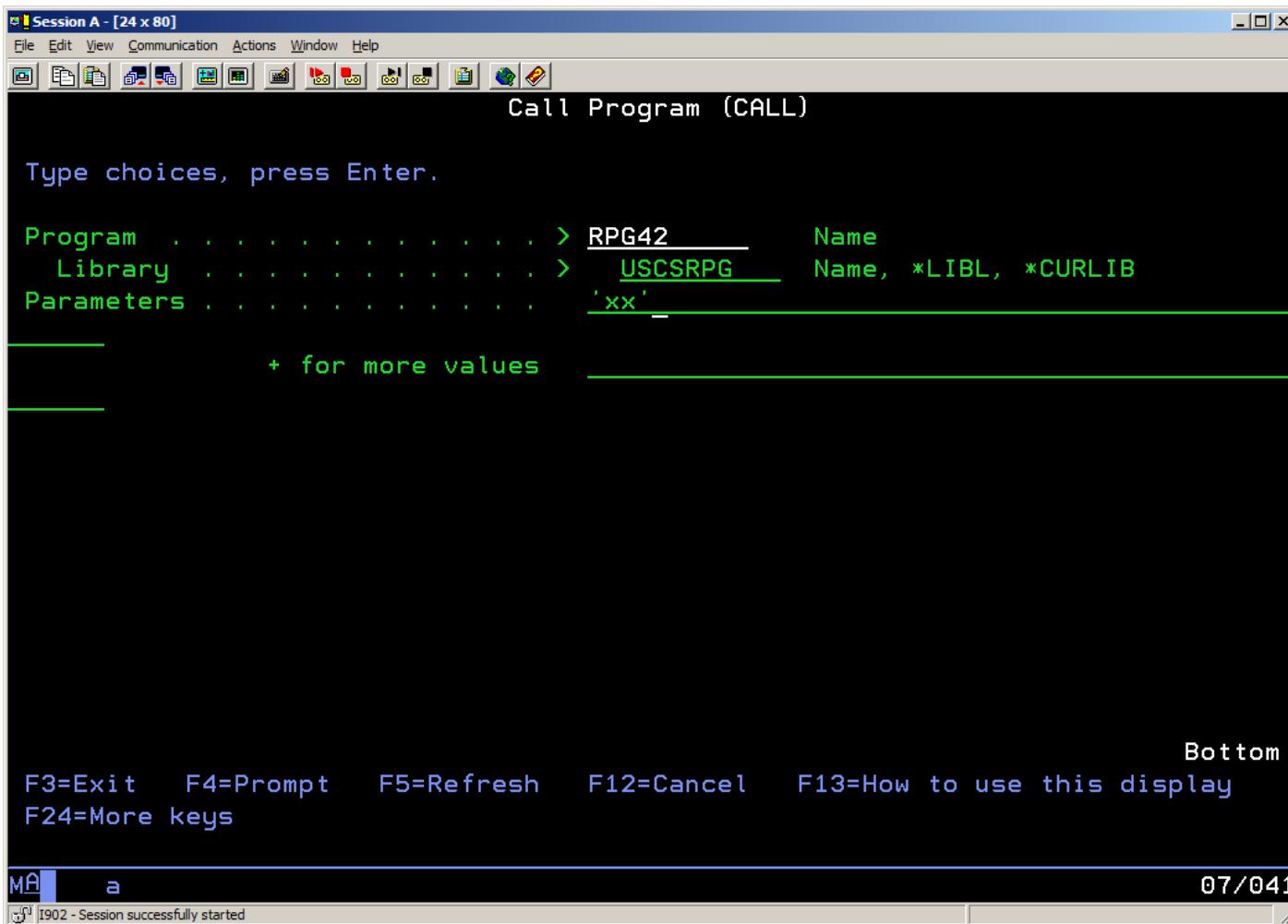
```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
IMES 19:58:28
Qualitsys Consultoria de Informatica
5/01/19
Programa RPG42
Chamada do Subprograma: SUBPGM42
Leitura da *LDA - Local Data Area

Resposta ===> JANEIRO

F3=Fim

Mensagem: Tecle Enter para encerrar !!!
MA 01/001
I902 - Session successfully started
```

Atividade – 42



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Call Program (CALL)

Type choices, press Enter.

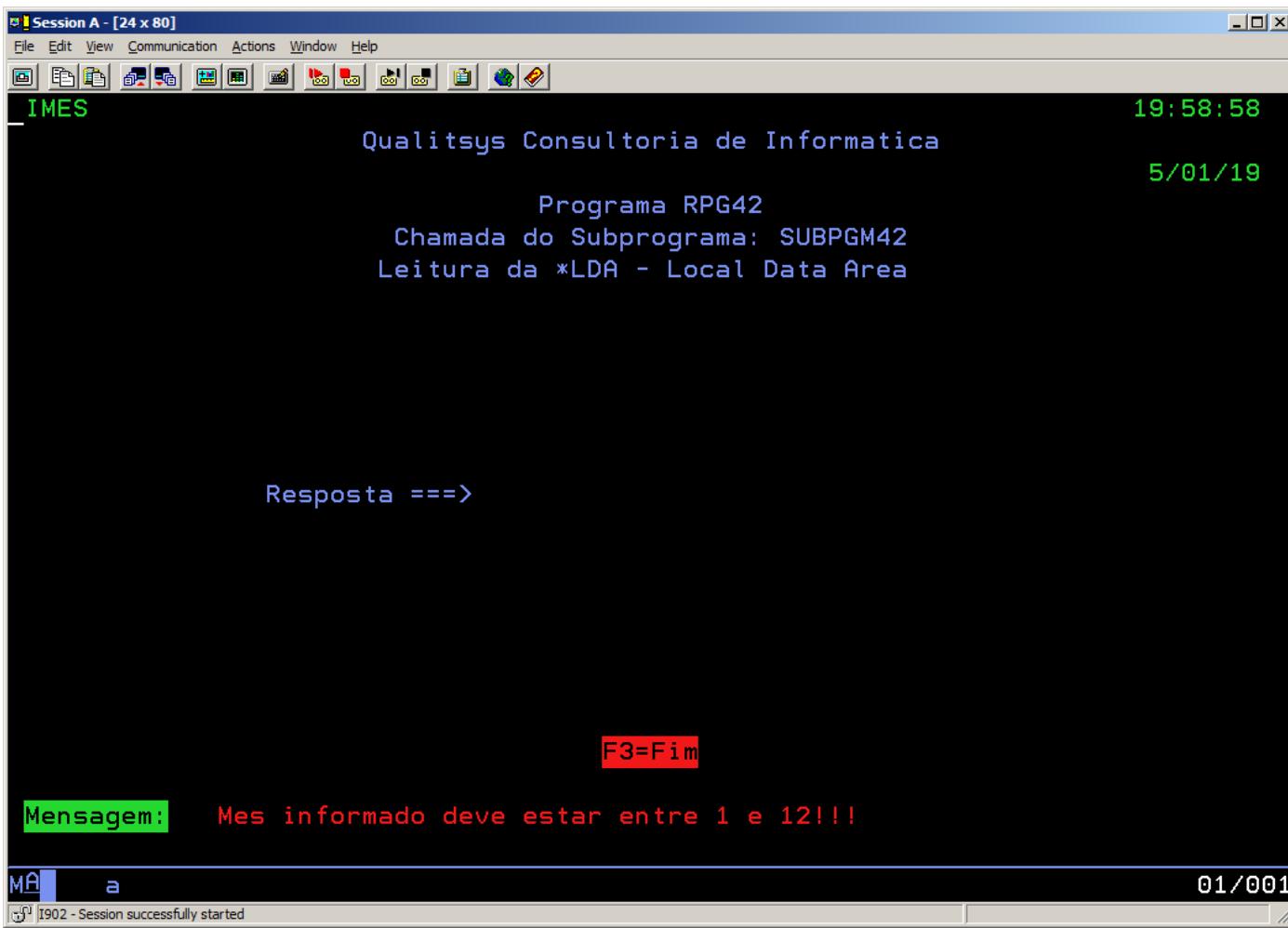
Program . . . . . > RPG42 Name
  Library . . . . . > USCSRPG Name, *LIBL, *CURLIB
Parameters . . . . . 'xx'

+ for more values

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

MA a 07/041
I902 - Session successfully started
```

Atividade – 42



Session A - [24 x 80]
File Edit View Communication Actions Window Help
IMES 19:58:58
Qualitsys Consultoria de Informatica 5/01/19
Programa RPG42
Chamada do Subprograma: SUBPGM42
Leitura da *LDA - Local Data Area

Resposta ==>

F3=Fim

Mensagem: Mes informado deve estar entre 1 e 12!!!

MA a 01/001
I902 - Session successfully started

Atividade - 42- Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES

SEU==> _____ RPG42

FMT * * . 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7
***** Beginning of data *****

```
0001.00      H-----  
0003.00      H----- PROGRAMA RPG42 -----  
0003.01      H-----  
0004.00      H--- O Programa devera receber um numero de mes de 01 A 12 -----  
0005.00      H--- Em seguida o programa devera gravar esta informacao na  
0006.00      H--- *LDA - Local Data Area ---  
0007.00      H--- O programa devera tambem chamar um subprograma que devera  
0008.00      H--- acessar a Local Data Area (*LDA) e informar por extenso  
0009.00      H--- o mes correspondente.  
0010.00      H-----  
0011.00      C      *ENTRY     PLIST  
0012.00      C      PARM          NUM      2  
0013.00      C-----  
0014.00      C      *NAMVAR    DEFN  *LDA      LDA      2  
0015.00      C      MOVE  NUM      LDA  
0016.00      C      OUT   LDA  
  
