AS/400 RPG 程式設計 AS/400 RPG Interactive Programming Workshop

(91年7月修訂)

時間表

時間	上午(9:00~12:00)	下午(13:30~16:30)
第 一 天	1.RPG卡別介紹 2.結構化程式設計 3.副程式與參數傳輸 4.資料區域	實例研討
第二天	5.檔案處理&RPG CYCLE 6.資料結構及Table & Arrary 介紹	實例研討
第三天	7.次檔案(SUBFILE)查詢 8.運用次檔案查詢修改資料檔	實例研討

課程大綱

第一章: RPG/400卡別介紹

第二章:結構化程式設計

結構化程式設計概念 結構化程式設計的應用

第三章:副程式與參數傳輸

副程式撰寫與參數傳輸程式的相互影響

第四章: 資料區域

第五章:檔案處理與RPG Cycle

基本檔案處理 檔案定義 資料庫檔案處理 RPG Cycle 第六章:資料結構及Table & Array介紹

資料結構概念和定義 特殊資料結構 基本檔案結構 Table & Array介紹

第七章:次檔案(SUBFILE)查詢

次檔案的程式設計 次檔案的查詢程式 單頁次檔案資料輸入 次檔案(SUBFILE)顯示方式控制

第八章:.運用次檔案查詢修改資料檔

運用次檔案查詢修改資料檔 檔案維護程式的一般DDS考量 使用次檔案查詢修改資料檔撰寫技巧 第一章: RPG/400卡别介紹

RPG/400卡別提示

Н	Control Specification	JX	Externally Described J
F	File Description	DS	Data Structure
FC,FK	File Continuation	SS	Field Rename
FX	Externally Described F	SV	Initialization Values
U	Auto Report	N	Named Constant
E	Extension	C	Calculation
L	Line Counter	O	Output
I	Input	OD	Disk Output ADD/DEL
IX	Externally Described I	P	Right Side of Output
J	Right Side of Input	*	Comment

備註:有 符號者,係RPG/400常用表

RPG的撰寫格式

多種固定的撰寫格式是RPG程式語言不同於其他程式語言的特色之一。 撰寫格式中,不同位置所填寫的字元通常代表不同的意義。RPG程式語言中, 有七種撰寫格式,每一種撰寫格式都提供了不同的程式功能。每一種撰寫格式 中的每一個項目都有其特定的位置,經常是一或數格(column)為一個項目。但 任何一個原始敘述的第七格填入*時,此敘述不再具有任何格式的特性及項目, 而是一附註說明(comment)。原始敘述的編輯公用程式SEU檢核原始程式或控制 指令crtrpgpgm編譯原始程式時,均以撰寫格式的第6格(column)來辨別每一原始 敘述的類別(H格式、F格式、E格式、L格式、I格式、C格式、或O格式)。我們 組合這些以撰寫格式所寫成的個別敘述為一RPG程式。這些敘述是描述程式所 需要的輸入、計算(或處理)及輸出的各類功能,而且必須遵照下列的順序組成 原始程式: H格式 -- Control(Header) specification -- 控制格式

F格式 -- File specifications -- 檔案格式

E格式 -- Extension specifications -- 擴充格式

L格式 -- Line counter specifications -- 列印格式

I格式_-- Input specifications -- 輸入格式

<u>C格式</u> -- Calulation specifications -- <u>計算格式</u>

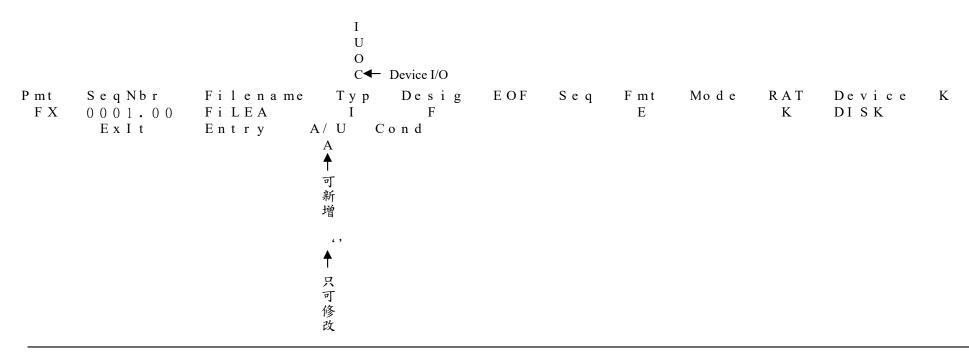
O格式 -- Output specifications -- 輸出格式

較常用的RPG撰寫格式是F、E、I、C、O:

- F 格式是描述程式中所使用的檔案。
- E 格式是描述程式中所使用的陣列(Arrays)或表列(Tables)。 陣列及表列所包含的都是一些屬性相同的資料欄位。當程式需要整批 處理時,陣列或表列的運用可簡化程式中,資料欄位的宣告及運用。
- I 格式是描述程式中,輸入記錄(Input record)的資料欄位分配及資料組織(Data Structures)。
- <u>C</u>格式是描述程式中,對資料的運算及操作的順序。
- O格式是描述程式中,所需輸出記錄(Output record)的欄位及其排列方 式。

C o l u m n s	: 1 7 1	T
* * * * * *	********* Beginning of data ************	*
FMT H	I	
FMT FX	Filename IPEAFLIDevice+KExit++	Е
FMT IXI	FILEA IF E K DISK Rcdname+In	
0 0 0 2 . 0 0 I F MT J X I 0 0 0 3 . 0 0 I		1
0 0 0 4 . 0 0	F L D 2 P G M1	
0 0 0 5 . 0 0 I		
F MT S S I 0 0 0 6 . 0 0 I	PFromTo++DField+. 1 200DSF1	•
0 0 0 7 . 0 0 I	2 1 3 0 DS F 2	
F M T N I		•
P m t S e q N b r H 0 0 0 1 . 0 0	Debug Cur DateFmt DateEdit InvPrt AltSeq 1 P Form Y	S
FTrans	TransLit PgmName	





C o 1 u mn s S E U = = >		. :		1	ĺ	7 1				Εd	i t													T	E S	T /	-			R C T 2
3 E 0 >																														· ~
	* * * * *	* * *	. * *	* * *	* *	Ве	ginn	i n g	o f	d a	t a	*	* * >	* * *	* *	* * *	* *	* *	* * *	*	* * :	* * *	* * :	* *	* *	* *	* *	* *	* *	* *
FMT FX		FFi	1 e	n a m	e I l	PEA	F		L	I				. I	e v	vi c	e -	٠.		•	KE:	x i t	+ -	+ E :	n t	r y	+ /	Α.		. U
0001.00		FFI	LE	A	I	F :	E			K				Γ) I S	S K										•	Í	A		
FMT IX		IRo	d n	a me	+		In																							
0002.00			-																											
	* * * * *	* * *	. * *	* * *	* * :	* * *	End	o f	d a	t a	* *	* *	* * *	* * *	* *	k * *	* *	* * *	* * *	*	* * :	* * *	* * :	k *	* *	* *	* *	* *	* *	* *

Columns			:		1	7 1			E d i t									ТЕ	ST	/QR	PGSR
S E U = = >																					TEST
	* * * *	* * *	* *	* * * *	* * *	Ве	ginning	o f	d a t a	* * *	* * * *	* * * *	* * *	* * *	* * *	* * *	* * *	* *	* *	* * *	* * * *
FMTFX		. F	F i	Lena	me I	PEA	F	L .	. I		D	e v I c	e + .		. K	Ехі	t + +	- E n	t r	y + A	
0001.00		F	F I	LEA	I	F .	E		K		D 1	SK								A	
F MT I X		. I	Rc	dnam	e + .		I n														
0002.00		I	A R																		
FMT JX		. I					E x t - f	i e l d	+						. F	i e 1	d + L	. 1 M	11.	. P 1	Mn Z r
0003.00		I													F	L D 1					
0004.00															_	G M 1					
	* * * *	* * *	* *	* * * *	* * *	* * *	End of	dat	a * * *	* * * *	* * * *	* * * *	* * *	* * *	* * *	* * *	* * *	* *	* *	* * *	* * * *



Columns :	1 7 1	Edit		TEST/ QRPGSRC
S E U = = >				T E S T 2
*******	*** Beginning o	f data *****	: * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * *
FMT FX FFi Lena	me I PEAF	L I De	e v i c e + KE x i t	$+ + E n t r y + A \dots U$
0 0 0 1 . 0 0 F F I L E A	IF E	K DI	S K	A
FMT IX I Rcdname	e + I n			
0 0 0 2 • 0 0 I AR				
FMT JXI	Ext-fie	1 d +		+L1M1P1MnZr.
0003.00 I			F L D 1	
0 0 0 4 • 0 0 I	F L D 2		P G M 1	
FMT DS I Ds name.	NODs Ext - fil	e ++	Occr Len+	
0 0 0 5 . 0 0 I DS 1	DS			
* * * * * * * * * * * * *	***** End of d	ata *******	: * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * *
Pmt SeqNbr DtaStrNa	ame Nbr Opt	DS Ext F Na me	Occurs Len	
DS 0005.00 DS1		DS		

Columns	s :	1 7 1	E d i	t		TEST/ QRPGSRC
S E U = = >						T E S T 2
	* * * * * * * * *	* * * * * * B e	ginning of dat	a *********	* * * * * * * * * * * *	* * * * * * * * * * *
F MT F X	F F i L	e n a me I P E A	F	Device+	KExit++	$E n t r y + A \dots U$
0001.00	FFIL	E A I F	E K	DISK		A
F MT I X	I R c d	n a m e +	n			
0002.00	IAR					
F MT J X	I		. $E \times t - f i e 1 d +$		F i e l d + L	1 M 1 P 1 Mn Z r .
0003.00	I				F L D 1	
0004.00	I		F L D 2		P G M 1	
F MT DS	I Ds n	a me NO	Os $E \times t - f i \mid e + + \dots$	Oc c	r L e n +	
0005.00	I DS 1]	O S			
F MT S S	I		\cdot Ext - field + \cdot \cdot		mT o + + DF i e 1 d +	
0006.00	I				1 2 0 0 D S F 1	
0007.00	I			2	1 3 0 D S F 2	
	* * * * * * * * *	* * * * * * * * *	End of data *	* * * * * * * * * * * * *	* * * * * * * * * * * *	* * * * * * * * * * * *

Pmt SeqNbr ExtFldName P/B From To Dec FldName SS 0006.00 1 20 0 DSF1

Columns : 1 71	$E\;d\;i\;\;t\qquad \qquad T\;E\;S\;T\;/\;\;Q\;R\;P$
S E U = = >	T
********* Beginning	g of data ********************
FMT FX FFiLenameIPEAF	L I Device + KExit + + Entry + A.
0 0 0 1 · 0 0 F F I L E A I F E	K DISK A
FMT IXIRcdname+In	
0 0 0 2 · 0 0 I A R	
F MT J X I	f i e 1 d +
0 0 0 3 · 0 0 I	F L D 1
0 0 0 4 . 0 0 I F L D 2	P G M 1
FMT DS I Ds n a me NODs Ext - f	f i 1 e + + O c c r L e n +
0 0 0 5 · 0 0 I D S 1 D S	
FMT SS Ext-f	f i e 1 d +
0 0 0 6 . 0 0 I	1 2 0 0 D S F 1
0 0 0 7 · 0 0 I	2 1 3 0 DSF 2
FMT N Name o	d c o n s t a n t + + + + + + + + + C
0 0 0 8 • 0 0 I 'WELO	
*********** Endoi	f data ********************

Pmt SeqNbr Constant DataType
N 0008.00 'WELCOME'

F 1 d N a m e

CONST

```
Columns . . : 1 71
                                    Edit
                                                                 TEST/ QRPGSRC
 S E U = = >
                                                                        TEST2
       .... I .... Field+L1M1..P1MnZr.
0003.00
                                                           F L D 1
0 0 0 4 . 0 0
                            F L D 2
                                                           P G M 1
        .... I Ds n a me .... NODs Ext - f i l e + + ..... Occr L e n + .........
0 0 0 5 . 0 0
            IDS1
                          D S
F MT S S
        .... I .... Ext-field+.... PFromTo++DField+.....
                                                        2 0 0 D S F 1
0006.00
0007.00
                                                     2.1
                                                        3 0 DSF2
        .... I ..... Na me d c o n s t a n t ++++++++ C.... F 1 d n me ......
0008.00
                            ' WELCOME'
                                                  C
                                                           CONST
0009.00
                                   Z - ADD0
                                                 F L D 1
             C
0 0 1 0 . 0 0
                                  CHAINAR
                         K E Y
        *********** End of data *************
                                                Factor 2 Result
     SeqNbr
            Lv1 N01N02N03 Factor 1 OpCode
Pmt
    0010.00
                              KEY
 C
                                          CHAIN
                                                  A R
          Dec
               H/N/P
                      Ηi
                           Lo
                               Εq
                                  Comment
                       4 ()
```

第二章: 結構化程式設計

2-1結構化程式設計概念 (STRUCTURED PROGRAMMING CONCEPTS)

為什麼要結構化程式設計?