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle  
F16=Repeat find F17=Repeat change F24=More keys  
(C) COPYRIGHT IBM CORP. 1981, 2013.  
MA a 02/009  
I902 - Session successfully started
```

Atividade - 42- Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG42

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0016.00	C	OUT LDA	
0017.00	C*	-----	
0018.00	C	CALL 'SUBPGM42'	
0019.00	C*	-----	
0020.00	C	SETON LR	
0021.00	C	RETRN	
0022.00	C*	-----	

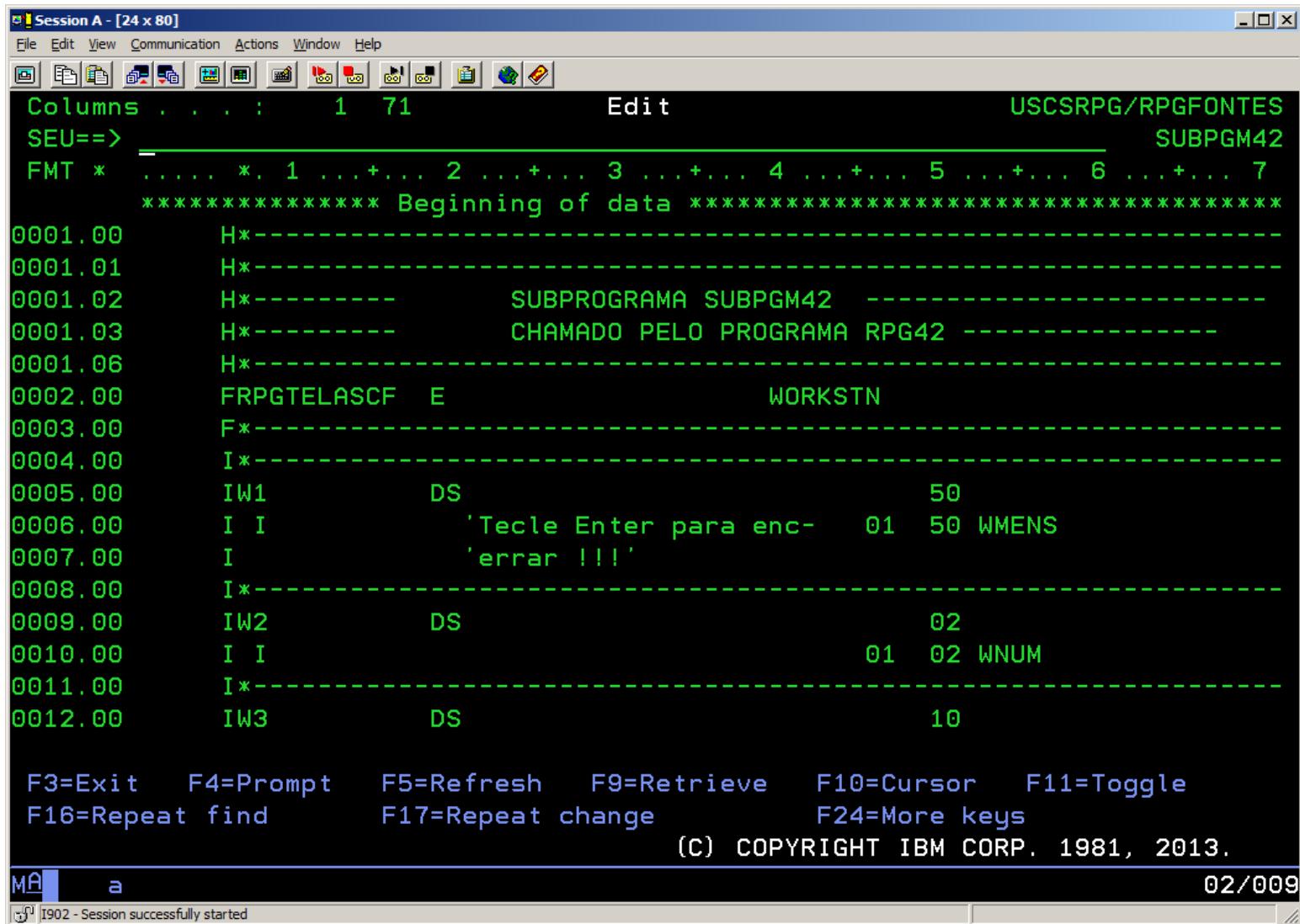
***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 42- Solução



The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window contains RPG source code for a subroutine named SUBPGM42. The code includes various data structures (DS), input fields (I), output fields (O), and messages. The terminal has a dark background with green text and a blue header bar.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> SUBPGM42
FMT * ..... *. 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
***** Beginning of data *****
0001.00 H*-----
0001.01 H*-----
0001.02 H*----- SUBPROGRAMA SUBPGM42 -----
0001.03 H*----- CHAMADO PELO PROGRAMA RPG42 -----
0001.06 H*-----
0002.00 FRPGTELASCF E WORKSTN
0003.00 F*-----
0004.00 I*-----
0005.00 IW1 DS 50
0006.00 I I 'Tecle Enter para enc- 01 50 WMENS
0007.00 I 'errar !!!'
0008.00 I*-----
0009.00 IW2 DS 02
0010.00 I I 01 02 WNUM
0011.00 I*-----
0012.00 IW3 DS 10

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a 02/009
I902 - Session successfully started
```

Atividade - 42- Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42

FMT DS ID\$name . . . NODsExt-file++ OccrLen+

0012.00	IW3	DS	10
0013.00	I I		01 10 WMES
0014.00	I*		
0014.02	IW4	DS	50
0014.03	I I	'Mes informado deve e-	01 50 WERR
0014.04	I	'star entre 1 e 12!!!'	
0014.05	I*		
0015.00	ITABM	DS	120
0016.00	I I	'JANEIRO'	01 10 JAN
0017.00	I I	'FEVEREIRO'	11 20 FEV
0018.00	I I	'MAR O'	21 30 MAR
0019.00	I I	'ABRIL'	31 40 ABR
0020.00	I I	'MAIO'	41 50 MAI
0021.00	I I	'JUNHO'	51 60 JUN
0022.00	I I	'JULHO'	61 70 JUL
0023.00	I I	'AGOSTO'	71 80 AGO
0024.00	I I	'SETEMBRO'	81 90 SET

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

1902 - Session successfully started

Atividade - 42- Solução

Session A - [24 x 80]
File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> SUBPGM42

```
FMT SV . . . . I.I.....Init-value++++++PFromTo++DField+.....
0024.00    I I      'SETEMBRO'          81 90 SET
0025.00    I I      'OUTUBRO'           91 100 OUT
0026.00    I I      'NOVEMBRO'          101 110 NOV
0027.00    I I      'DEZEMBRO'          111 120 DEZ
0028.00    C*-----
0029.00    C      *NAMVAR  DEFN *LDA      LDA   2
0030.00    C*-----
0031.00    C      IN     LDA
0032.00    C      MOVE   LDA      NUM   2
0033.00    C*-----
0034.00    C      SELEC
0035.00    C      NUM    WHEQ '01'
0036.00    C      MOVE   JAN      MES
0037.00    C      NUM    WHEQ '02'
0038.00    C      MOVE   FEV      MES
0039.00    C      NUM    WHEQ '03'
0040.00    C      MOVE   MAR      MES
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 42- Solução

Session A - [24 x 80]
File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> SUBPGM42

	FMT C	CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++
0040.00	C	MOVE MAR MES
0041.00	C	NUM WHEQ '04'
0042.00	C	MOVE ABR MES
0043.00	C	NUM WHEQ '05'
0044.00	C	MOVE MAI MES
0045.00	C	NUM WHEQ '06'
0046.00	C	MOVE JUN MES
0047.00	C	NUM WHEQ '07'
0048.00	C	MOVE JUL MES
0049.00	C	NUM WHEQ '08'
0050.00	C	MOVE AGO MES
0051.00	C	NUM WHEQ '09'
0052.00	C	MOVE SET MES
0053.00	C	NUM WHEQ '10'
0054.00	C	MOVE OUT MES
0055.00	C	NUM WHEQ '11'
0056.00	C	MOVE NOV MES

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 42- Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42

FMT CCL0N01N02N03Factor1+++OpcodeFactor2+++ResultLenDHHiLoEqComments++++

0056.00	C	MOVE NOV	MES
0057.00	C	WHEQ '12'	
0058.00	C	MOVE DEZ	MES
0058.01	C	OTHER	
0058.02	C	SETON	55
0059.00	C	ENDSL	
0060.00	C-----		
0060.02	C N55	MOVE WMENS	MSG
0060.03	C 55	MOVE WERR	MSG
0062.00	C	EXFMTREG42	
0063.00	C-----		
0064.00	C	SETON	LR
0065.00	C	RETRN	
0066.00	C-----		

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Versão com Data Area Residente

Programa RPG42A

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG42A

FMT * *. 1 2 3 4 5 6 7
***** Beginning of data *****

```
0001.00      H-----  
0003.00      H----- PROGRAMA RPG42A -----  
0003.01      H----- DATA AREA RESIDENTE: DTAX -----  
0003.02      H----- *CHAR COM TAMANHO DE 2 BYTES -  
0003.03      H----- CRTDTAARA DTAX *CHAR LEN = 2  
0003.04      H-----  
0004.00      H--- O Programa devera receber um numero de mes de 01 A 12 -----  
0005.00      H--- Em seguida o programa devera gravar esta informacao na  
0006.00      H--- *LDA - Local Data Area ---  
0007.00      H--- O programa devera tambem chamar um subprograma que devera  
0008.00      H--- acessar a Local Data Area (*LDA) e informar por extenso  
0009.00      H--- o mes correspondente.  
0010.00      H-----  
0010.01      IDTAX      UDS  
0010.02      I           1   2 M  
0010.03      I-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG42A

FMT * * . 1 2 3 4 5 6 7

0004.00 H--- O Programa devera receber um numero de mes de 01 A 12 -----

0005.00 H--- Em seguida o programa devera gravar esta informacao na

0006.00 H--- *LDA - Local Data Area ---

0007.00 H--- O programa devera tambem chamar um subprograma que devera

0008.00 H--- acessar a Local Data Area (*LDA) e informar por extenso

0009.00 H--- o mes correspondente.

0010.00 H-----

0010.01 IDTAX UDS

0010.02 I 1 2 M

0010.03 I-----

0010.05 I 'SUBPGM42A' C PGM

0010.06 I-----

0011.00 C *ENTRY PLIST

0012.00 C PARM NUM 2

0013.00 C-----

0014.00 C *NAMVAR DEFN DTAX

0015.00 C MOVE NUM M

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/060

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> _____ RPG42A

FMT CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

```
0016.00    C           *LOCK      OUT   DTAX
0017.00    C*-----+
0018.00    C*           CALL PGM
0019.00    C*-----+
0020.00    C           SETON      LR
0021.00    C           RETRN
0022.00    C*-----+
```

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/060

I902 - Session successfully started

Versão com Data Area Residente

Subprograma SUBPGM42A

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42A

FMT * *. 1+... 2+... 3+... 4+... 5+... 6+... 7
***** Beginning of data *****

0001.00 H-----
0001.01 H-----
0001.02 H----- SUBPROGRAMA SUBPGM42A -----
0001.03 H----- CHAMADO PELO PROGRAMA RPG42A -----
0001.04 H----- USO DE DATA AREA RESIDENTE -----
0001.06 H-----
0002.00 FRPGTELASCF E WORKSTN
0003.00 F-----
0003.01 IDTAX UDS
0003.02 I 1 2 M
0003.03 I-----
0005.00 IW1 DS 50
0006.00 I I 'Tecle Enter para enc- 01 50 WMENS
0007.00 I 'errar !!!'
0008.00 I-----
0009.00 IW2 DS 02

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42A

FMT SVI.I.....Init-value++++++PFromTo++DField+.....

0010.00	I I	01 02 WNUM
0011.00	I*-----	
0012.00	IW3 DS	10
0013.00	I I	01 10 WMES
0014.00	I*-----	
0014.02	IW4 DS	50
0014.03	I I 'Mes informado deve e-	01 50 WERR
0014.04	I 'star entre 1 e 12!!!'	
0014.05	I*-----	
0015.00	ITABM DS	120
0016.00	I I 'JANEIRO'	01 10 JAN
0017.00	I I 'FEVEREIRO'	11 20 FEV
0018.00	I I 'MAR O'	21 30 MAR
0019.00	I I 'ABRIL'	31 40 ABR
0020.00	I I 'MAIO'	41 50 MAI
0021.00	I I 'JUNHO'	51 60 JUN
0022.00	I I 'JULHO'	61 70 JUL