程式開發較有效

果

程式維護較容易

增進程式的效率

程式開發較有效果

結構化的邏輯(Structured Logic)

功能的分割處理(Functional Pieces)

更容易偵錯(Easier Debugging)

更好的通訊(Butter Communication)

程式設計者更具生產力(Programmer Productivity)

程式維護較容易

可讀性(Readability)

- -開發
- -維護

有彈性(Flexibility)

一增加新功能

增進程式的效率

降低程式佔用的空間

降低系統在 資料傳輸的次數負

擔

節省處理時間

多功能的結構化程式

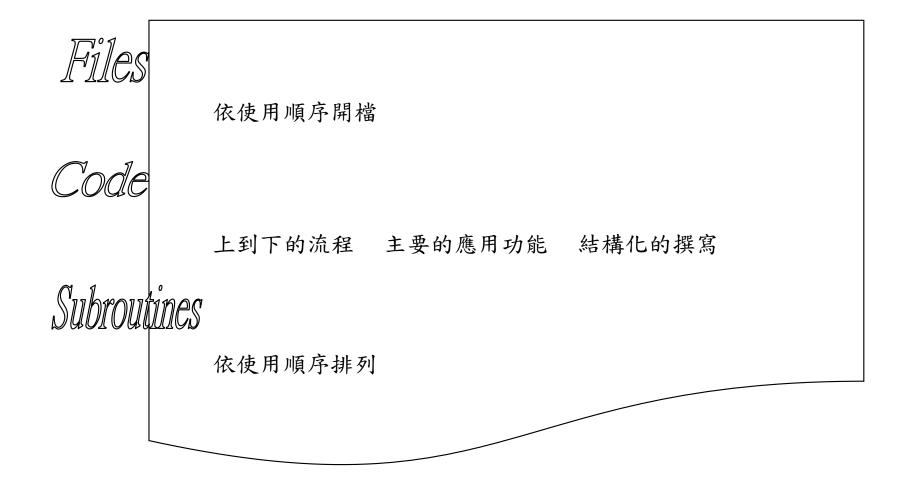
用來

- -減少檔案開啟的數目
- -降低所佔的空間
- -節省處理時間

好的方法但需考慮

- -必需是適當的結構化
- 一相同功能可能要分成數支程式來撰寫與維護

多重功能結構化程式撰寫



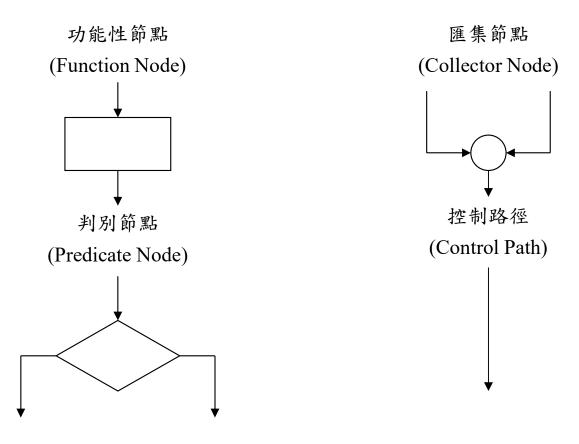
控制流程的結構化

Sequence—程式功能的簡化順序

Selection 一程式功能的挑選

Iteration 一 迴圈的控制

流程的基本元素

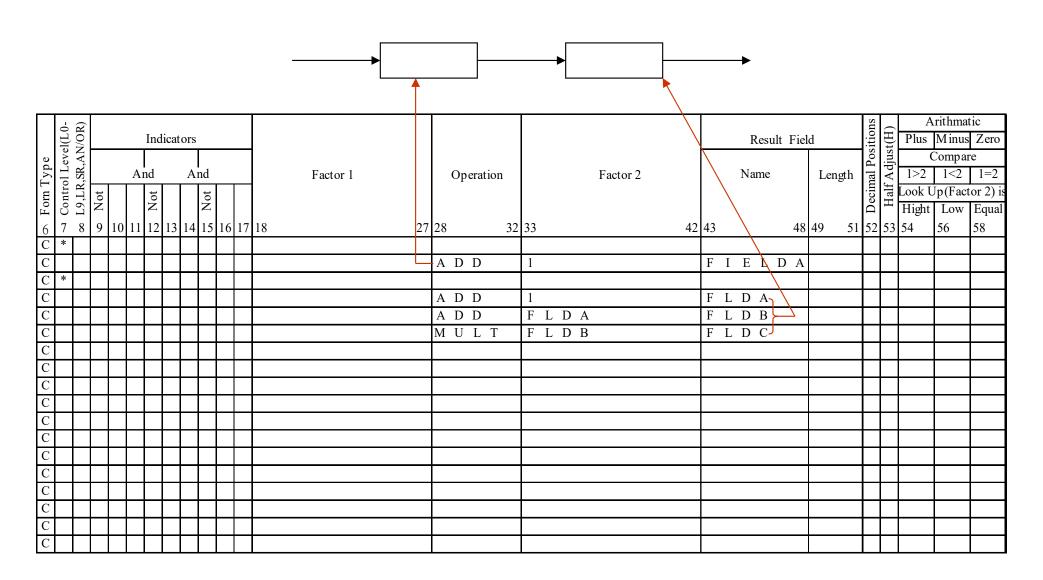


2-2結構化程式設計的應用 (IMPLEMENTING STRUCTURED PROGRAMMING)

RPG/400 結構化運用示意圖

CONTROL	STRUCTURED		RPG/400
LOGIC	PROGRAMMING	>	OPERATION
STRUCTURES	FIGURES		CODES
SEQUENCE>	SEQUENCE	>	ADD, MULT, EXSR,
SELECTION>	IF THEN IFTHENELESE		IFXX, ENDIF, END IFXX, ELSE, ENDIF, END
	CASE		CASXX, CAS, ENDCS, END
	SELECT		SELEC, WHXX, OTHER, ENDSL, END
ITERATION>	DOWHILE	>	DOWXX, ENDDO, END
	DOUTIL	>	DOUXX, ENDDO, END
	DO	>	DO, ENDDO, END
	LEAVE	>	LEAVE
	ITER	>	ITER

SEQUENCE



ENDyy

END End a CASE,DO,IF,or SELEC group.

ENDCS End a CASE groyup.

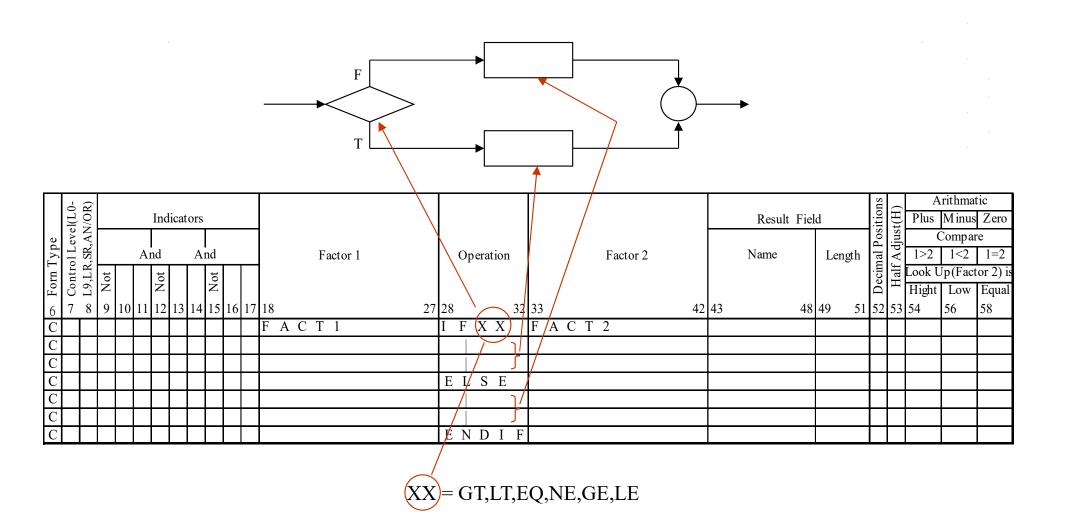
ENDDO End a DO,DOUxx,or DOWxx group.

ENDIF End an IF group.

ENDSL End a SELEC group.