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 02/009

[i] I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42A

FMT * *. 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7

0014.00 I*-----

0014.02 IW4 DS 50

0014.03 I I 'Mes informado deve e- 01 50 WERR

0014.04 I 'star entre 1 e 12!!!'

0014.05 I*-----

0015.00 ITABM DS 120

0016.00 I I 'JANEIRO' 01 10 JAN

0017.00 I I 'FEVEREIRO' 11 20 FEV

0018.00 I I 'MAR O' 21 30 MAR

0019.00 I I 'ABRIL' 31 40 ABR

0020.00 I I 'MAIO' 41 50 MAI

0021.00 I I 'JUNHO' 51 60 JUN

0022.00 I I 'JULHO' 61 70 JUL

0023.00 I I 'AGOSTO' 71 80 AGO

0024.00 I I 'SETEMBRO' 81 90 SET

0025.00 I I 'OUTUBRO' 91 100 OUT

0026.00 I I 'NOVEMBRO' 101 110 NOV

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/044

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42A

FMT SVI.I..... Init-value++++++PFFromTo++DField+.....

```
0027.00 I I 'DEZEMBRO' 111 120 DEZ
0028.00 C*-----
0029.00 C *NAMVAR DEFN DTAX
0030.00 C*-----
0031.00 C IN DTAX
0032.00 C MOVE M NUM 2
0033.00 C*-----
0034.00 C SELEC
0035.00 C NUM WHEQ '01'
0036.00 C MOVE JAN MES
0037.00 C NUM WHEQ '02'
0038.00 C MOVE FEV MES
0039.00 C NUM WHEQ '03'
0040.00 C MOVE MAR MES
0041.00 C NUM WHEQ '04'
0042.00 C MOVE ABR MES
0043.00 C NUM WHEQ '05'
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> SUBPGM42A

FMT CCL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments++++

	C	NUM	WHEQ '11'
0055.00	C		MOVE NOV MES
0056.00	C		WHEQ '12'
0057.00	C	NUM	MOVE DEZ MES
0058.00	C		OTHER
0058.01	C		SETON 55
0058.02	C		ENDSL
0060.00	C*	-----	
0060.02	C N55	MOVE WMENS	MSG
0060.03	C 55	MOVE WERR	MSG
0062.00	C	EXFMTREG42	
0063.00	C*	-----	
0064.00	C	SETON	LR
0065.00	C	RETRN	
0066.00	C*	-----	

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Ferramentas do Programador

CRTRPGPGM

- ✓ Diversos Parâmetros de Compilação
- ✓ TGTREL (Target Release)
- ✓ Performance do compilador (*Noxref, *Nosource)
- ✓ Performance do Programa *GENOPT(*Optimize)
- ✓ Source Listing
- ✓ Mensagens de Diagnóstico
- ✓ Informação de campo chave
- ✓ Cross Reference
- ✓ Sumário de Mensagens
- ✓ Indentação de Programas – INDENT

Start Debug Mode

MAIN

AS/400 Main Menu

SYSTEM: ITAUTEC

Select one of the following:

1. User Tasks
2. Office Tasks
3. General system tasks
4. Files, libraries, and folders
5. Programming
6. Communiations
7. Define or hange the system
8. Problem handling
9. Display a menu
10. User support and education
11. PC Support Tasks

90. SIng Off

Selection or command

STRDBG

====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F13=User support
F23= Set initial menu

Comandos – DEBUG

- **ADDPGM** Adicionar programa
- **CHGDBG** Modificar Debug
- **DSPDBG** Display Debug
- **ENDDBG** End Debug Mode
- **RMVPGM** Remover Programa

Breakpoints

- ✓ É uma localização no programa onde a execução é parada e o controle é dado ao usuário.
- ✓ O programa irá parar imediatamente ANTES da execução do comando especificado.
- ✓ A workstation do usuário irá identificar o Breakpoint e mostrará os valores das variáveis.
- ✓ O controle é dado ao usuário para entrar um comando.
- ✓ Em modo batch a mesma informação é gravada para a job queue do job.

Trace

- ✓ Lista a sequência de execução de instruções. Pode também exibir os conteúdos das variáveis nestas instruções.
- ✓ Difere do Breakpoint, no sentido de não dar controle ao usuário durante o trace. Você pode solicitar display das informações de trace, mas não pode modificar variáveis.
- ✓ Pode ser especificado que os valores das variáveis podem ser gravados somente quando eles forem mudados.

Debug com Código Fonte

STRISDB

Debug com Código Fonte

Atividade – 43

- ✓ Programa **RPG43** – Depurar o programa RPG43 com o emprego do STRISDB.



Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG43

FMT * *. 1+... 2+... 3+... 4+... 5+... 6+... 7
***** Beginning of data *****

```
0001.00      H*-----  
0001.01      H*-----  
0001.02      H*----- PROGRAMA RPG43 -----  
0001.03      H*-----  
0001.04      H*-- DEBUG COM STRISDB -----  
0001.05      H*-----  
0002.00      C          MOVE *ZEROS   A    52  
0003.00      C          MOVE *ZEROS   B    52  
0004.00      C          MOVE *ZEROS   C    52  
0005.00      C          MOVE *ZEROS   D    52  
0006.00      C          MOVE *ZEROS   E    52  
0007.00      C*-----  
0008.00      C          ADD   1       A  
0009.00      C          A          ADD   B       C  
0010.00      C          C          ADD   A       E  
0011.00      C          C          ADD   D       X    63
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG43

FMT CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

	C	C	ADD	D	X	63
0011.00	C	C	ADD	D	X	63
0012.00	C	C	ADD	A	E	
0013.00	C*	-----				
0014.00	C		SUB	1	A	
0015.00	C	A	SUB	B	C	
0016.00	C	C	ADD	A	E	
0017.00	C	C	SUB	D	X	
0018.00	C	C	ADD	A	E	
0019.00	C*	-----				
0020.00	C		MOVE	*ZEROS	A	
0021.00	C		MULT	5	A	
0022.00	C	A	MULT	B	Y	63
0023.00	C	Y	DIV	A	X	
0024.00	C	A	MULT	B	Y	63
0025.00	C*	-----				
0026.00	C		SQRT	A	E	
0027.00	C	C	SUB	D	X	

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG43

FMT CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0027.00	C	C	SUB	D	X
0028.00	C	C	ADD	A	E
0029.00	C*-----				
0030.00	C	MOVE *ZEROS			A
0031.00	C	C	SUB	1	A
0032.00	C	SQRT A			E
0033.00	C*-----				
0034.00	C	SUB 1			A
0035.00	C	A	SUB	B	C
0036.00	C	C	ADD	A	E
0037.00	C	C	SUB	D	X
0038.00	C	C	ADD	A	E
0039.00	C*-----				
0040.00	C	SETON			LR
0041.00	C	RETRN			
0042.00	C*-----				

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

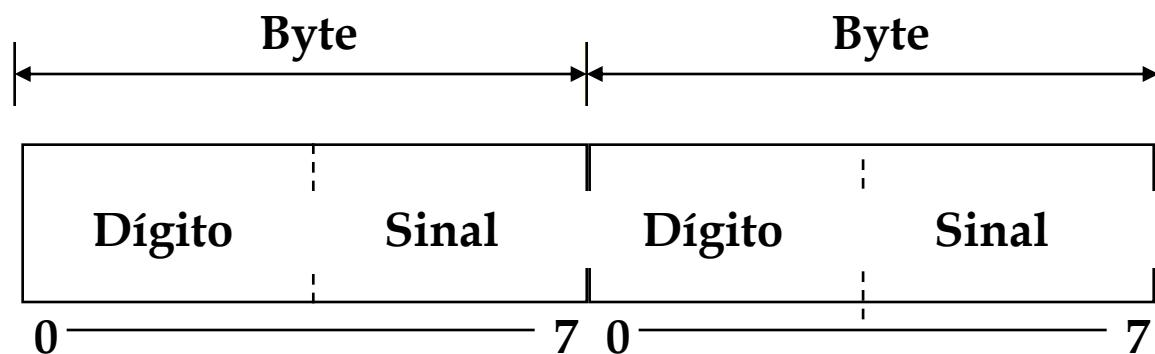
Estrutura de Dados e Operações Aritméticas

Formato de Campos

- ✓ Caractere
- ✓ Decimal Zonado
- ✓ Decimal Compactado
- ✓ Binário

Todos os campos numéricos de Input são convertidos pelo compilador para formato decimal compactado para processamento interno.

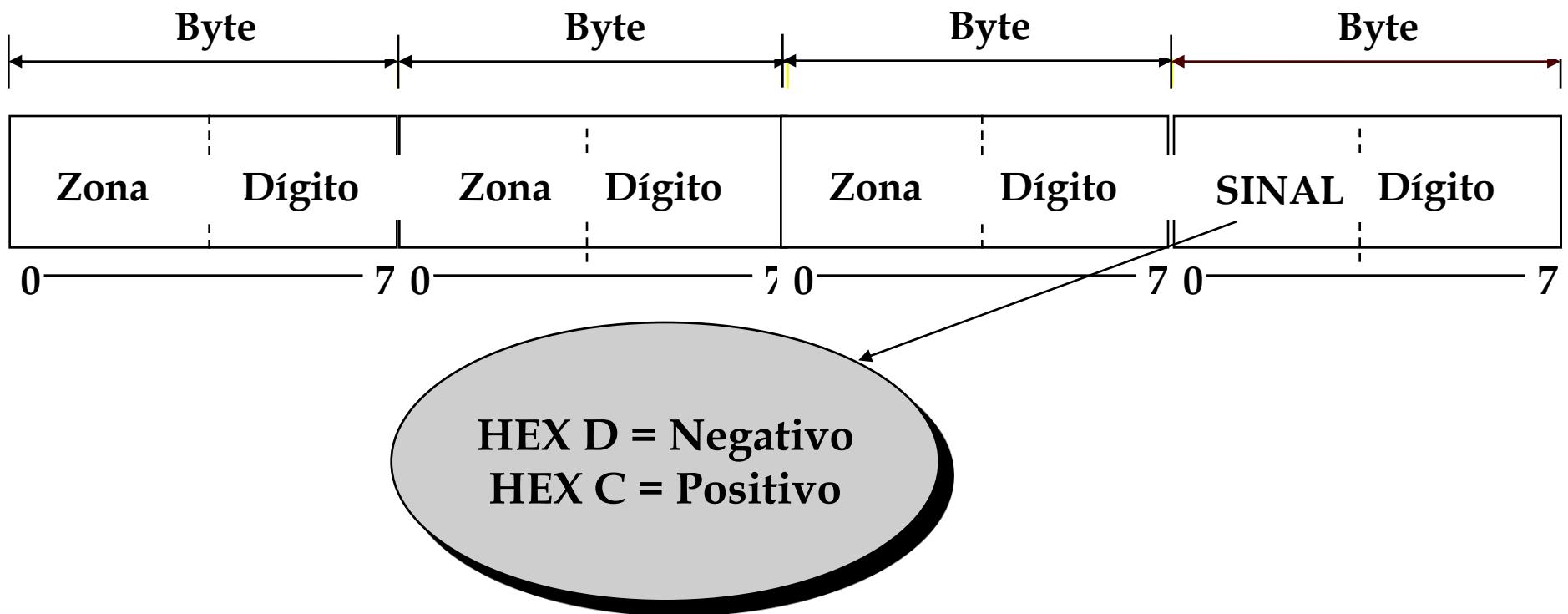
Formato Decimal Compactado



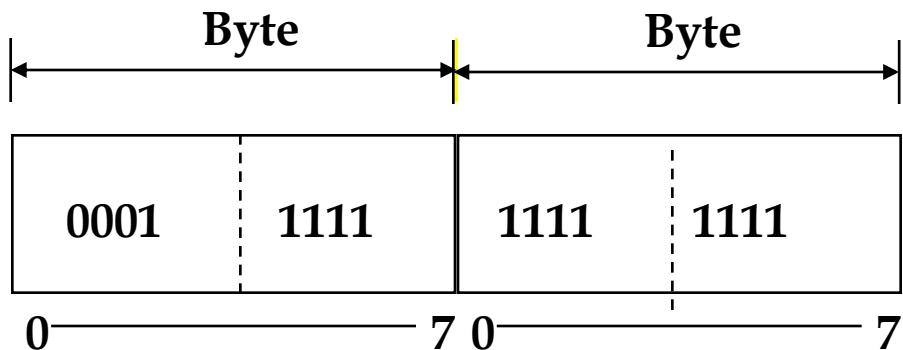
Número de Dígitos = $2n - 1$

onde n =número de posições

Formato Decimal Zonado



Formato Binário



- ✓ Sinal no Bit mais a Esquerda (0 = Positivo, 1=Negativo)
- ✓ Cada campo pode ter 2 ou 4 bytes de tamanho
- ✓ No exemplo acima, o valor numérico será 8191

Estrutura de Dados

- ✓ Área em memória que permite ao programador RPG/400 definir campos e arranjá-los em memória.
- ✓ Permite redefinição de áreas
- ✓ Definição de múltiplas ocorrências de dados

Agrupamento/Subdivisão de Campos

Nome Estrutura	Rec. Id.	From	To	Field Name
I*				
I CHAVE	DS			
I		1	4	LOC
I		5	12	ITEM
I		13	16	TIPO
I		1	16	CHAVE

Inicialização de uma Estrutura de Dados

Nome Estrutura	Rec. Id.	From	To	Field Name
I CHAVE	IDS			
I		1	4	0 LOC
I		5	12	ITEM
I		13	16	TIPO
I		1	16	CHAVE

Inicializado em

0000|bbbbbbbbbbbb|bbbb

Campos alfa inicializados com brancos e numéricos com zeros.