V2R1

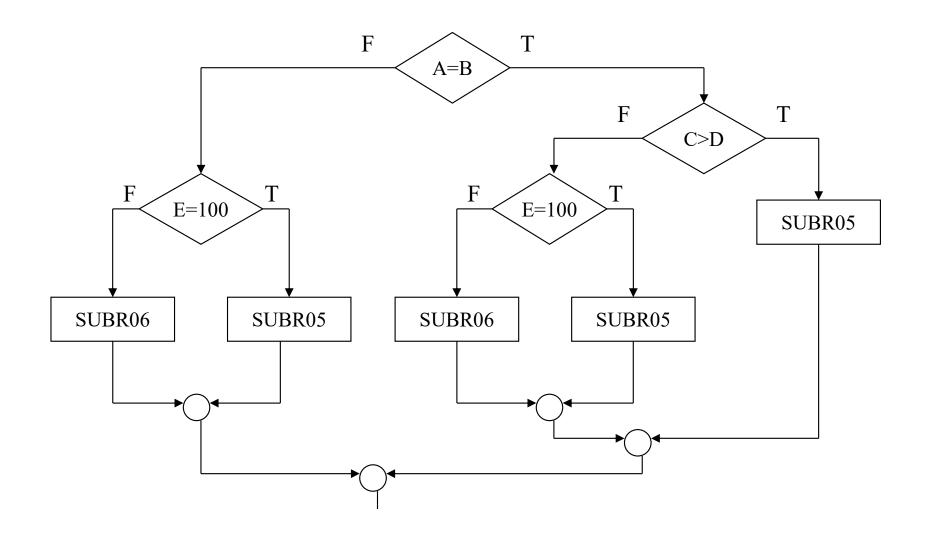
IF THEN ELSE



IF THEN ELSE

	7 / 7	I(L0- V/OR)			I	ndi	cato	ors																				R	esult	Fie	ld		sitions	(H)	Plus		s Zero
Line	Form Type	Control Level(L0-L9,LR,SR,AN/OR)	Not		And	10N		And	100				Fa	ctor 1			Ope	ratio	on				Fact	or 2				Nai	me		Len	igth	Decimal Positions	Half Adjust(H)	1>2	Jp(Fact	$ \begin{array}{c c} & 1=2 \\ \hline & (cor 2) \text{ is} \\ \hline & (cor 2) & (cor 2) \\ \hline & (cor 2) & (cor 2) & (cor 2) \\ \hline & (cor 2) & (cor 2) & (cor 2) & (cor 2) \\ \hline & (cor 2) & (cor 2) & (cor 2) & (cor 2) \\ \hline & (cor 2) \\ \hline & (cor 2) \\ \hline & (cor 2) \\ \hline & (cor 2) & (cor $
4 5	6	$\begin{bmatrix} 5 & 1 \\ 7 & 8 \end{bmatrix}$	9	10			13 1			16	17	18			27	28			32	33						42	43			48	49	51		53		56	58
1	С	*																																		1	
2	С	*	US	E	OF	I	F	-TI	ΙΕΙ	N		- ELSE																									
3	С	*																																			
4	С											F L D	Α			I	F	ΕÇ)	F I	D	В															
5	С																							Ì			DD	CEC	CCEI	7 T			ኒ				
6	С															Е	X	S R	}	S U	J B	R	0 5		}			OCES		J I.	Г						
7	С		Ш																						l]]	EQI	JAL									
8	С		Ш													Е	L	S E	3														$lue{lue}$				
9	С																							•	1	[-	DD	OCES	CCEI	D I	F		`_				
0	С															Е	X	S R	<u> </u>	SU	J B	R	0 6		}						I.						
1	С																							_	J	-	NO	T EQ	U A	L							
2	С		Ш													Е	N :	D I	F																		
3	С					_																															
4	С		Ш																																		
5	С																																				
6	C		Ш																																		
7	C		Ш			1																															
8	С																																				
9	C																																				
0	C																																				

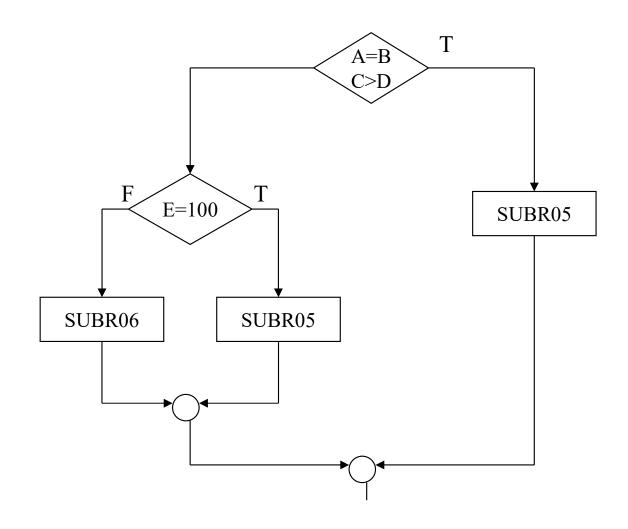
Complex Selection



COMPLEX SELECTION

С		I(L0- I/OR)			I	ndica	ator	s															R	esult	Fiel	d		itions	H)		rithmat M inus	
Line	Forn Type	Control Level(L0-L9,LR,SR,AN/OR)			And	Т	A	And	Т	T			Factor 1			Operat	tion			Factor 2			Nar	ne		Ler	ngth	Decimal Positions	lf Adjust(1>2	Compar 1<2 Jp(Fact	
4 5		7 8 Co 7 8	o Not	10 1		to 2 12 1:	3 14	4 1		6 1	17	18		2	27 28		32	33			43	2 43			48	49	51	52	H ₂₃	Hight	Low	Equal 58
1	C	Ť				Ŧ	+	T				F L D	A			F E		F L	D B			1							Ĥ			
2	С					\top	+			t		F L D				F G		F L										\forall	П			
3	С		H		1	\top	T		+	+	7					X S		S U										\forall	П			
4	С					1	T			1						L S												\Box	П			
5	С					T	T			1		F L D	Е			F E		1 0	0									П	П			
6	С					T				ı						X S		S U	B R	0 5								П	П			
7	С														Е	L S	Е											П	П			
8	С					T	T								Е	L S	R	S U	B R	0 6								П	П			
9	С														Е	N D	I F											П	П			
0	С														Е	N D	I F															
1	C														Е	L S	Е															
2	С											F L D	Е			F E		1 0														
3	C														Е	X S	R	S U	B R	0 5												
4	C															L S																
5	C															X S		S U	B R	0 6												
6	C														Е	N D	I F												Ш			
7	C														Е	N D	I F												Ш			
8	С																												Ш			
9	C																												Ш			igsqcup
0	C																												Ш			

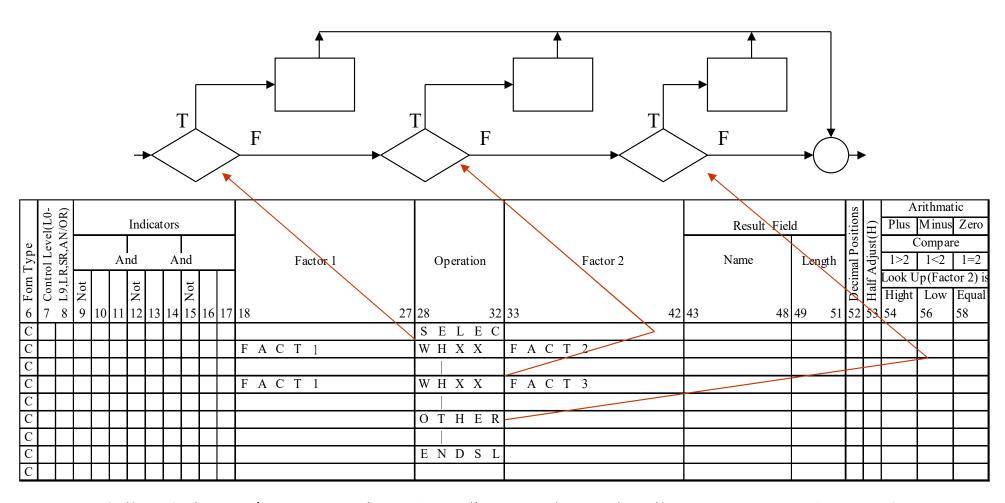
Use Of ANDxx/ORxx



Use Of ANDxx/ORxx

	1(T0-	I/OR)			Indi	cato	ors													Result	Fiel	d		itions	Ĥ	Plus	rithmat M inus	Zero
Forn Type	Control Level(L0-	R, SR, AN/OR)		Aı	nd		An	ıd	ı	Factor 1		О	p erat	tion			Factor 2	2		Name		Len	gth	Decimal Positions	Half Adjust(H)	1>2		1=2
Forn	2 Contr	• L9,LR,	Not		Not	12		Not 1.5	16 15	110	27	20		22	122			42	42		40	40				Hight	Low	Equal
6 C	*	8	9 10	111	12	13	14	13	16 17	18	21	28		32	33			42	43		48	49	51	32	33	34	56	58
C					\vdash	\dashv	+																					
C	*				\Box	+	\dashv																		_			
С						7				F L D A		I F	Е	Q	F	L D B												
С	*																											
С										F L D C		A N	I D	G T	F	L D D	ı											
С	*																											
С						_				F L D E		O R			1	0 0												
C			_			_						EX			S	U B R	0 5											
C			_		\vdash	4	_		_			EI			C	II D D	0 (
C	-		-		\vdash	\dashv	+					EI		I F		U B R	. 0 6								_			
C			+		\vdash	\dashv	\dashv					EN	עו	1 Г														
C			-		\vdash	\dashv	\dashv	-																-	_			
C			+		\vdash	\dashv	+																	-				
C						┪																						
С						1																						
С		T																										
С																												
С																												

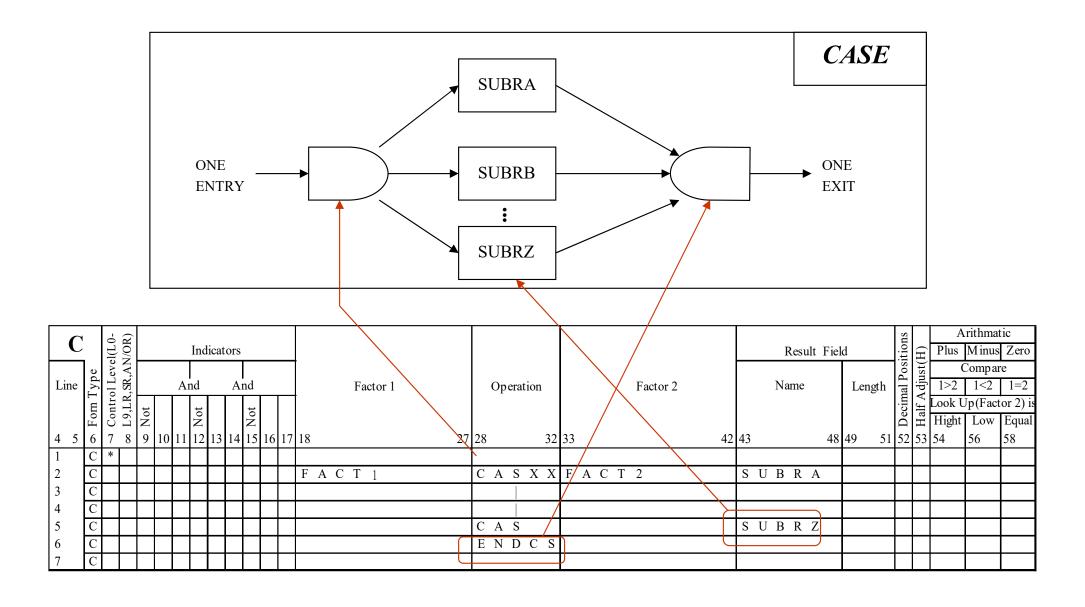
SELEC-WHxx-OTHER



在執行條件判別時,WHxx的數種選擇狀態下,只有一種會被執行,OTHER可選擇使用或不使用。

SELEC

С		1(L0- 1/OR)			I	ndic	ator	s]	Result	Fie	ld		itions	H)	Plus	rithmat M inus	Zero
Line	Forn Type	Control Level(L0-L9,LR,SR,AN/OR)			And	d	A	And	l			Factor 1		Operation	Factor 2		Na	ame		Leng	дth	Decimal Positions	Half Adjust(H)	1>2		1=2
				10		Not	2 1	Y V						20		42			40	40			- 1	Hight	Low	
4 5	-	7 8	9	10 1	111	2 1	3 14	4 1.	5 1	6 1	17	18 2.	7 2	28 32	33 42	43			48	49	51	52	53	54	56	58
	\sim	*			4	4	-	+	\downarrow	4	4		4									Ш	\dashv		—	
2	C			_	4	+	-	+	+			D C H W L D		S E L E C	1 0 0 0 0							Н	\dashv			
3	C			_	_	+	-	+	+	4	4	PCHYID			1 0 0 0 0 0	Б	0.11	T					\dashv			
4	C	4			_	_		+	\perp	4	4				2 0	В	O N	US	5		2	0	_			
5	C				4	_	_	4	┸	_		PCHYTD			7 5 0 0 0	_						Ш	\dashv		 	
6	С				_	_			\perp					A D D	1 5	В	O N	US	S			Ш	\dashv			
7	С				_	_			\perp	_		P C H Y T D			5 0 0 0 0							Ш	\dashv			
8	C														1 0	В	O N	US	S			Ш	\dashv			
9	C												_	O T H E R								Ш	ightharpoonup			
0	С														5	В	O N	US	S			Ш				
1	C													E N D S L												
2	C																									
3	C																									
4	С																									
5	С																									
6	С																									
7	С		П		T	T	Ī		T	T	1		T								\neg	П	寸			
8	С		П		T				T	T	1		T								\neg	П	寸			
9	С		П		T	T			T	ı	T		T								\neg	П	ヿ			
0	С		П		1	T			T		T											П	ヿ			

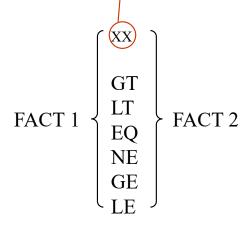


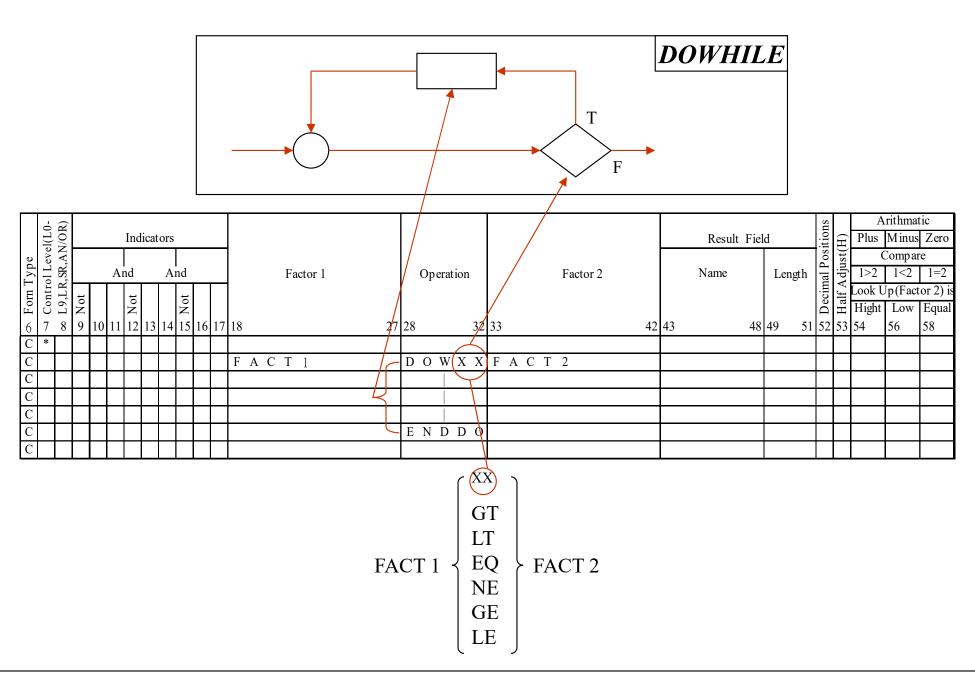
CASE

C	1	vel(L0-V)	LV OIL)			Indi	cate	ors																	Res	ult F	Field		sitions	(H)		Arithm Minu	etic s Zero
Line	m Type	I Le		1 1	Aı			And				Fa	ctor 1		Opeı	ration				Facto	or 2]	Name	•	L	engtl	Decimal Position	f Adjust(H)	1>2		are 1=2 etor 2) is
1, 5	Form,				11	Not	2 1	toN		7 1	10			27/29		2						40	12			4	9 40	5			High	Low	Equa
4 5	6	/ 7	9	10	11	121	3 1	412	16 1	/ 1	18			27 28		3.	2 3.	5				42	43			4	8 49		1 52	33	54	56	58
	C	_	+	\vdash		_	_			+							+						-									<u> </u>	
2	C		+	Н		_	+	_		+	~ ~						+	. ~					ļ_			~	_					Ь—	
3	С	_	_	\sqcup		_				_	C O							' S					_		B R							Ь—	
4	C		_	\sqcup		_	\perp			_(C O	<u>D</u> E		C	A S	EC	Ψ'	' M	'				S	U .	B R	M						<u> </u>	
5	0000		_				\perp			1							_															<u> </u>	
6	C		\perp				\perp							C	A S	5							S	U :	B R	O							
7														Е	ΝΙ) C S	3																
8	С																																
9	С		T								S U	B R	S	В	ΕĆ	SR	:1	DI	DEO	ND 1 (I		/I I I I I	т.										
0	С									İ							┢				ED W		N										
1	C		T	H				T		Ť				Е	NΙ	SR	1	- CO	DDE	EQU	JALS	'S'			ı								
2	C		T	T						1	S U	B R	M			SR	_																
3	C C									Ť							t	PE	ERFO	PRME	ED W	HEN	1										
4	C	-	+	H						†				F	NΓ	SR	ſ	CO	DDE	EQU	JALS	'M'			-		+						
5	$\frac{1}{C}$	+	+	\forall	\dashv		+	+		+					1, 1	, 5 1	1										+		+				
6	C			+	\dashv		1	+		+	S U	R D	0	P	F C	SR	\pm	I II	VCO	NOIT	ΓΙΟΝ	ALI	Y		\neg								
7	\mathcal{C}	+	+	\vdash	\dashv		+	+		+	30	D K	U	ь	E (JON	╁	_			ED W				-		+					 	
0	C		+	+	\dashv			+		+					NI F) C D	+	_							-		+		-			\vdash	
8	U													Į Ē	IN L	SR	7		JUE	NUI	MA	1 CH	Ľυ		-							Щ_	

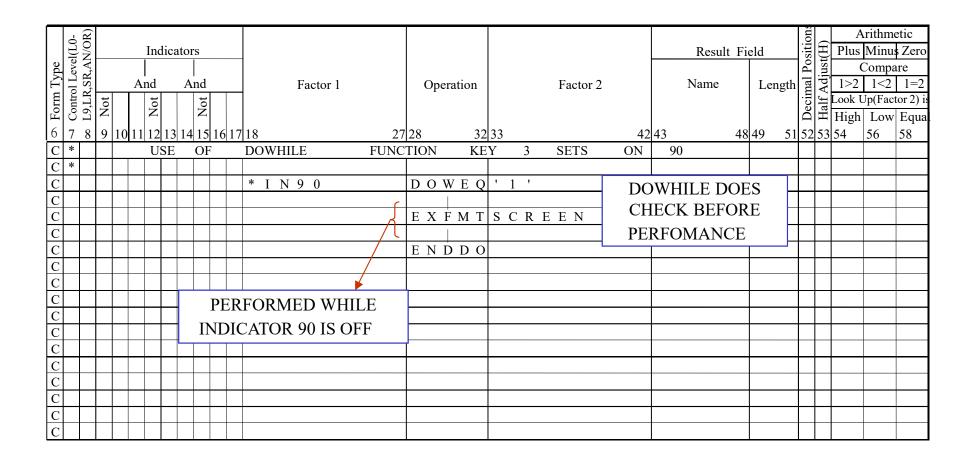
ITERATION:DOUxx/DOWxx

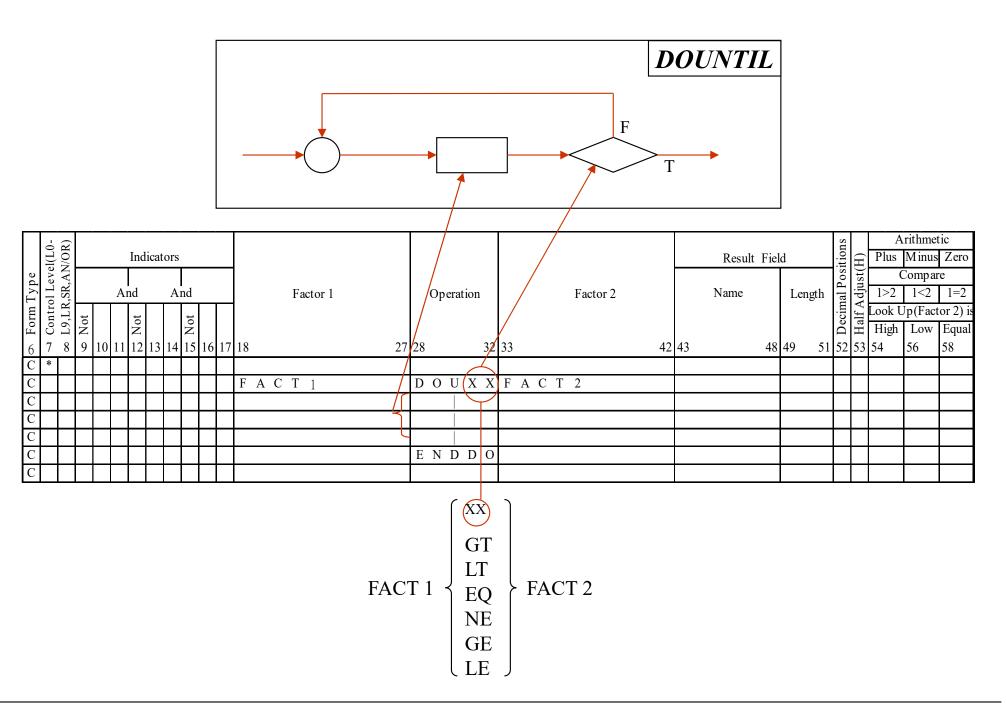
	vel(L0-	N/OR)			Inc	licat	ors																								Result	Fiel	ld		Positions	H)		rithma M inus	tic Zero
Type	ol Lev	R,SR,AN		Α	nd	1	Aı	nd]	Fact	or 1				0	pera	ation					Fact	or 2				Name		Le	ength	mal Posi	Adjust(H)	1>2	Compar 1<2	re 1=2 tor 2) is
Forn	2 Control		o Not	10 11	to No 12	13	14	Not 15	16	17	18							27	28			32	33						42	43		48	49	51	5 Decimal	Half	Hight	* '	Equal 58
C	Ĺ		_	10 11	1	10				-,		A	C 7	r 1					D C) U	_	$\overline{}$	F A	A C	T	2		$\overline{}$	-				.,		_	-			
С												A		1					D C				-	A C		2													
С																																							
С																																							
С																																							
С												•	·	•	•	·	·	Ü	E N		_	О	•	•	•	•		,				·		•					
С																			E N	1 D	D	О						フ											