Estruturas de Dados com Arrays

	Table ou Array Name	Entradas p/record	Tamanho Entrada	Dec
E*				
E	TAB	12	7	2

Nome Estrutura	Rec. Id.	From	To	Field Name
I	DS			
I		1	84	QTD
I		1	84	TAB

Nome do campo do arquivo
definido na DDS

Redefinição de Campos

Nome Estrutura	Rec. Id.	From	To	Field Name
I	DS			
I		1	6 0	DATA
I		1	2 0	DIA
I		3	4 0	MES
I		5	6 0	ANO
I		1	4 0	DIAMES
I		3	6 0	MESANO
I		1	6	DATAAC

Estruturas de Dados p/Passagem de Parâmetros

Nome Estrutura	Rec. Id.	From	To	Field Name
I PRMDIF	DS			
I		1	6 0	DATA1
I		7	12 0	DATA2
I		13	17 0	DIFER

Fator1	Oper.	Fator2	Result
C	CALL	'DIFDIA'	
C	PARM	PRMDIF	

Operações Aritméticas

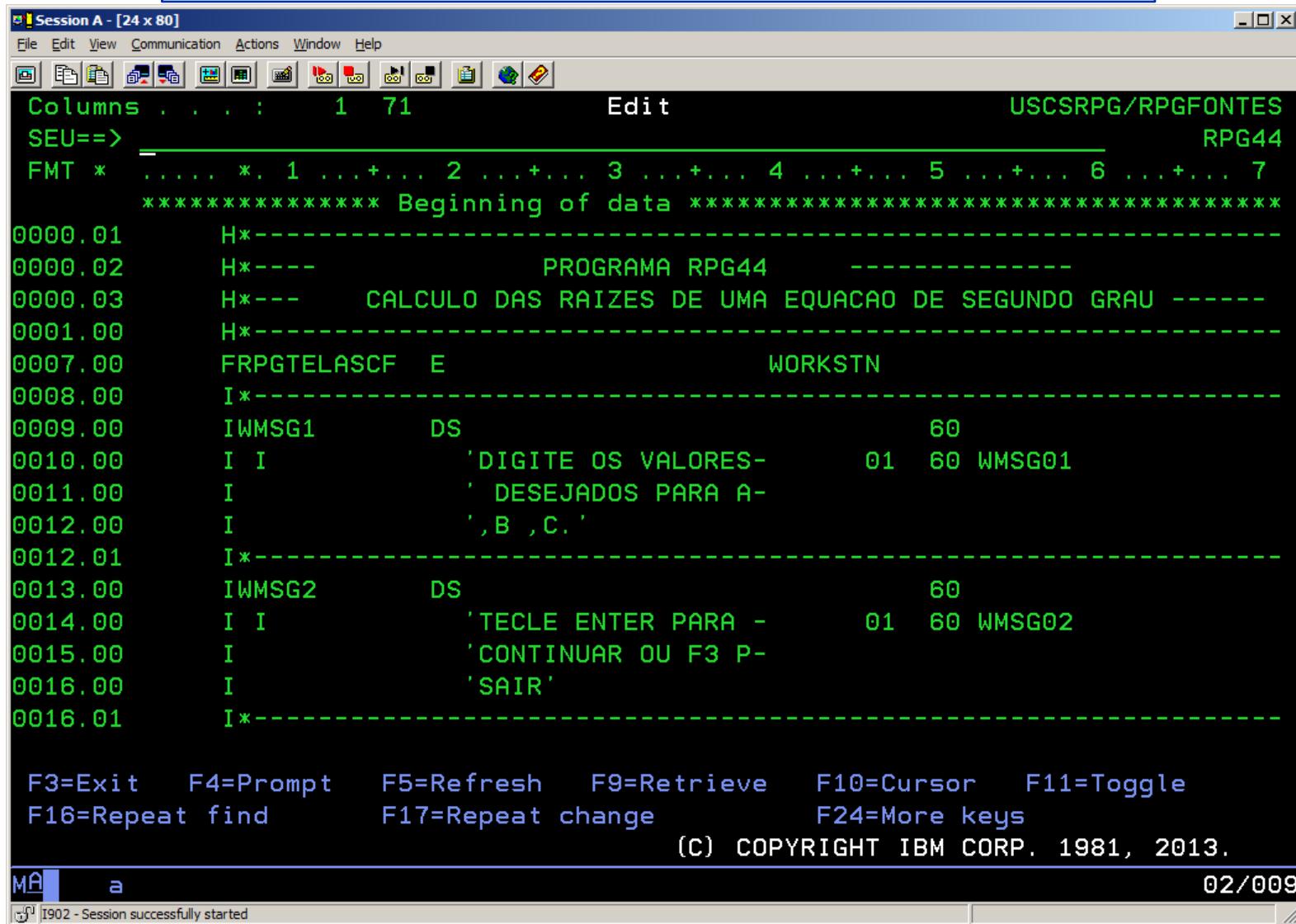
ADD	Add
DIV	Divide
MULT	Multiply
MVR	Move Remainder
SQRT	Square Root
SUB	Subtract
Z-ADD	Zero and Addr
Z-SUB	Zero and Subtract

Atividade – 44

- ✓ Programa **RPG44** – O programa deverá solicitar de uma tela do usuário, os coeficientes de uma equação do segundo grau. O programa deverá exibir na tela as raízes da equação.



Atividade - 44 - Solução



The screenshot shows an IBM i terminal window titled "Session A - [24 x 80]". The window contains the source code for an RPG44 program named "RPG44". The code includes prompts for input values A, B, and C, and output messages for the user. The terminal also displays function key definitions at the bottom.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71          Edit          USCSRPG/RPGFONTES
SEU==>_
FMT * ..... * . 1 .....+.... 2 .....+.... 3 .....+.... 4 .....+.... 5 .....+.... 6 .....+.... 7
***** Beginning of data *****
0000.01      H*-----
0000.02      H*----- PROGRAMA RPG44 -----
0000.03      H*----- CALCULO DAS RAIZES DE UMA EQUACAO DE SEGUNDO GRAU -----
0001.00      H*-----
0007.00      FRPGTELASCFC E           WORKSTN
0008.00      I*-----
0009.00      IWMSG1      DS           60
0010.00      I I          'DIGITE OS VALORES-        01 60 WMSG01
0011.00      I           ' DESEJADOS PARA A-
0012.00      I           ',B ,C.'
0012.01      I*-----
0013.00      IWMSG2      DS           60
0014.00      I I          'TECLE ENTER PARA -        01 60 WMSG02
0015.00      I           'CONTINUAR OU F3 P-
0016.00      I           'SAIR'
0016.01      I*-----

F3=Exit   F4=Prompt   F5=Refresh   F9=Retrieve   F10=Cursor   F11=Toggle
F16=Repeat find   F17=Repeat change   F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.
MA a          02/009
I902 - Session successfully started
```

Atividade - 44 - Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG44

FMT * * 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7

```
0016.01      I*-----  
0017.00      IWMSG3      DS          60  
0018.00      I I          'NAO EXISTE RAIZ P-    01 60 WMSG03  
0019.00      I           'ARA ESSES VALORES-  
0020.00      I           '.REENTRE.'  
0020.01      C*-----  
0022.00      C           SETOF          778899  
0024.00      C           MOVE WMSG1      MENS  
0025.00      C           EXFMTREGLAB24  
0025.01      C*-----  
0026.00      C           INICIO        TAG  
0027.00      C           *IN03         CASEQ*ON     SAIR  
0028.00      C           *IN77         CASEQ*ON     LIMPA  
0029.00      C           *IN99         CASEQ*ON     CALCU  
0030.00      C           *IN88         CASEQ*ON     ERDEL  
0031.00      C           CAS          DELTA  
0032.00      C           ENDCS  
  
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle  
F16=Repeat find F17=Repeat change F24=More keys
```

MA a 04/001

I902 - Session successfully started

Atividade - 44 - Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG44

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments+++

0032.00	C	ENDCS
0033.00	C	GOTO INICIO
0033.01	C*	-----
0034.00	C	SAIR BEGSR
0035.00	C	SETON LR
0036.00	C	RETRN
0037.00	C	ENDSR
0037.01	C*	-----
0038.00	C	LIMPA BEGSR
0039.00	C	MOVE *BLANK VARA
0040.00	C	MOVE *BLANK VARB
0041.00	C	MOVE *BLANK VARC
0042.00	C	MOVE *BLANK VDELTA
0043.00	C	MOVE *BLANK VARBB
0044.00	C	MOVE *BLANK VARAC
0045.00	C	MOVE *BLANK VARXX
0046.00	C	MOVE *BLANK VARZZ

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 44 - Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG44

```
FMT C . . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++
0046.00    C             MOVE *BLANK      VARZZ
0047.00    C             MOVE *BLANK      V2A
0048.00    C             MOVE WMSG1      MENS
0049.00    C             SETOF          5177
0051.00    C             EXFMTREGLAB24
0052.00    C             ENDSR
0052.01    C*-----*
0053.00    C             DELTA        BEGSR
0054.00    C             VARB         MULT VARB     VARBB   52
0055.00    C             4            MULT VARA     VARAC   52
0056.00    C             VARC         MULT VARAC    VARAC
0057.00    C             VARBB        SUB  VARAC    VDELTA  52
0058.00    C             VDELTA       IFLT 0
0059.00    C             SETON        88
0060.00    C             ELSE
0061.00    C             SETON        99
0062.00    C             ENDIF

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001
I902 - Session successfully started
```

Atividade - 44 - Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG44

FMT CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0062.00	C	ENDIF	
0063.00	C	ENDSR	
0064.00	C	CALCU	BEGSR
0065.00	C	VARA	MULT 2 V2A 52
0066.00	C		SQRT VDELT A VDELT A
0067.00	C	VARB	MULT -1 VARB
0068.00	C	VARB	ADD VDELT A VARZZ 52
0069.00	C	VARB	SUB VDELT A VARXX 52
0070.00	C	VARZZ	DIV V2A VARX1
0071.00	C	VARXX	DIV V2A VARX2
0072.00	C		SETON 77
0073.00	C		SETON 51
0074.00	C		SETOF 99
0075.00	C		MOVE WMSG2 MENS
0076.00	C		EXFMTREGLAB24
0077.00	C		SETOF 51
0078.00	C		ENDSR

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade - 44 - Solução

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG44

FMT CCL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments++++

```
0078.00      C          ENDSR
0078.01      C*-----
0079.00      C          ERDEL    BEGSR
0080.00      C          MOVE WMSG3   MENS
0081.00      C          MOVE *BLANK  VARA
0082.00      C          MOVE *BLANK  VARB
0083.00      C          MOVE *BLANK  VARC
0084.00      C          MOVE *BLANK  VDELT
0085.00      C          MOVE *BLANK  VARBB
0086.00      C          MOVE *BLANK  VARAC
0087.00      C          MOVE *BLANK  VARXX
0088.00      C          MOVE *BLANK  VARZZ
0089.00      C          MOVE *BLANK  V2A
0090.00      C          SETOF           88
0091.00      C          EXFMTREGLAB24
0092.00      C          ENDSR
0093.00      C*-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Atividade – 45

- ✓ Programa **RPG45** – Definição Interna de Arquivo



Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 20:08:23

Qualitsys Consultoria de Informatica 5/01/19

Programa RPG45

Acesso Sequencial no Arquivo Logico: ALULF2
Arquivo ALULF2 definido internarnamente no programa
Chave de Acesso: CODCUR

Codigo do Curso.....: 01
Nome do Aluno.....: ANTONIO DA SILVA PARAANHOS
Codigo do Aluno....: 00099
Endereco do Aluno...: RUA 7 DE SETEBRO, 12
Fone do Aluno.....:

F3=Fim

Mensagem: Tecle <Enter> p/prosseguir c/ a Leitura Sequencial...

MA a 01/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG45

FMT * * . 1 2 3 4 5 6 7
***** Beginning of data *****

```
0001.00      H*-----  
0002.00      H*----- PROGRAMA RPG45 -----  
0005.00      H*-----  
0006.00      H*- O Arquivo de Entrada ALULF2 SERA DEFINIDO -----  
0006.01      H*- COM DEFINICAO INTERNA NO CARTAO I -----  
0007.00      H*-----  
0008.00      FALULF2 IF F      97 02AI      41 DISK  
0008.01      FRPGTELASCF E                      WORKSTN  
0011.00      I*-----  
0012.00      IALULF2 AA  
0013.00      I          01 05 CODALU  
0014.00      I          06 40 NOMALU  
0015.00      I          41 42 CODCUR  
0016.00      I          43 82 ENDALU  
0017.00      I          83 97 FONLAU  
0017.01      I*-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a 02/009

1902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG45

FMT * *. 1 2 3 4 5 6 7

0017.01 I*-----

0021.07 IWMSG1 DS 68

0021.08 I I 'Tecle <Enter> p/pros- 01 68 W1

0021.09 I 'seguir c/ a Leitura -

0021.10 I 'Sequencial...'

0021.11 I*-----

0021.12 IWMSG2 DS 68

0021.13 I I 'Fim de arquivo !!! - 01 68 W2

0021.14 I 'Tecle <Enter> para e-

0021.15 I 'ncerrar!'

0021.16 C*-----

0021.17 C INICIO TAG

0021.18 C READ ALULF2 99

0021.19 C 99 GOTO ROTFIM

0021.20 C*-----

0021.21 C MOVE WMSG1 MSG

0021.22 C EXFMTREG45

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG45

	FMT	CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++
0021.22	C		EXFMTREG45
0021.23	C	03	GOTO FIM
0021.24	C		GOTO INICIO
0021.25	C*	-----	
0021.26	C	ROTFIM	TAG
0021.27	C		MOVE WMSG2 MSG
0021.28	C		EXFMTREG45
0021.29	C*	-----	
0021.30	C	FIM	TAG
0021.31	C		SETON LR
0021.32	C		RETRN
0021.33	C*	-----	

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

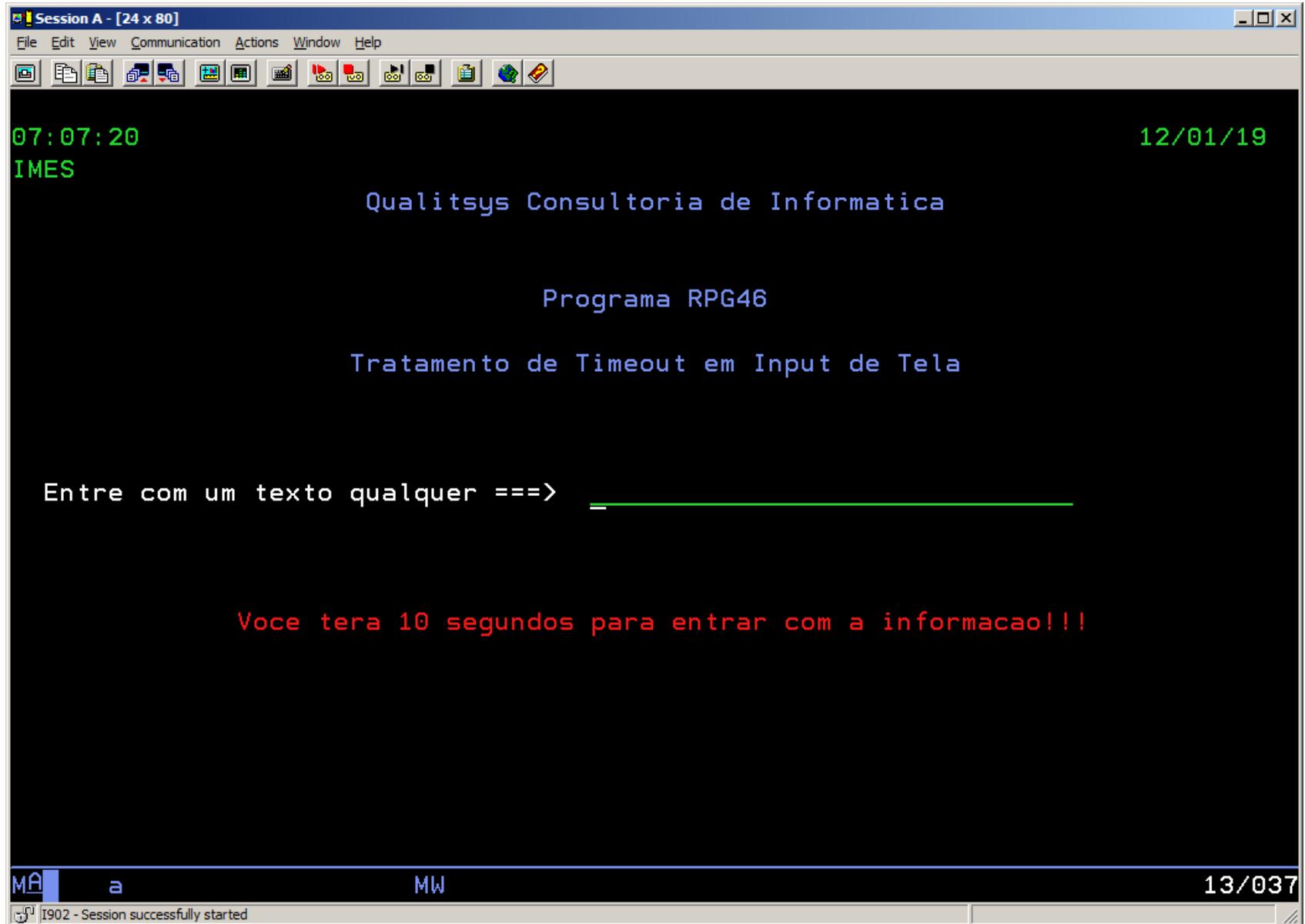
MA a 04/001

I902 - Session successfully started

Atividade – 46

- ✓ Programa **RPG46** – Timeout de Tela





Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG46

FMT * * . 1 2 3 4 5 6 7
***** Beginning of data *****

```
0001.00      H-----  
0002.00      H----- PROGRAMA RPG46 -----  
0004.00      H----- TRATAMENTO DE INPUT DE TELA COM TIMEOUT -----**  
0004.01      H----- ACESSO AO DISPLAY FILE ALUDSF3 -----**  
0004.02      H----- ACESSO AO DISPLAY FILE ALUDSF3 -----**  
0005.00      H-----TELA GERADA COM TIME DE 10 SEG PARA INPUT ----  
0005.01      H-----NO COMANDO CRTDSPF -----  
0005.02      H-----  
0006.00      FALUDSPF3CF E WORKSTN  
0007.00      F KNUM 1  
0008.00      F KINFDS FEEDBK  
0008.01      I*-----  
0009.00      IFEEDBK DS  
0010.00      I *STATUS STATUS  
0010.01      C*-----  
0011.00      C WRITEREQUEST
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG46

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0011.00	C	WRITEREQUEST	
0012.00	C	READ ALUDSPF3	9950
0013.00	C	EXSR ERRCHK	
0014.00	C	MOVE '1' *INLR	
0014.01	C	SETON	LR
0014.02	C	RETRN	
0014.03	C*	-----**	
0015.00	C	ERRCHK	BEGSR
0016.00	C	STATUS	IFEQ 1331
0017.00	C	MOVE 'SIGNOFF'	CMD 7
0018.00	C	Z-ADD7	LEN 155
0019.00	C	CALL 'QCMDEXC'	
0020.00	C	PARM	CMD
0021.00	C	PARM	LEN
0022.00	C	END	
0023.00	C	ENDSR	
0024.00	C*	-----**	

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Operações com Strings

RPG 47 – Comando CAT

Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 07:10:40

Qualitsys Consultoria de Informatica 12/01/19

Programa RPG47

Concatenacao de Strings

Entre com textos nas areas abaixo

String 1 ===> APARECIDO

String 2 ===> CI

Concatenacao de String 1 e String 2 ===> APARECIDO CI

F3=Fim

Mensagem:

MA a MW A 15/041

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG47

FMT * * . 1 . . . + . . . 2 . . . + . . . 3 . . . + . . . 4 . . . + . . . 5 . . . + . . . 6 . . . + . . . 7
***** Beginning of data *****

```
0000.01      H-----  
0002.00      H----- Programa RPG47 -----  
0004.00      H----- Concatenacao de Strings -----  
0005.00      H-----  
0007.00      FRPGTELASCF E WORKSTN  
0011.01      C*-----  
0012.00      C      INICIO   TAG  
0013.00      C      EXFMTREG47  
0013.01      C      03      GOTO FIMPGM  
0018.00      C      STR1     CAT STR2     CONC  
0018.01      C      GOTO INICIO  
0026.00      C*-----  
0026.01      C      FIMPGM   TAG  
0027.00      C      SETOF           LR  
0028.00      C      RETRN  
0029.00      C*-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW A 02/009

I902 - Session successfully started

RPG 48 – Comando CAT com 1 espaço em branco na concatenação

Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 07:16:07

Qualitsys Consultoria de Informatica 12/01/19

Programa RPG48

Concatenacao de Strings com 1 espaço entre os textos

Entre com textos nas areas abaixo

String 1 ==> APARECIDO

String 2 ==> FREITAS

Concatenacao de String 1 e String 2 ==> APARECIDO FREITAS

F3=Fim

Mensagem:

MA a MW 15/046

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG48

FMT * * 1 2 3 4 5 6 7
***** Beginning of data *****