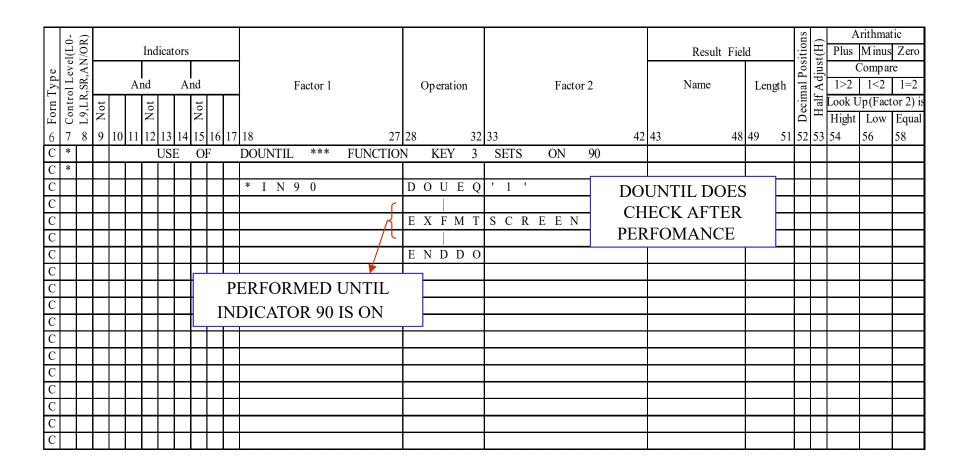


DOWHILE

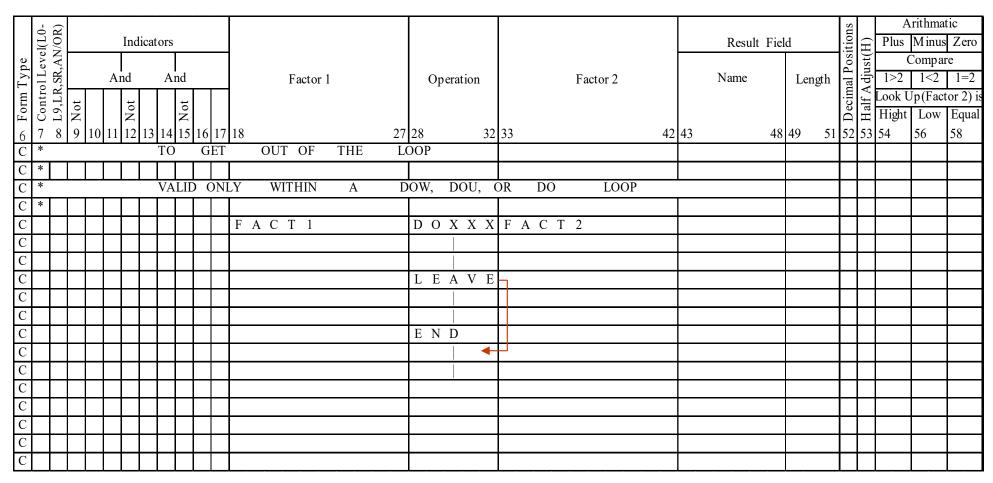




DOUNTIL



LEAVE

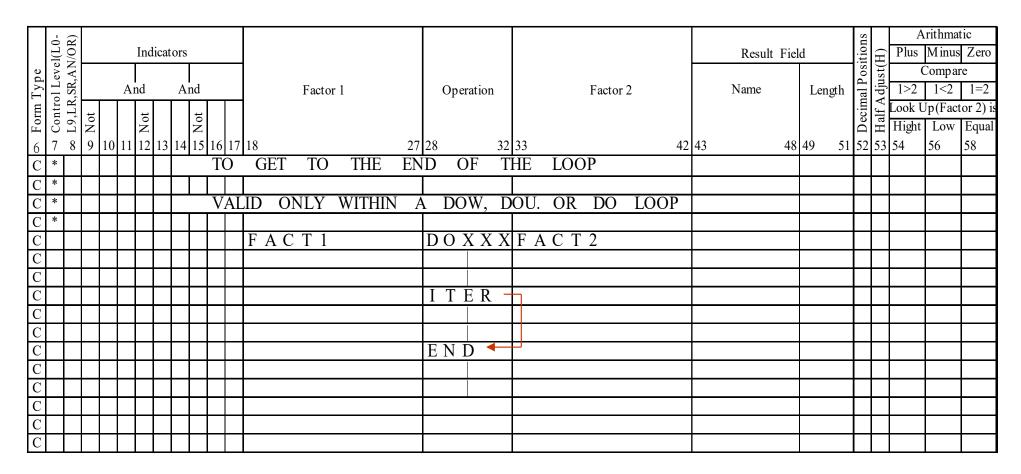


將控制移轉到迴圈結束(END)的下一行指令,跳出迴圈.

LEAVE

	1(L0-	/OR)			In	dica	itors													Result	Fiel	d	tions	Ĥ		rithmat M inus	
Гуре	Control Level(L0-	"SR,AN/OR)		1	And		A	nd			Factor 1		Op	eration			Factor 2			Name		Length	Decimal Positions	Half Adjust(H)	1>2		1=2
Forn Type		_	Not		Not			Not																	_		Equal
6		8	9 1	10 1	1 12	2 13	14		16 1		18	27	28			33		42	43		48	49 51	. 52	53	54	56	58
C	*							$ \mathbf{C} $	ON'	ΓR	OL IS TRANSFE	RREI	OI (JTSI	DE	THE	LOOP										
C	*																										
C										*	* I N 5 0		DΟ	WE	Q	' 0 '											
C C																											
C																											
C										1	ACTCD			ΕQ		' D '											
C													LΕ		Е												
C													ΕN	DΙ	F												
C																											
C																								L			
C													ΕN		0	/								L			
C C													A D	D •	\vdash	1			D (COUN	T	2	0	Ļ			
C			_																					丄			
C																								上			
C									$\sqcup \bot$															上			
C																								上			
			_			1	1	L	$\sqcup \bot$	_													1	lacksquare			
C																								上			

ITER



將控制移轉到END的指令行,再繼續下一個迴圈。

ITER

	el(L0-	AN/OR)			Indi	icat	ors														Result	Fiel	ld		itions	(H)	Plus	rithmat M inus	Zero
Form Type	11	8	-	Aı	П		Ar				Factor 1		Ope	ration			Factor	2			Name		Leng	gth	Decimal Positions	Half Adjust(H)	1>2	Compar 1<2	1=2
9 Form			9 10) 11	Not	13		Not 15	16 17	18		27	28	a	2 3	13			42	43		48	49			Half	Hight		Equal 58
C	_			7111	12	13		_	ΓROL	IS	TRANSFERRED	TO			ENE		THE	LOOP	12	13		10	17	31	32	33	<u> </u>	30	30
С	_																												
C		4	_	<u> </u>						* I	N 5 0		D O	W E	2	' O '									Ш	Ш			
C	_	+	_	+				_							+										Н	$\vdash\vdash$			
C			-	+						A C	ТСД		ΙF	ΕQ	+	' S '									Н	Н			
C	_			1										E R	+	7									П	П			
C													ΕN	D I	F														
C		4	_	-																					Ш	Ш			
C		-	_	+					_				ΕN	D D 4	1										Н	$\vdash \vdash$			
C	_		+	+	H								E N	<u>עע</u>		<u> </u>									Н	\vdash			
C				\top											T										Н	П			
С														1															
С																										П			
C																									Ш	Ш			

第三章:副程式與參數傳輸

單元內容

本單元以探討何時使用副程式較佳起頭,接下來我們將回顧詳細的撰寫需求和一些較佳的撰寫技巧,以上將藉由依循主程式和副程式之間內部傳輸的討論而得,而且將影響您如何技巧的選擇開關檔案時機以達提高效益的目的。

單元目標

判別在應用系統中何時是使用副程式最佳時機。 撰寫 C 卡有關主程式傳遞參數到副程式的所有需求。 撰寫 C 卡有關接收參數到副程式的所有需求。 比較多種可以用來將控制權轉回主程式的方法。 解釋使用 FREE 操作指令開關副程式的方法。

副程式撰寫和參數傳輸 (SUB - PROGRAM CODING AND PARAMETER PASSING)

副程式決策點

功能被多個應用程式所分享 維護容易 可以從事副功能測試 可以用其他程式語言簡單的撰寫

資料傳遞

主程式 PGMA

Define ITEM

Define QTY

CALL PGMB

PARM ITEM

PARM QTY

User QTY

主程式 PGMB

*ENTRY PLIST

PARM ITEMNO

PARM QNTY

Use ITEM

Determine QTY

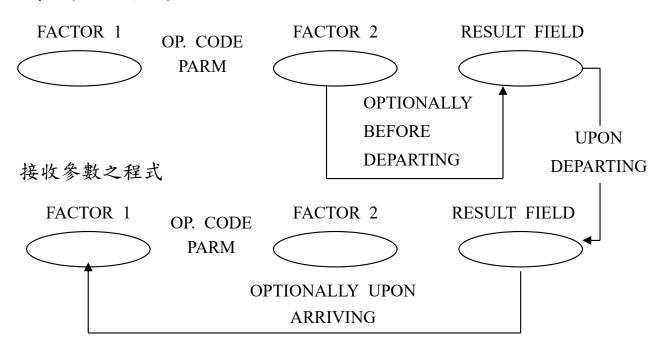
RETRN

撰寫技巧

程式內部參數複製 參數組合 (PARAMETER LIST) 使用程式名稱呼叫

PARM PASSING

傳出參數之程式



- 1. 在主程式中 FACTOR 2 欄位的每個參數值都會複製到RESULT FIELD 欄位。
- 2. 在副程式內,當它接收到控制權而且程式起始設定完成後 RESULT FIELD 欄位的每一個參數值都會複製到FACTOR 1 欄位。
- 3. 當副程式將控制交回給主程式時, FACTOR 2的每一個參數值都會複製到 RESULT FIELD 欄位中。
- 4. 當回到主程式時 RESULT FIELD 的每一參數值都會複製到 FACTOR 1 欄位。

主程式

C		Control Level (L0.L9, LR. SR. AN/OR)																					SI		A	rithmat	tic
		vel (L0.L AN/OR)				Indi	cato	ors											Re	sult Fie	eld		itior	\mathbb{E}	Plus	Minus	Zero re 1=2 cor 2) is
	ە	vel AN																					Pos	inst	(Compar	e
Line	Form Type	SR.			An	ıd		An	d			Factor 1	Ope	ration		Factor 2			Nam	e	Lengt	_h	nal	Ad	1>2	1<2	1=2
	II.	ontro LR.	_				1		- 1	T			1										ecir	Half	Look U	b(Fact	or 2) is
	Fo	$\Gamma_{\rm L}$	Not			Not		;	Not															╷▔┠	Hight	Low	Equal
4 5	6	7 8	9	10	11	12	13	14	15	16	17	18 27	7 28	32	33		42	43		48	8 49	51	52	53			58
1	С	İΤ					1					S E A R C H)		I S T										一			
2	С												P A	R M				Vì	N D N	1 O		5	0	П			
3	С										١		P A	R M	Q T Y			QΙ	U A N	I T		3	0	П			
4	C											* I N 2 2	P A						N D 2	2 2		1					
5	C												P A	R M	* I N	L R		Е (Ο Ј			1					
6	C	*																						Ш			
7	C												C A	L L	' P R	O G 2 '		S	E A F	R C H	Ŋ			\square			
8	С																							\square			
9	C	$\sqcup \!\!\!\! \perp$					_	_																ightharpoonup			
0	C	Ш						_																\dashv			
	C	\vdash		Н			4	_	4	4														\dashv			
$\frac{2}{2}$	C	\vdash					4	_	4	4	4				-						+	_		\dashv			
$\frac{3}{4}$	C	\vdash	-	H		-		+																\dashv			
4 5	C			\vdash			+	+	+	+	_		S E	T O N										\dashv	L R		
$\frac{3}{6}$	C	\vdash	+	\vdash		+	+	+	+	-			C A			O G 2 '		S 1	E A F) C H	г			\dashv	LK		
7	C		1	\vdash	+	\dashv	\dashv	+	+	\dashv	+		CA	ъ ъ	1 1	0 0 2		ری	LAI	C 11		_		\dashv			
8	C	\vdash	+	\vdash		+	\dashv	+	+	\dashv														\dashv			
9	C	\vdash	1	H	1	+	\dashv	$^+$	+	\dashv			+											一			
0	C		1	\vdash		\dashv	\dashv	\dashv	+	\dashv													\dashv	\dashv			
Ü			1				1		L						1												

副程式

	1 (L0-L	AN/OR)	Indicators																					Resu	ılt Fie	eld		itions	t (H)	Plus	Arithma M inus	s Zero				
Form Type	ol L	SR,			And	_		And	_				Fa	ctor 1		(Орег	ratio	n				Fac	etor 2			N	lame		I	ength	Decimal Positions	Half Adjust (H)	1>2		1=2
		· LR,		10 1		10N 3 1	2 1		Not	1.0	17	10			27	20			22	22					42	12			46	100	. E			High	Low	tor 2) is
6	/	δ	9	10 .	111	. 2 1	3 1	4 1	3	10	1/	18	E 31 E	D 17	27					33					42	43			40	3 49	3.	1 52	. 33	54	56	58
C				_		4	4		4				E N T				L									77.3			D D			+	-			
C				_			4		4			V	E N D	O R			A I												B R	-		0	4			
С				_			4	_	4								A I									Q U					3	0				
C							4		_					_			A I			*	l N	1 2	2						2 2		1	╄			↓	
C								_				*	I N L	R		P	A I	R N	1							E 1	1 L)		<u> </u>	1	丄				
С	*																															丄				
C												V	E N D	O R		C	H A	4 I	N	A	P I	V	Е	N D										2 2		
C																																Ш				
C																																				
C																R	ЕЛ	ΓБ	R N																	
C																																				
С																																				
С							T																													
С						T	Ť	T	1																							T			1	
С	一			T			T	T	7																							T				
С				T		1	T	T	寸	一																						T			\top	
С				1		1	Ť	T	1																							T			†	
С	寸		\dashv	\top	1	T	T	T	\dashv			l l																		+		\top			1	1 1
C	\dashv					T	Ť	\dagger	\dashv	7																						+			+	
C	_			\dashv	-	t	T	†	1																					+		十			+	

參數組合 *ENTRY 在程式起始設定時會接收外部傳入的參數

執行一個 CL 命令 QCMDEXC

	6T-0T) I	/OR)]	Indi	cato	ors										Result	Fiel	d		itions	t (H)		rithmat M inus	
Form Type	Control Level (L0-L9	, SR AN/OR)			An	-		An	-				Factor 1	Operation	Factor 2			Name		Leng	gth	Decimal Positions	Half Adjust (H)	1>2	Compar 1<2	1=2
9 Form	2 Cont		9 Not	10		Not	12		Not 15	16	17	10	27	28 32	22	42	43		10	49				Hight	Jp(Fact Low 56	
C	*		ΙN		11	IS		S E			O N		BY FUNCTION	KEY 6	33	42	43		40	49	31	52	33	34	30	36
C	*	-	111	1	1	15	Т	2 [, <u>1</u>		O I	<u> </u>	BI FUNCTION	KET 0	1							H	$\vdash \vdash$		\vdash	
C			Н				+		+			*	I N 0 6	I F E Q	' 1 '							Н	\square		$\vdash \vdash \vdash$	
C	*								+				1 11 0 0	1 1 L Q	1							H	H			
С	*								1												—	Н				
С	*								7													П				
С														C A L L	' Q C M D E X C '							П	П			
C														P A R M	'DSPMSG'		C M				6					
C														P A R M	6		L E	N		1	5	5				
C	*		Ш																			Ш	Ш			
C									_					E N D								Ш	Ш			
C																						Ш	Ш			
C									4													Ш	\square			
C		┢	H	-	\dashv	\dashv	\dashv	\dashv	\dashv													Н	$\vdash \vdash$		\vdash	
C		\vdash	$\vdash \vdash$	-	\dashv	+	+	\dashv	\dashv													\vdash	$\vdash \vdash$		$\vdash \vdash \vdash$	
C		\vdash	\vdash	\dashv	\dashv	+	\dashv	\dashv	\dashv													H	${f H}$		$\vdash \vdash \vdash$	
C		H	H	1	+	Ŧ	+	+	┪													H	\Box		\vdash	
C				7	寸	\dashv	1	+	┪													H				
С			П		1	T	1	1	1													П	П			

從副程式回轉控制權回主程式

	O.L9.			In	dicate	ors								Result Fie	ld	suc	I)	Dluc	rithmat M inus	
Jae Jae	Level(LO.L9.	AN/OR)		And		An	ıd		Factor 1		Operation	Facto	or 2	Name	Length	Decimal Positions	djust (H)	1>2	Compar 1<2	e 1=2
Form Tyne	Control	LR.SR.	Not	Not			,	Not			-					Decima	HalfA		p(Factor) Low	
6	7			11 12		14			18	27	28 32	33	42	43 48	49 51	52	53	_		58
С	*		TÓ		ND	T	ΉĒ	S	UB-PROGRAM	AND			ΓER							
С	-		C O	M	P L	Е	T	ΙN	G THE	C U R	R E N T	CYCLE	日前程式行	回圈完成後結束	副程式並	日	₩.	空制档	軸回	
C	*			\sqcup		_									142/2		/10/0		= 117 III	
C	*			\vdash	\perp	_	_				S E T O N							L R		
C		H	TO	DE	ΓUR	T.	C	L ITNC	DOI IMMEDIA	TELV WI	THOUT EN	DING								
C	-		THE		JB-P				_			7								
C	*	H	11112		J D- I		T	AIVI	工刻府控制作	在停凹,但	副程式不結束									
C			+	\vdash		\dashv	1				RETRN					H				\neg
С	*					1														
С	*		TO	RE	TUR	Ν	(CONT	TROL AFTER	COMPLE	TING THE	CURRENT								
С	*		CYO	CLE	В	IJΤ		WIT	HOUT ENDING	G THE	SUB-PROGRA	AM								
C	*																			
С											SETON							R T		
С	*																			
C			┛目	前程	式距	1圏	完月	或後	, 將控制權轉回	, 但副程式	並不結束 —									
C		\vdash	누	Н	Ĥ	7	-													
C		\vdash	-	\vdash		\dashv		-												
C		\vdash	-	\vdash	+	\dashv	+									\vdash	H			
C																				

離開程式

LR

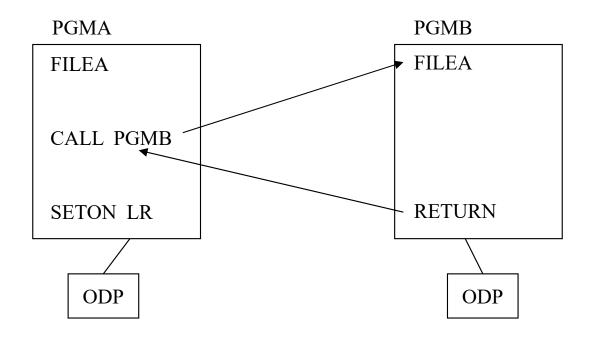
將檔案記錄暫存區的資料釋放掉 關閉程式使用之所有檔案 控制權轉回前一支程式 下次被呼叫時會重新設定變數值及重新開檔

V.S.

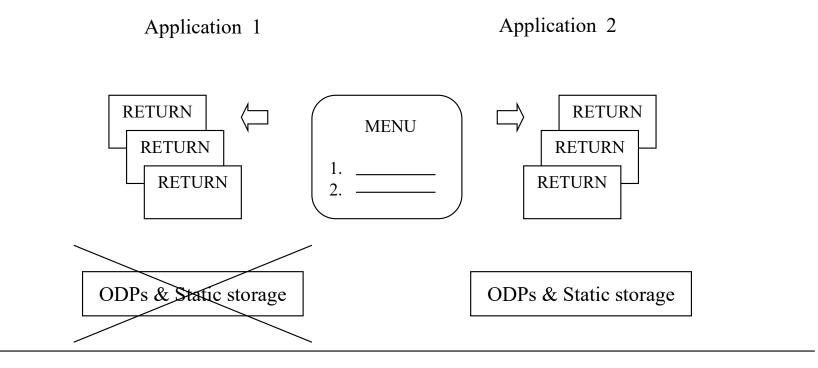
RT or RETRN

控制權轉回前一支程式下次被呼叫時變數值和檔案狀態不會被改變

副程式結束執行



使用CL命令還原資源 (RESOURCES)



RCLRSC

檔案描述暫存區(STATIC STORAGE)釋放出來並終止使用ODP。 使用QCMDEXC命令

DE - ACTIVITING A SUB - PROGRAM

在主程式中,使用'FREE'操作命令 將副程式從執行中程式的列示名單中移除 釋放副程式的檔案描述暫存區(STATIC STORAGES)變數 和ODP鏈結資料 減少PAG的大小 當副程式再被呼叫時需再重新執行起始動作 不關檔或解開資料區(DATA AREA)鎖定

PAG

PROCESS ACCESS GROUP

FREE

	.L9.				Ir	ndic	cato	rs										Result	t Field	d	itions	t (H)		rithmat M inus	
vpe	Control Level(LO.L9.	N/OR)			And	1		An	d				Factor 1	Operation	l	Factor 2		Name		Length	Decimal Positions	Half Adjust (H)	1>2	Comp ar 1<2	1=2
P. Form Type	Control I	ER.SR.AN/OR)	Not	0 1		10 N	2 1		Not	1.0	17	10	27	20	22	22	42	42	40	40 51			Hight		Equal
		8	9 1	10 1	1 1	2 1	3 1	4 .	13	16	1/	18		28	32	33	42	43	48	49 51	52	53	34	56	58
С	*	4	Ļ			Ţ			_	_	Ļ			<u> </u>	┰										
С	*		ΙN		Τŀ	1 E	;	_(J A	\ L	L	ΙN	G PROGRAM	主程式	L										
С	*																								
С														F R E E		' P R O G 2 '									
C	*																								
C	*		W I	ΗE	R	Е		P	R	0	G	R	2 IS A ST	JB-PRC) G	RAM									
C	*													<u> </u>											
C	*																								
С													最佳使用時機:	Г											
С	*												1	<i>a</i> 1:											
С	*												檔案自動開啟的	7程式 -											
С	*												最後一次呼叫副	程式後											
С	*							T					以及 久 1 中												
С						Ì		T																	
С	*		T			İ																			
С			T				T																		
С	寸	1	十	T	1	\top	\dagger	1	1																
С	_	1	十	T	T	T	T	T	1																
С	_	1	十	T	T	T	T	T	1																
С	寸	+		1			1	1																	

程式的相互影響(PROGRAM INTERACTION)

程式間相互影響的控制

RPG 400允許你去控制:

程式間運作速度的影響

一個JOB使用的空間

適當的使用下列功能可以達到控制程式的目的:

- ODP SHARING
- SETON LR
- RETRN/SETON RT
- FREE

副程式使用考慮因素

將工作分割成幾個有意義的部份 避免過度使用 減少程式使用負荷

- PLIST是參數的組合
- 程式內參數的複製利用
- 使用文字化程式名稱呼叫
- 檔案資源共享(SHARE ODP'S)

假如沒設定成分享資源檔案,則副程式最好用打亮LR,或是用RETRN命令加上主程式用FREE命令來清除殘留的ODP。

第四章:資料區域

單元內容

本單元將解釋何謂資料區(DATA AREA)並比較OS/400上多種不同類型的資料區(DATA AREA),接下來繼續討論如何在各位的應用系統中考量使用資料區的適當時機。最後,我們再來看一下RPG/400程式中如何定義,讀取和修改資料區內的資料。