```
0000.01      H-----  
0002.00      H----- Programa RPG48 -----  
0004.00      H----- Concatenacao de Strings -----  
0004.01      H----- Deixando um espaco em branco entre os Strings --  
0005.00      H-----  
0007.00      FRPGTELASCF E WORKSTN  
0011.01      C-----  
0012.00      C           INICIO    TAG  
0013.00      C           EXFMTREG48  
0013.01      C   03       GOTO      FIMPGM  
0018.00      C           STR1      CAT      STR2:1    CONC  
0018.01      C           GOTO      INICIO  
0026.00      C-----  
0026.01      C           FIMPGM    TAG  
0027.00      C           SETOF     LR  
0028.00      C           RETRN
```

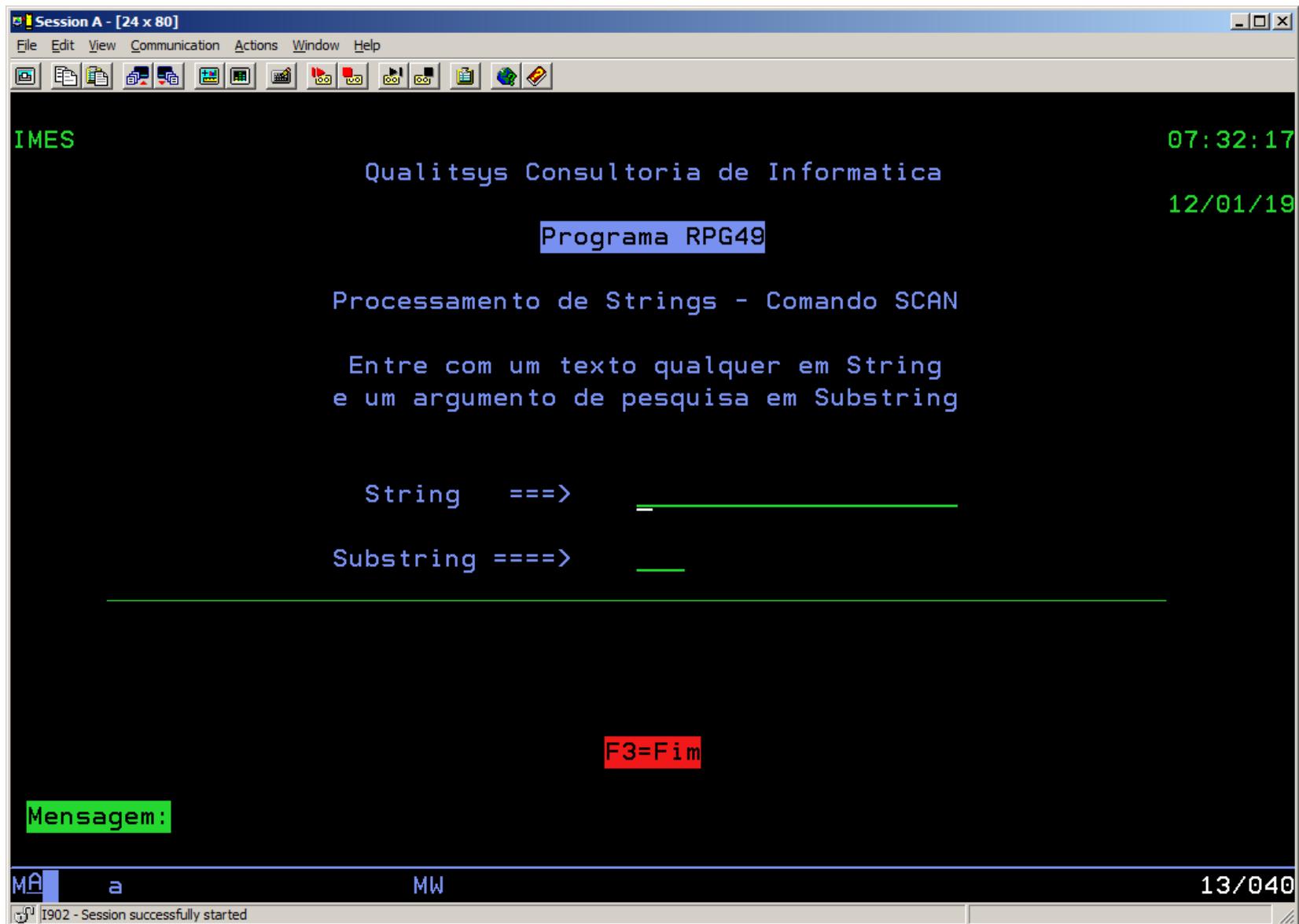
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

RPG 49 - Comando SCAN



Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 07:32:17

Qualitsys Consultoria de Informatica 12/01/19

Programa RPG49

Processamento de Strings - Comando SCAN

Entre com um texto qualquer em String
e um argumento de pesquisa em Substring

String ===> _____

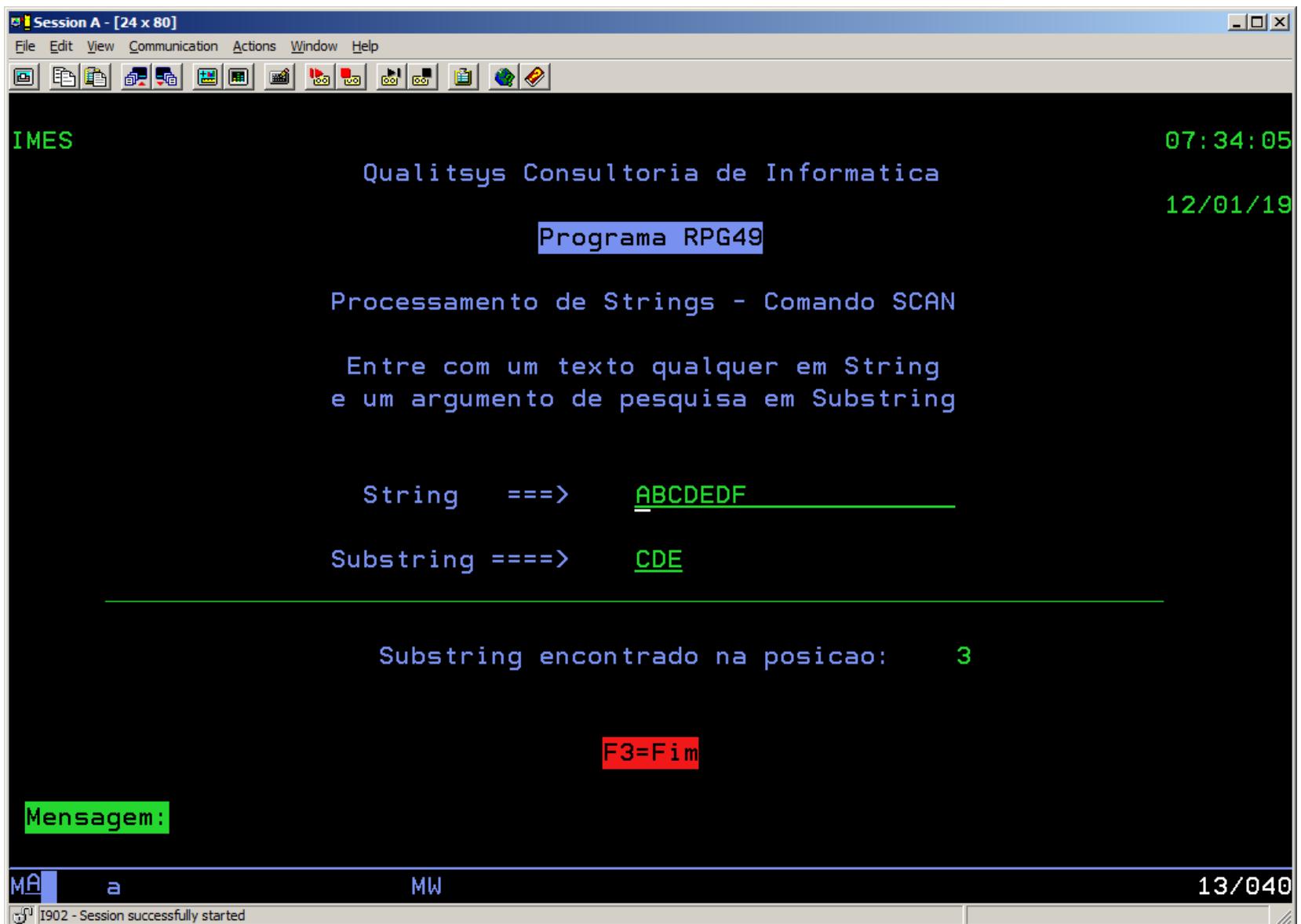
Substring =====> _____

F3=Fim

Mensagem:

MA a MW 13/040

I902 - Session successfully started



Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 07:34:05

Qualitsys Consultoria de Informatica 12/01/19

Programa RPG49

Processamento de Strings - Comando SCAN

Entre com um texto qualquer em String
e um argumento de pesquisa em Substring

String ==> ABCDEDF

Substring ==> CDE

Substring encontrado na posicao: 3

F3=Fim

Mensagem:

MA a MW 13/040

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG49

FMT * . . . * . 1 . . . + . . 2 . . . + . . 3 . . . + . . 4 . . . + . . 5 . . . + . . 6 . . . + . . 7
***** Beginning of data *****

```
0000.01      H-----  
0002.00      H----- Programa RPG49 -----  
0004.00      H----- Processamento de Strings -----  
0004.01      H----- Comando SCAN -----  
0005.00      H-----  
0007.00      FRPGTELASCF E WORKSTN  
0007.01      IWMSG DS 68  
0007.02      I I 'Substring nao encont- 01 68 W1  
0007.03      I       'rada no String infor-  
0007.04      I       'mado....'  
0011.01      C*-----  
0012.00      C       INICIO TAG  
0013.00      C       EXFMTREG49  
0013.01      C   03 GOTO FIMPGM  
0018.00      C       SUBS SCAN STR POS 90  
0018.01      C   N90 MOVE WMSG MSG  
  
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle  
F16=Repeat find F17=Repeat change F24=More keys  
(C) COPYRIGHT IBM CORP. 1981, 2013.  
MA a MW 02/009  
I902 - Session successfully started
```

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG49

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

```
0018.01    C   N90           MOVE WMSG      MSG
0018.02    C               GOTO INICIO
0026.00    C*-----+
0026.01    C           FIMPGM     TAG
0027.00    C           SETON      LR
0028.00    C           RETRN
0029.00    C*-----+
***** End of data *****
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

1902 - Session successfully started

RPG 50 – Comando SUBST

Session A - [24 x 80]
File Edit View Communication Actions Window Help


IMES 07:37:58
Qualitsys Consultoria de Informatica 12/01/19
Programa RPG50

Processamento de Strings - Comando SUBST

String ===> APARECIDO

Tamanho a ser extraido ==> 3

A partir a posicao =====> 5

Substring extraido do String ==> ECI

F3=Fim

Mensagem:

MA a MW 10/042
I902 - Session successfully started

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG50
FMT * *. 1+... 2+... 3+... 4+... 5+... 6+... 7
***** Beginning of data *****
0000.01 H-----
0002.00 H----- Programa RPG50 -----
0004.00 H----- Processamento de Strings -----
0004.01 H----- Comando SUSBST -----
0005.00 H-----
0007.00 FRPGTELASCF E WORKSTN
0007.01 IWMSG DS 68
0007.02 I I 'Especificacao Invalida para o comando SUBST.....'
0007.03 I 'da para o comando SU-
0007.04 I 'BST.....'
0011.01 C-----
0012.00 C INICIO TAG
0013.00 C EXFMTREG50
0013.01 C MOVE *BLANKS RESP1
0013.02 C Z-ADDPOS1 T 30
0013.03 C 03 GOTO FIMPGM

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.
MA a MW 02/009
I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG50

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0013.03	C 03	GOTO FIMPGM
0018.00	C LEN1	SUBSTSTR:T RESP1 90
0018.01	C 90	MOVE WMSG MSG
0018.03	C	GOTO INICIO
0026.00	C*-----	
0026.01	C FIMPGM TAG	
0027.00	C SETON LR	
0028.00	C RETRN	
0029.00	C*-----	

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG 51 – Comando XLATE

Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES 07:43:00
Qualitsys Consultoria de Informatica 12/01/19
Programa RPG51

Processamento de Strings - Comando XLATE

String In ==> APARECIDO VALDEMIR DE FREITAS

String Out => APARECIDO***VALDEMIR***DE***FREITAS*****

F3=Fim

Mensagem:

MA a MW 10/022
I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG51

FMT * *. 1+... 2+... 3+... 4+... 5+... 6+... 7
***** Beginning of data *****

0000.01 H-----
0002.00 H----- Programa RPG51 -----
0004.00 H----- Processamento de Strings -----
0004.01 H----- Comando XLATE -----
0005.00 H-----
0007.00 FRPGTELASCF E WORKSTN
0007.01 I-----
0007.02 I . . C SP
0007.04 I-----
0007.06 I ' * ' C AST
0011.01 C-----
0012.00 C INICIO TAG
0013.00 C EXFMTREG51
0013.01 C 03 GOTO FIMPGM
0013.03 C SP:AST XLATESTR51 RESP51
0018.03 C GOTO INICIO

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

1902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG51

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments+++

0018.03	C	GOTO INICIO
0026.00	C*	-----
0026.01	C	FIMPGM TAG
0027.00	C	SETON LR
0028.00	C	RETRN
0029.00	C*	-----

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG 52 – Programa Submetendo JOBS

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG52

FMT * *. 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7
***** Beginning of data *****

```
0000.01      H-----  
0002.00      H----- Programa RPG52 -----  
0004.00      H----- SMBJOB atraves de um Programa RPG -----  
0004.01      H-----  
0004.02      IWCOM      DS          32  
0006.00      I I          'SBMJOB CMD(DSPLIB LI- 01 32 COMAND  
0006.01      I           'B(USCSRPG))'  
0025.00      C*-----  
0027.00      C           CALL 'QCMDEXC'  
0028.00      C           PARM          COMAND  
0029.00      C           PARM 32      LEN    155  
0031.00      C           SETON          LR  
0032.00      C           RETRN  
0033.00      C*-----  
***** End of data *****
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Data Queues

RPG53 – Gravando Data Queue

Session A - [24x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG53

FMT * * . 1 2 3 4 5 6 7
***** Beginning of data *****

```
0000.01      H*-----  
0002.00      H*----- Programa RPG53 -----  
0002.01      H*-----  
0004.00      H*----- PROGRAMA GRAVANDO INFORMACAO NA DATA QUEUE -----  
0004.01      H*-----  
0004.02      H*- CRTDTAQ DTAQ (USCSRPG/WDATAQ MAXLEN(100) SEQ(*FIFO) -----  
0004.03      H*-----  
0004.04      H*- CALL QSNDTDAQ PARM(&Q &LIB &LEN &DATA) -----  
0004.06      H*-----  
0004.07      H*- &Q => CHAR 10 BYTES - NOME DA DATA QUEUE -----  
0004.08      H*- &LIB => CHAR 10 BYTES - NOME DA LIBRARY --  
0004.09      H*- &LEN => 5,0 PACKED - TAMANHO DA ENTRADA NA DATAQUEUE -----  
0004.10      H*- &DATA => CHAR - TAMANHO DO DADO A SER ENVIADO P/DATA QUEUE  
0004.11      H*-----  
0004.12      IWDATAQ      DS          32  
0006.00      I I           'WDATAQ'      1 10 DTAQ
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG53

```
FMT SV .....I.I.....Init-value++++++PFromTo++DField+.....
0006.00    I I      'WDATAQ'          1 10 DTAQ
0006.01    I I      'USCSRPG'        11 20 LIB
0006.02    I I      100             P 21 230LEN
0006.04    I I      'AAAAAA'         24 28 DADO
0025.00    C*-----
0027.00    C          CALL 'QSNDTQAQ'
0028.00    C          PARM           DTAQ
0029.00    C          PARM           LIB
0029.01    C          PARM           LEN
0029.02    C          PARM           DADO
0029.03    C*-----
0031.00    C          SETON          LR
0032.00    C          RETRN
0033.00    C*-----
```

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Visualizando Dados na Data Queue

Comando DMPOBJ

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Dump Object (DMPOBJ)

Type choices, press Enter.