單元目標

解釋應用系統中資料區撰寫的規則。

比較一般的資料區和內部資料區(Local data area)的差異。

在C卡撰寫資料區的定義程式。

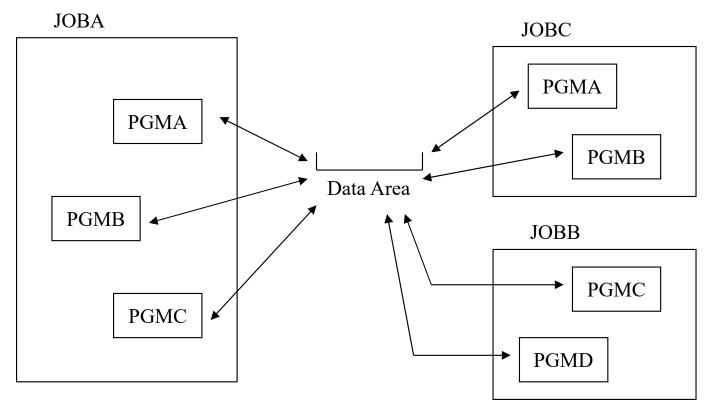
在C卡撰寫資料區的讀取和寫入的程式。

資料區(DATA AREA)

資料區類型

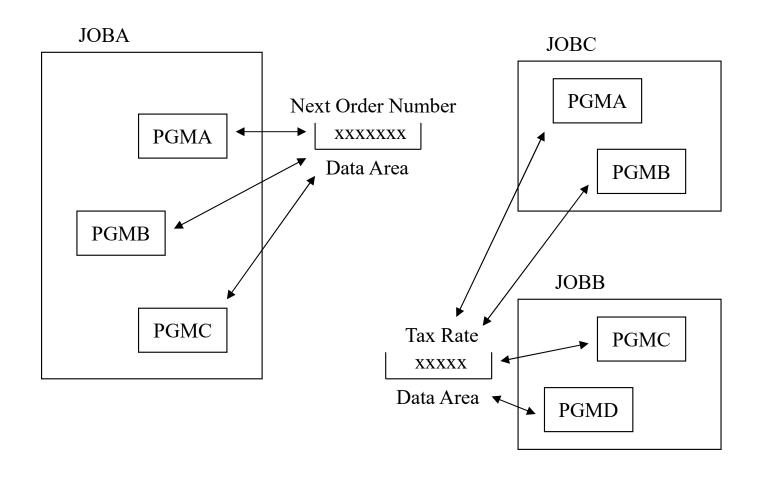
一般資料區(Data Area) 內部資料區(Local Data Area) 資料區群體(Group Data Area)

資料區(DATA AREA)



- 一個資料區:
- TYPE是 *DTAARA的一個OBJECT
- 是一個輔助儲存區
- 在OS/400中視為單一欄位

資料區的使用



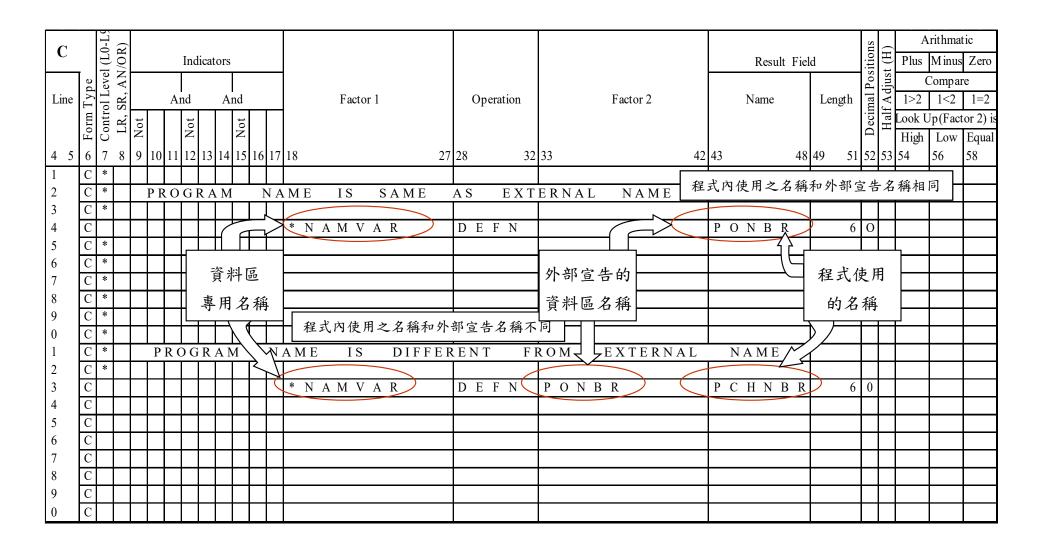
資料區的操作指令

定義(DEFN)

輸入/輸出(IN/OUT)

釋放(UNLCK)

資料區之定義



資料區輸入、輸出、鎖定和釋放

C		(T0-F)	/UK)			Ind	icato	ors																Res	ult Fi	ield	l	itions	(H)		rithma M inus	
Line	Form Type	rol Level	Ϋ́,		Aı			And	_			Factor 1		(Ope	ration				Factor 2	2			Name)		Length	Decimal Positions	Half Adjust (H)	1>2		1=2
4 5			Not			S Not			10N	(1	7	10	27	20		22	122					. 42	42		4	0	40 51			High	Low	
4 5	_	/ 3	8 9	10	11	12	13	14 1	3 1	0 1	- /	18	27		N T	32	33_	0 N		D ZZ	$\overline{\mathcal{I}}$	42	43		4	8 4	49 51	52	53	54	56	58
2	C			-		Н	_	+		+	\dashv			I	IN 		P	O N	В	K)	- I	DATA	AREA	$_{A}\vdash$		+		-				
$\begin{bmatrix} 2 \\ 3 \end{bmatrix}$	C		+			Н	+	+		+	+			0	U	Γ	P	O N	В	R		NAME				+						
<u> </u>								-			!_															!_		!				
6	С											* L O C K		I	N		P	O N	В	R												
7	C																															
8	C													O	U 7	Γ	P	O N	В	R												
1	С			Τ				Т		T	T	* L O C K		Ι	N		P	O N	В	R						Т						
2	С																															
3	С											* L O C K		О	U	Γ	P	O N	В	R												
4	С																															
5	C													U	N :	L C K	P	O N	В	R												
6	С																															
7	С					Ш																										
8	С					Ш																										
9	С	Ш	\perp			Щ			\perp	\perp	\downarrow															\perp						
0	C																															

用 *NAMVAR輸出和輸入

C		Control Level(LO-L9. LR.SR.AN/OR)			Ī1	ndic	atoı	rs																					Į.	Resu	lt F	ield			S		Plus	Arithma IM inu	atic s Zero
	7	el(LC OR)			T	Tare																							1	Cou	11 1	ICIG			ition	t (H)	1 145	Compa	
Line	ype	Lev AN/(1	And	ł		And	l				Fa	actor	1		'	Ор	era	tion					Fact	tor 2			Na	ıme			Leng	gth	Decimal Positions	Half Adjust (H)	1>2		
Line	rm T	ontrol ?.SR.	Not		124	N 01		Not	10.1																										scima	lalf⊅	Look		ctor 2) is
4 5	۰ Fo	7 8		10 1			, 1			6	17	10				2.7	28			2		2					42 43	,			,	18 4	10	51	52		111611	Low 56	Equal 58
4 3	_	/ O	9	10 1	1 1	.Z 1.	3 1	4 1	J 1	.0	1 /	10				Δ.	20			3	2 3	3					 42 43	,				10 4	19	31	32	33	34	130	36
	C				+		+	-	+	_	4	* \		17	4 D		D	Г	E	NI	-						Ъ		λī	D	D				Н			₩	
$\frac{2}{2}$	C				+	-	+	+	+	_			AM				D				-									В		T			\vdash			₩	
3	C				+		╀	-	+	_			AM				D				_									0					\sqcup			┼	
4	C			_	+	-	+	4	-			* N	A M	V	A K		D	E	ł	N	_						Р	0	C	0	S	1			Ш			₩	
5	C			_		-	\perp	-	-									_			_											_			\vdash			├	
6	C			_	-	-	+	-	+		_						-	<u> </u>				<i>b</i> 3:	T 4	3.6	T 7	4 D	_								Щ			₩	
7	C				-	-	-	-	4	_							I	N			+	* N	l A	M	V A	A R	_								Щ			—	1
8	C				4		_		4		_																_								Ш			₩	
9	C							4	_									1.							**	. B									Ш			₩	
0	C				_		_	_	4	_	_						О	U	Ι			*	l A	M	V A	A R									Ш			₩	
	C			_	_		4	4	4												_														Ш			₩	
2	С			_	4		4	_	4												_														Щ			Ь—	
3	C			_				4													_														Ш			—	
4	С				_		_	_	4																										Ш			Ь—	
5	С				_		_	_	1																										Ш			Ь—	
6	С																																		Ш			Ļ	
7	С							_																											Щ			↓	
8	С		Ш				\perp																												Щ			↓	$oldsymbol{oldsymbol{\perp}}$
9	С		Ш	_	\perp	_	┸	\perp	\perp		Ц						$oxed{oxed}$																		Ш			$oldsymbol{ol}}}}}}}}}}}}}}}}}}$	
0	C																																					$oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{ol}}}}}}}}}}}}}}}}}$	

內部資料區(系統提供) (Local Data Area)

1024個字元資料 由系統建立及刪除 參考值 *LDA 提供給你的工作使用 SBMJOB傳輸給批次工作

*LDA的資料修改

C		0-F0			Iı	ndica	tors	S										R	esult I	Fiel	d	ns		Plus	rithmat M inus	
Line	Lype	Control Level(LO-L9. LR.SR.AN/OR)		,	And	1	A	and				Factor 1		Operation		Factor 2		Naı			Length	Decimal Positions	Half Adjust (H)	1>2	Compar 1<2	re 1=2
Line 4 5	6 Form	2 Contro 8 LR.SR	Not Not	10 1		2 13	3 14	to N 15		17	18	8	27	28 32	33	4	2 43			48	49 51	25 Decim		111611		Equal 58
1	_	*	-	ΤO	_		-	_	-			LY UPDATE		POSITION	1	ТО 5 Г					.,		ξ.	-		
2	C	*		10		0		IL	, I C	ν Ι .		L D A		OSITION	1	10 3	修改	文 *LD	A 資	料l	區的前5	碼				
3	С	*				Ť	Ť																ľ			
4	С										*	* N A M V A R		DEFN	* L D .	A	L	ОС	A L		5					
5	С													I N	L O C	A L										
6	С													M O V E	' 1 2	3 4 5 '	L	O C	A L							
7	C													O U T	LOC.	A L										
8	C																									
9	C																									
0	C																									
1	C																									
2	C		Ш																							
3	С		Ш		\perp																					
4	С																									
5	С				_																					
6	С				_																				<u> </u>	
7	C		\sqcup	_	\perp	_		↓_			L						_					L			<u> </u>	
8	C		\sqcup	_	4	_		╀			L											_				
9	С		Ш	_	\perp	_	1	_			L											$ldsymbol{f eta}$	$ldsymbol{ldsymbol{ldsymbol{eta}}}$		<u> </u>	
0	C																									

總結

	General Data Area	Local Data Area	Group Data Area
Creat	User	System	
Size	Variable	Fixed	Only
Type	*CHAR,*DEC,*LGL	*CHAR	Accessed
Referenced	W/I Or Between jobs	W/I Job	by CL
Number Per Job	Variable	One	
Delete By	User	System	

第五章:檔案處理

單元內容

本單元將討論RPG/400常用的定義、處理和控制資料檔以 及報表檔的技術。

單元目標

使用外部宣告檔案(externally described file)的方式在程式中定義資料庫檔案。

選擇適當的檔案處理操作指令(operation codes)來讀取或 寫入資料於資料庫檔或報表檔中。

於計算處理卡別(簡稱C卡)中撰寫上述所需的操作程式。 於計算處理卡別中撰寫開啟和關閉檔案所需的程式。 5.1基本檔案處理(BASIC FILE PROCESSING)