Object	<u>WDATAQ</u>	Name
Library	<u>USCSRPG</u>	Name, *LIBL, *CURLIB, QTEMP
Object type	<u>*DATAQ</u>	*ALRTBL, *AUTL, *BNDDIR...

Bottom

F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

MA a MW A 07/043

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Display Spooled File

File : QPSRVDMP Page/Line 1/41
Control _____ Columns 1 - 78
Find

*....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....

. ENQUEUE DATE- 11/01/19 ENQUEUE TIME- 17:09:52
. MESSAGE-
000000 C1C1C1C1 C1404040 40000000 00000000 00404040 40404040 40404040 40
000020 40404040 40404040 40404040 40404040 40404040 40404040 40404040 40
000040 40404040 40404040 40404040 40404040 40404040 40404040 40404040 40
000060 40404040
. 000004-
. ENQUEUE DATE- 11/01/19 ENQUEUE TIME- 17:09:53
. MESSAGE-
000000 C1C1C1C1 C1404040 40000000 00000000 00404040 40404040 40404040 40
000020 40404040 40404040 40404040 40404040 40404040 40404040 40404040 40
000040 40404040 40404040 40404040 40404040 40404040 40404040 40404040 40
000060 40404040
PRIMARY ASSOCIATED SPACE-
000000 00000064 D5E5F2D9 F1D4F040 40C60000 D5000000 0200FFFF FFFF0000 00
000020 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00
More...
F3=Exit F12=Cancel F19=Left F20=Right F24=More keys

MA a MW A 03/022

I902 - Session successfully started

RPG54 – Lendo Data Queue

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG54

FMT * . . . *. 1 . . .+ . . . 2 . . .+ . . . 3 . . .+ . . . 4 . . .+ . . . 5 . . .+ . . . 6 . . .+ . . . 7
***** Beginning of data *****

```
0000.01      H*-----  
0002.00      H*----- Programa RPG54 -----  
0002.01      H*-----  
0004.00      H*----- PROGRAMA LENDO INFORMACAO NA DATA QUEUE -----  
0004.02      H*-----  
0004.03      H*-----  
0004.04      H*- CALL QRCVDTAQ PARM(&Q &LIB &LEN &DATA &WAIT) -----  
0004.06      H*-----  
0004.07      H*- &Q => CHAR 10 BYTES - NOME DA DATA QUEUE -----  
0004.08      H*- &LIB => CHAR 10 BYTES - NOME DA LIBRARY --  
0004.09      H*- &LEN => 5,0 PACKED - TAMANHO DA ENTRADA NA DATAQUEUE -----  
0004.10      H*- &DATA => CHAR - TAMANHO DO DADO A SER ENVIADO P/DATA QUEUE  
0004.11      H*- &WAIT => 5,0 PACKED - WAIT LIMIT IN SECONDS -----  
0004.12      H*- &WAIT (0) NO WAIT -----  
0004.13      H*- &WAIT (+) WAIT NUMBER OF SECONDS SPECIFIED -----  
0004.14      H*- &WAIT (-) WAIT UNTIL VALUE PUT INTO DATA QUEUEU -----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG54

```
FMT * ..... *.* 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7
0004.14 H*- &WAIT (-) WAIT UNTIL VALUE PUT INTO DATA QUEUEU ----
0004.15 H*-----
0004.16 IWDATAQ DS 32
0006.00 I I 'WDATAQ' 1 10 DTAQ
0006.01 I I 'USCSRPG' 11 20 LIB
0006.02 I I 100 P 21 230LEN
0006.04 I I ' ' 24 28 DADO
0006.05 I I 30 P 29 310WAIT
0025.00 C*-----
0027.00 C CALL 'QRCVDTAQ'
0028.00 C PARM DTAQ
0029.00 C PARM LIB
0029.01 C PARM LEN
0029.02 C PARM DADO
0029.03 C PARM WAIT
0029.04 C*-----
0031.00 C SETON LR

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001
I902 - Session successfully started
```

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG54

FMT C CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0029.02	C	PARM	DADO
0029.03	C	PARM	WAIT
0029.04	C*	-----	
0031.00	C	SETON	LR
0032.00	C	RETRN	
0033.00	C*	-----	

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG55 – Efetuando CLEAR na Data Queue

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG55

FMT * . . . * . 1 . . . + . . 2 . . . + . . 3 . . . + . . 4 . . . + . . 5 . . . + . . 6 . . . + . . 7
***** Beginning of data *****

```
0000.01      H-----  
0002.00      H----- Programa RPG55 -----  
0002.01      H-----  
0004.00      H----- PROGRAMA EFETUANDO CLEAR NA DATA QUEUE -----  
0004.02      H-----  
0004.03      H-----  
0004.04      H-- CALL QCLRDTAQ PARM(&Q &LIB ) -----  
0004.06      H-----  
0004.07      H-- &Q => CHAR 10 BYTES - NOME DA DATA QUEUE -----  
0004.08      H-- &LIB => CHAR 10 BYTES - NOME DA LIBRARY --  
0004.15      H-----  
0004.16      IWDATAQ      DS          32  
0006.00      I I          'WADATAQ'           1 10 DTAQ  
0006.01      I I          'USCSRPG'          11 20 LIB  
0025.00      C-----  
0027.00      C          CALL 'QCLRDTAQ'
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

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I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG55

FMT DS IDsname....NODsExt-file++.....OccrLen+.....

```
0004.16      IWDATAQ      DS          32
0006.00      I I           'WDATAQ'      1 10 DTAQ
0006.01      I I           'USCSRPG'    11 20 LIB
0025.00      C*-----
0027.00      C             CALL 'QCLRDTAQ'
0028.00      C             PARM          DTAQ
0029.00      C             PARM          LIB
0029.04      C*-----
0031.00      C             SETON         LR
0032.00      C             RETRN
0033.00      C*-----
```

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG56 – Deletando Data Queue

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG56

FMT * *. 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7
***** Beginning of data *****

```
0000.01      H*-----  
0002.00      H*----- Programa RPG56 -----  
0002.01      H*-----  
0004.00      H*----- PROGRAMA DELETANDO DATA QUEUE -----  
0004.02      H*-----  
0004.03      H*-----  
0004.04      H*- DLTDATAQ DTAQ (USCSRPG/WDATAQ) -----  
0004.15      H*-----  
0004.16      IWDATAQ      DS          29  
0006.00      I I           'DLTDATAQ DTAQ (USCSRPG- 1 29 COMAND  
0006.01      I           '/WDATAQ)'  
0025.00      C*-----  
0025.02      C           CALL 'QCMDEXC'  
0025.03      C           PARM          COMAND 29  
0025.04      C           PARM 29      TAM    155  
0031.00      C           SETON          LR  
  
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle  
F16=Repeat find F17=Repeat change F24=More keys  
(C) COPYRIGHT IBM CORP. 1981, 2013.  
MA a MW 02/009  
I902 - Session successfully started
```

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG56

FMT CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0025.04	C	PARM 29	TAM 155
0031.00	C	SETON	LR
0032.00	C	RETRN	
0033.00	C*	-----	

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG59 – SUBROTINAS

Session A - [24 x 80]

File Edit View Communication Actions Window Help

12/01/19
IMES
07:57:20

Qualitsys Consultoria de Informatica

Utilizacao de Subrotinas - EXSR

Programa RPG59

1. Inclusao
2. Exclusao
3. Alteracao
4. Consulta
5. Fim

Entre com a opcao desejada ==> _

F3=Fim

M A a M W 20/050

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG59

FMT * . . . * 1 . . . + . . . 2 . . . + . . . 3 . . . + . . . 4 . . . + . . . 5 . . . + . . . 6 . . . + . . . 7
***** Beginning of data *****

```
0000.01      H-----  
0000.02      H----- PROGRAMA RPG59 -----  
0000.03      H----- DEFINICAO DE SUBROTITNAS -----  
0000.09      H-----  
0001.00      FRPGTELASCF E WORKSTN  
0001.01      I*-----  
0001.02      IWMSG DS 50  
0001.03      I I      'Opcão:' 01 07 W1  
0001.04      I          08 08 WOPCAO  
0001.06      I I      ' !!!' 09 50 W2  
0001.07      I*-----  
0001.08      IWERRO DS 50  
0001.09      I I      'Opcão invalida!!!' 01 50 LIT1  
0001.12      C*-----  
0002.00      C      *IN03 DOWNE*ON  
0002.01      C*-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG59

```
FMT DS ..... ID$name.... NOD$Ext-file++..... OccrLen+.....
0001.08    IWERR0      DS                                50
0001.09    I I          'Opcão invalida!!!'        01 50 LIT1
0001.12    C*-----
0002.00    C           *IN03      DOWNE*ON
0002.01    C*-----
0003.00    C           EXFMTREG59
0003.01    C           OPCAO     IFEQ '5'
0003.02    C           LEAVE
0003.03    C           ENDIF
0003.08    C*-----
0003.09    C           OPCAO     IFEQ '1'
0003.10    C           EXSR ROT1
0003.11    C           ENDIF
0003.12    C*-----
0003.13    C           OPCAO     IFEQ '2'
0003.14    C           EXSR ROT2
0003.15    C           ENDIF
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES

SEU==> RPG59

FMT CCL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

```
0003.13    C          OPCAO      IFEQ '2'  
0003.14    C          EXSR ROT2  
0003.15    C          ENDIF  
0003.16    C*-----  
0003.18    C          OPCAO      IFEQ '3'  
0003.19    C          EXSR ROT3  
0003.20    C          ENDIF  
0003.21    C*-----  
0003.22    C          OPCAO      IFEQ '4'  
0003.23    C          EXSR ROT4  
0003.24    C          ENDIF  
0003.25    C*-----  
0003.26    C          ENDDO  
0003.27    C*-----  
0003.28    C          SETON      LR  
0003.29    C          RETRN  
0003.30    C*-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

SUBFILE

Session A - [24 x 80]

File Edit View Communication Actions Window Help

IMES Curso RPG/400 07:59:31
 12/01/19

Tratamento de Subfile

SFLSIZ = 20 e SFLPAG = 2

Pesquisa Sequencial no arquivo ALULF

Código	Nome	Curso	Fone	Endereço
00002	DEBORA DE FARIA FILHO			RUA ANTONIO DE ALMEIDA FILHO
00099	ANTONIO DA SILVA PARAANHOS			RUA 7 DE SETEBRO, 12

TECLE PF3 PARA ENCERRAR

MA a MW 01/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG60

FMT * *. 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7
***** Beginning of data *****

0001.00 ***-----
0002.00 ** ----- PROGRAMA RPG50 -----**
0003.00 **-----
0004.00 *----- Programa RPG/400 para Subfile de Inquire -----**
0005.00 **-----
0006.00 *-----Definição do arquivo de entrada: -----**
0007.00 ** FILENAME.....: ALULF
0008.00 ** FILE TYPE.....: I
0009.00 ** FILE DESIGNATION...: F
0010.00 ** FILE FORMAT: E
0011.00 ** DEVICE.....: DISK
0012.00 ***-----
0013.00 FALULF IF E K DISK
0014.00 *-----Definição do arquivo de entrada: -----**
0015.00 ***-----
0016.00 ** FILENAME.....: ALUSUBF1

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

(C) COPYRIGHT IBM CORP. 1981, 2013.

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG60

```
FMT * ..... *. 1 ....+.... 2 ....+.... 3 ....+.... 4 ....+.... 5 ....+.... 6 ....+.... 7
      ** FILENAME.....: ALUSUBF1
0017.00  ** FILE TYPE.....: C
0018.00  ** FILE DESIGNATION.: F
0019.00  ** FILE FORMAT .....: E
0020.00  ** DEVICE.....: WORKSTN
0021.00  ****-----*** 
0022.00  FALUSUBF1CF   E          WORKSTN
0023.00  F          RRN      KSFILe DATA
0024.00  ****-----*** 
0025.00  **          WRITE no formato para avisar o usuário que
0026.00  **          PF3 encerra o programa e PROMPT para o código do aluno
0027.00  ****-----*** 
0028.00  C          WRITERECF3
0029.00  C          SETON          85
0030.00  C          WRITECONTROL
0031.00  C          SETOF          85
0032.00  ****-----*** 

F3=Exit    F4=Prompt    F5=Refresh    F9=Retrieve    F10=Cursor    F11=Toggle
F16=Repeat find    F17=Repeat change    F24=More keys

MA a MW 04/001
I902 - Session successfully started
```

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG60

FMT C CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

```
0031.00    C           SETOF          85
0032.00    *-----*
0033.00    *----- Enquanto o usuário não acionar PF3 para encerrar
0034.00    *-----*
0035.00    C           *IN03        DOWEQ'0'
0036.00    *-----*
0037.00    *----- CLEAR O SUBFILE -----
0038.00    *-----*
0039.00    C           SETON          75
0040.00    C           WRITECONTROL
0041.00    C           SETOF          75
0042.00    *-----*
0043.00    *----- Reset Relative Record Number e File Pointer -----
0044.00    *-----*
0045.00    C           SETOF          40
0046.00    C           Z-ADDO         RRN      50 40
0047.00    C           *LOVAL        SETLLALULF      40
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG60

FMT C CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0047.00 C *LOVAL SETLLALULF 40

0048.00 ****-----**

0049.00 ----- Preencher Subfile -----**

0050.00 ***-----**

0051.00 C *IN40 DOWEQ'0'

0052.00 C READ ALULF 40

0053.00 C *IN40 IFEQ '0'

0054.00 C ADD 1 RRN

0055.00 C WRITEDATA 40

0056.00 C END

0057.00 C END

0058.00 ***-----**

0059.00 ----- Display de Subfile -----**

0060.00 ***-----**

0061.00 C SETON 8595

0062.00 C EXFMTCONTROL

0063.00 C SETOF 8595

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG60

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0063.00	C	SETOF	8595
0064.00	C	END	
0065.00	*****-----*****		
0066.00	***** Fim de Programa *****		
0067.00	*****-----*****		
0068.00	C	SETON	LR

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/DDSFontes
SEU==> ALUDSPF2

FMT A*A*. 1+.... 2+.... 3+.... 4+.... 5+.... 6+.... 7
***** Beginning of data *****

0000.10	A*%%TS	SD	20190106	120251	IMES	REL-V7R2M0	5770-WDS
0000.20	A*%%EC						
0000.30	A					DSPSIZ(24 80 *DS3)	
0000.40	A					INVITE	
0000.50	A	R REQUEST					
0000.60	A*%%TS	SD	20020703	114453	APARECIDO	REL-V4R4M0	5769-PW1
0000.70	A					2 1TIME	
0000.80	A					2 71DATE	
0000.90	A					EDTCDE(Y)	
0001.00	A					3 15'** I M E S - Departamento	
0001.10	A					cia da Computação **'	
0001.20	A					DSPATR(UL)	
0001.30	A					5 22'** Curso RPG/400 - Design	
0001.40	A					**'	
0001.50	A					DSPATR(UL)	
0001.60	A					DSPATR(RI)	

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

M A a MW 02/009

1902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/DDSFontes
SEU=> ALUDSPF2

FMT DP AAN01N02N03T.Name+++++RLen++TDpBLinPosFunctions++++++

0001.60	A	DSPATR (RI)
0001.70	A	DSPATR (BL)
0001.80	A	10 18'***** T I M E - 0
0001.90	A	*****'
0002.00	A	COLOR (YLW)
0002.10	A	3 1USER
0002.20	A	13 25'Entre com o código do alun
0002.30	A	DSPATR (BL)
0002.40	A	COLOR (WHT)
0002.50	A	CODALU 5A I 13 54
0002.60	A	17 12'Sr. Usuário, você tem 10 s
0002.70	A	para entrar com o código'
0002.80	A	DSPATR (RI)
0002.90	A	19 36'Se não....'
0003.00	A	DSPATR (BL)

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Gravação em PRTF – Relatórios

RPG90 – Relatório com PRTF

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/DDSFontes
SEU==> ALUDSPF2

FMT DP AAN01N02N03T.Name+++++RLen++TDpBLinPosFunctions++++++

0001.60	A	DSPATR(RI)
0001.70	A	DSPATR(BL)
0001.80	A	10 18'***** T I M E - 0
0001.90	A	*****'
0002.00	A	COLOR(YLW)
0002.10	A	3 1USER
0002.20	A	13 25'Entre com o código do alun
0002.30	A	DSPATR(BL)
0002.40	A	COLOR(WHT)
0002.50	A	CODALU 5A I 13 54
0002.60	A	17 12'Sr. Usuário, você tem 10 s
0002.70	A	para entrar com o código'
0002.80	A	DSPATR(RI)
0002.90	A	19 36'Se não....'
0003.00	A	DSPATR(BL)

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

1902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG90

FMT C . . . CL0N01N02N03Factor1+++0pcdeFactor2+++ResultLenDHHiLoEqComments+++

0008.00	C	ENDIF
0009.00	C	*IN99 IFEQ *ON
0010.00	C	WRITEHEADER
0011.00	C	SETOF 99
0012.00	C	ENDIF
0013.00	C	WRITEDETAIL
0014.00	C*	-----

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

1902 - Session successfully started

RPG91 – Relatório com PRTF

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG91

FMT * . . . *. 1 . . .+ . . . 2 . . .+ . . . 3 . . .+ . . . 4 . . .+ . . . 5 . . .+ . . . 6 . . .+ . . . 7
***** Beginning of data *****

```
0000.01      H-----  
0000.02      H----- Programa RPG91 -----  
0000.03      H----- Ciclo LOGICO do RPG -----  
0000.04      H----- Geracao de Relatorio com o uso do PRTF ALUPRINT  
0000.05      H----- ARQUIVO DE ENTRADA: ALULF2 - ORDENADO POR CODCUR  
0000.06      H-----  
0001.00      FALULF2 IP E           K          DISK  
0002.00      FALUPRINTO E           99         PRINTER  
0002.01      I-----  
0003.00      IWFLAG     DS           1  
0004.00      I I           '0'          01 01 FLAG  
0004.01      C-----  
0005.00      C           FLAG     IFEQ '0'  
0006.00      C           WRITEHEADER  
0007.00      C           MOVE '1'    FLAG  
0008.00      C           ENDIF  
  
F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle  
F16=Repeat find F17=Repeat change F24=More keys  
(C) COPYRIGHT IBM CORP. 1981, 2013.  
MA a MW 02/009  
1902 - Session successfully started
```

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG91

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0008.00	C	ENDIF
0009.00	C	*IN99 IFEQ *ON
0010.00	C	WRITEHEADER
0011.00	C	SETOF 99
0012.00	C	ENDIF
0013.00	C	WRITEDETAIL
0014.00	C*	-----

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG92 – Relatório com PRTF

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG92

FMT * *. 1 2 3 4 5 6 7
***** Beginning of data *****

```
0001.01      H-----  
0001.02      H-----      Programa RPG92 -----  
0001.03      H-----      Ciclo LOGICO do RPG -----  
0001.04      H-----      Geracao de Relatorio com o uso do PRTF ALUPRINT  
0001.05      H-----      PROGRAMA ira manusear o Printer File ALUPRT2  
0001.06      H-----      PROGRAMA IRA LER ARQUIVO ALUFL2 e ira gerar  
0001.07      H-----      o relatorio com quebra de curso.  
0001.08      H-----  
0006.00      FALULF2   IP   E           K       DISK  
0008.00      FALUPRINTO   E           99      PRINTER  
0009.00      I-----  
0010.00      IRECALU  
0011.00      I           CODCURL1  
0012.00      I-----  
0013.00      C           *IN99     IFEQ *ON  
0014.00      C           WRITEHEADER
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG92

FMT C . . . CL0N01N02N03Factor1+++OpcdeFactor2+++ResultLenDHHiLoEqComments++++

0013.00	C	*IN99	IFEQ *ON
0014.00	C		WRITEHEADER
0015.00	C		SETOF 99
0016.00	C		ENDIF
0017.00	C	*INL1	IFEQ *ON
0018.00	C		SETON 99
0019.00	C		WRITEHEADER
0020.00	C		SETOF L199
0021.00	C		ENDIF
0022.00	C		WRITEDETAIL
0023.00			-----

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

RPG93 – Relatório com PRTF

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG93

FMT * *. 1+... 2+... 3+... 4+... 5+... 6+... 7
***** Beginning of data *****

0001.00 *-----
0001.01 *--- PROGRAMA RPG93 -----
0001.02 *-----
0002.00 *Descricao: Este programa ira manusear o Printer File ALUPRT2
0003.00 * O programa ira ler o arquivo ALUFL2 e ira gerar
0004.00 * o relatorio com quebra de curso.
0005.00 * O programa devera imprimir os totais de alunos em
0006.00 * cada curso
0007.00 *-----
0008.00 FALULF2 IP E K DISK
0009.00 *-----
0010.00 FALUPRT2 0 E 99 PRINTER
0011.00 *-----
0012.00 IRECALU
0013.00 I CODCURL1
0014.00 I*-----

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys
(C) COPYRIGHT IBM CORP. 1981, 2013.

M A a MW 02/009

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU==> RPG93

```
FMT * ..... *. 1 ....+.... 2 ....+.... 3 ....+.... 4 ....+.... 5 ....+.... 6 ....+.... 7
0014.00 I*-----
0015.00 IWFLAG1 DS 1
0016.00 I I '0' 01 01 FLAG1
0017.00 I*-----
0018.00 IWFLAG2 DS 1
0019.00 I I '0' 01 01 FLAG2
0020.00 I*-----
0021.00 C FLAG1 IFEQ '0'
0022.00 C WRITEHEADER
0023.00 C MOVE '1' FLAG1
0024.00 C ENDIF
0025.00 I*-----
0026.00 C *IN99 IFEQ *ON
0027.00 C WRITEHEADER
0028.00 C SETOF 99
0029.00 C ENDIF
0030.00 *-----
```

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Columns . . . : 1 71 Edit USCSRPG/RPGFONTES
SEU=> RPG93

FMT * . . . *. 1 . . + . . 2 . . + . . 3 . . + . . 4 . . + . . 5 . . + . . 6 . . + . . 7

0030.00 *-----

0031.00 C *INL1 IFEQ *ON
0032.00 C FLAG2 ANDEQ '1'
0033.00 C WRITETOTAL
0034.00 C MOVE *ZEROS TOTALU
0035.00 C SETON 99
0036.00 C WRITEHEADER
0037.00 C SETOF L199
0038.00 C ENDIF
0039.00 *-----
0040.00 C MOVE '1' FLAG2
0041.00 C WRITEDETAIL
0042.00 C ADD 1 TOTALU
0043.00 *-----
0044.00 CLR WRITETOTAL

***** End of data *****

F3=Exit F4=Prompt F5=Refresh F9=Retrieve F10=Cursor F11=Toggle
F16=Repeat find F17=Repeat change F24=More keys

MA a MW 04/001

I902 - Session successfully started