RPG/400檔案管理

檔案的定義

檔案的處理

EXCPT CHAIN READ

SETLL READE SETGT

READP REDPE

WRITE UPDAT DELET

檔案控制

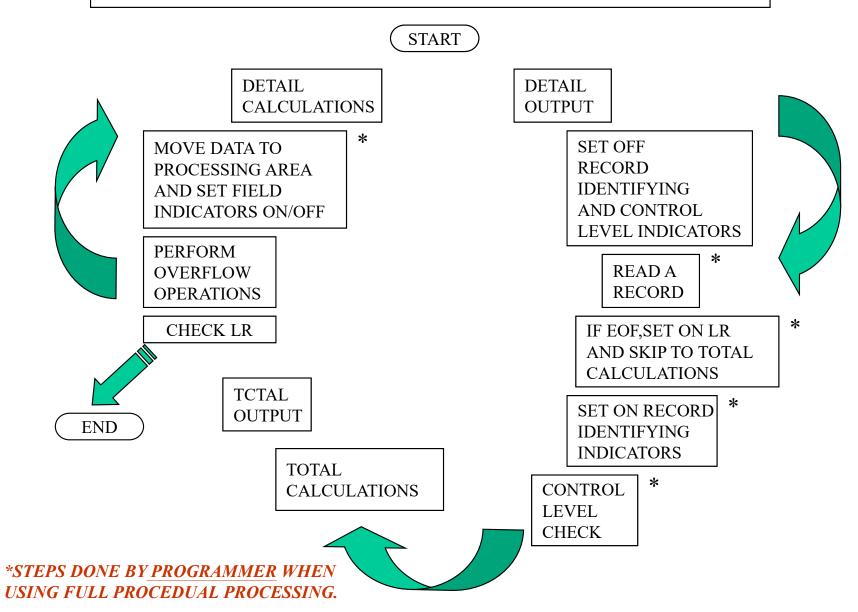
OPEN CLOSE FEOP

在程式中兩種檔案管理的方式

- 1.USING THE READ LOGIC IN THE RPG CYCLE. (PRIMARY/SECONDARY)
- 2.USING FULL PROCEDURAL PROGRAMMING TO BYPASS THE READ LOGIC.(I/O DONE IN CALCULATIONS)

EITHER PROGRAM DESCRIBED OR EXERNALLY DESCRIBED FILES.
SEPARATE DECISION MADE EACH DATABASE FILE.

WHAT IS FULL PROCEDURAL PROCESSING?



5.2檔案定義(FILE DEFINITION)

在RPG中使用F卡宣告檔案之常用範例

FILE 位置 種類	6	7~14	15	16	19	31	33~34	40~46	66	備註
DSPF	F	FILE NAME 檔案名稱	C (I/O動作皆有) 開檔方式	F 讀檔方式	E 外建檔案 格式			WORKSTN 輸出入之週邊		
PRTF	F	FILE NAME	О		Е		*IN 01~99 控制跳頁	PRINTER		
DBF	F	FILE NAME	О		Е	K		DISK		有WRITE動作
DBF	F	FILE NAME	I	F	Е	K		DISK		READ,CHAIN 的動作
DBF	F	FILE NAME	U	F	E	K 有key		DISK		READ UPDATE + CHAIN DELETE
DBF	F	FILE NAME	U I/O皆有	F	E	K		DISK	A 一定要有	READ UPDATE + CHAIN DELETE + WRITE

For RPG:

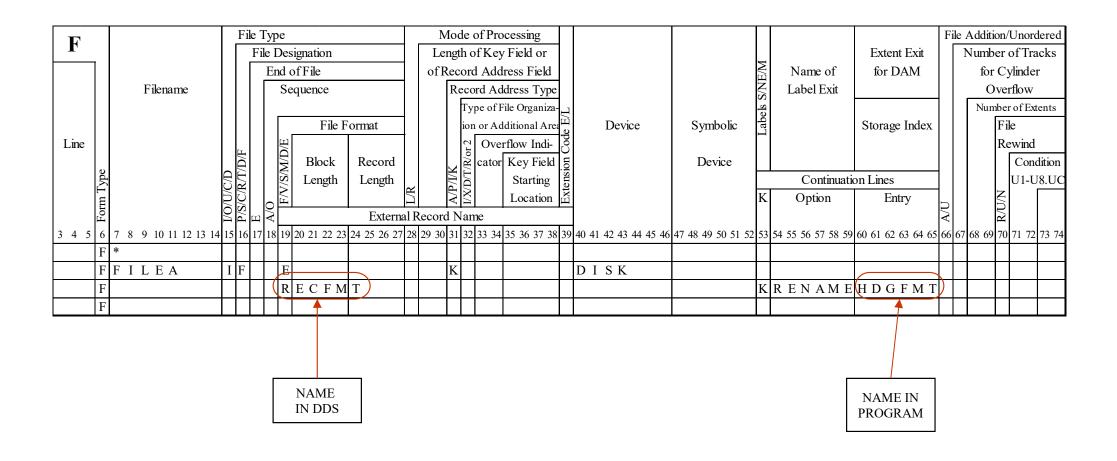
	ΗI	LO	EQ	
•CHAIN	40		40	:not found
•SETLL	41	42	41	:not found 42:equal
•SETGT	43		43	:not found
•READE		44	44	end of file:
•READC		57	57	end of subfile
•READ		46	46	end of file:
•READP		47	47	:begin of file
•WRITE		53	53	:subfile full

欄位更名(RENAMING FIELDS)

I				File	name	;											S	ubfield Ini Name Co											Field Lo	ocaction				Chaining			Field	
					or			a.	,	र्मे थ								External 1	Field	N	ame	e										RPG	6	ha	덛	Ir	dicate	ors
			F	Recor	d Na	me		Ju.		(N),E	<u> 50</u> .	\Box					Re	cord Ident	ifica	tioı	1 C	ode	S					Γ			S	Field Name	(6T-I	or (elation			
								mence	<u>.</u>	<u> </u>		<u>``</u>			1				2				3						Form	То	ion		1		Rel			Zero
Line								S.	<u>.</u>	Number Option (inti T	Ď,																L	Data S	tructure	ositions		vel	Fields	rd]			
	Ž	~					-		Ц,		ď,	١,	ъ.	. •	_		ter	ъ ::			ter					ter	~	اہ	_		Ъ		Le	l gu	ecord	Plus	Minus	or
	<u>ا</u> ـ]	a	Data				R			ord	2	Posi	tion	Z	ڃاٰڍ	aracter	Position	2	≥اد	racter	1	Position	(N)	Q	rac	<u> </u>	3	Occurs	Length	cimal	Constant	trol	chii ls	\simeq			D 1
	Form	5		tructu Name			Α	N	וע		Record Identifying				Zo.	C/Z/D	ha		1	C/7/D	ha	1		Not	\mathbf{Z}_{i}	Character	P/B/L/R	ď	n Times)ec	Name	Control Le	Matching Fields	Fie ld			Bank
3 4	5 6					12 13	14	15	16	17 18	19 20	0 21	1 22	23 2								35	36 37 38				12 43	3 4	44 45 46 47	48 49 50 51	52	53 54 55 56 57 58				65 66	67 68	69 70
0 1	I	1	ГΚ	A N	F N	ИΤ			1						+				T	T	+	1						T										
0 2	I											Q	U.	A ì	N T	I '	Т	Y														QTYSLD						
0 3	I	*	*																																			
0 4	I	N	M A	S T	R	E C																													<u> </u>			
0 5	I											Q) U	<u>A</u> 1	N T	I '	Т	Y			丄			Ш				_				QTYOH		$oxed{oxed}$				
0 6	I							Ш							丄				\perp	L	丄	$oldsymbol{\perp}$		Ш			┸	┸						\perp	$oldsymbol{ol}}}}}}}}}}}}}}}}}}$			
0 7	I	1						Ш		_ _	<u> </u>									L	_	Щ		Ш				1						<u> </u>	Ь	<u> </u>		
0 8	I	1	\perp					Ш	_	_ _	<u> </u>				丄	_	_		_	L	丄	$oldsymbol{ol}}}}}}}}}}}}}}}}}}$		Ш				1						ــــــ	Ь	<u> </u>		
0 9	I														丄						丄	丄													<u> </u>			

更改檔案於程式中使用的欄位名稱

更改記錄格式列的名稱



固定字元欄位命名 (NAMED CONSTANTS)

可以定義於輸入(INPUT)的任何地方

固定字元欄位最大長度

文字 256

數字 30.9

使用於計算處理卡別的 第一因素(FACTOR 1)和第二因素(FACTOR 2)欄位

使用於輸出卡別的 "固定字元或編輯字元"

NAMED CONSTANTS-EXAMPLE

																						S				niti Co:						e								Field L	ocac	tion						Chaining				Fie	eld			
]	Red		enai or rd 1		ne		00401100	ednence)E	S	ntifying	mymg r DS		_ _	_	1		F					Fi ntif 2					des	3	3							Form		Го	ositions	F	RPG Field Name	(I.1.1.9)	1	or	-	۲ کو	I	ndic		rs Zero	•	
Line	Form Type	1		Str N	lan	ture ne				N	D	Number (I/N	Ontion (O)	Record Ide	Indicator''	indicator, 3	Po	sitio	on	Not (N)	C/Z/D	Character	Cilaiactei			on	Not	C/Z/	Cha					Not (C/Z		1	P/B/L/R		Occurs n Times	Le	ength	Decimal P		Constant Name	Control Level		: Matching Fields	Field Deep	Field Ke	Plus]	Bank		
0 1	5 6 T	,	/ \ \	8 9	9 1	0 1.	1 12	13	14	15	16	1 /	18	5 1	9 20) 21		2 23	24	1 2:) 20	5 2	/ 2	8 2	9 3	0 31	32	2 33	32	3.	5 31	3	/ 30	5 35	4() 4	1 42	43	5 4	4 45 46 47	48 49	9 30 31	52	33	54 55 56 57 58	39	60	61 6.	2 63	64	65 66	5 6 /	68	69 /0	/1	12 /3 /2
01	I	+	+	-				1			-	-	۲	$^+$		١,		ΓН	ΙE	╁	Δ	ΙĒ	2 (7	(СО	R	P	10	ı F	2	\	ΓĪ	Ю	N	1 -	1	6	1				Н	N	A M				+	\dashv	—	+	-			
0 3	I	t	$^{+}$	+				H					t	t		,	-			ħ	_		1	'	_	, 0	110	<u> </u>	۲	+		<u> </u>		ľ	11,	+	+	₽	+					11	7 1 1 1 1				╁	\dashv		╁	7			
0 4	I	*	*										T	T		T			_	Ť	Ť	+	T				T	T	T	t				t	T	t	T	T	T											\exists						
0 5	I															'	N	1 A	ιN	Ţ	JF	Ì	1 (3 7	ΓŢ	J R	I	N	C	i '								C	1					D	ΙV											
0 6	I												L			L.						L							L	L								L	Ĺ					Ļ												
0 7	I	Ļ	+	_									_	+		4	. 5			\perp		+	4				\perp		╀	+				+	-	+	1	C	4		<u> </u>		Н	L	ΕN	-			\bot	_		-	_		-	
0 8	I	ł	+	_				-		H		<u> </u>	╀	+		+	—	—		╀	+	+	+				╁	+	╀	╁				╀	+	+	+	+	+		-		Н				_		1	\dashv	—	+	\dashv			

5.3 資料庫檔案處理(DATA BASE FILE PROCESSING)

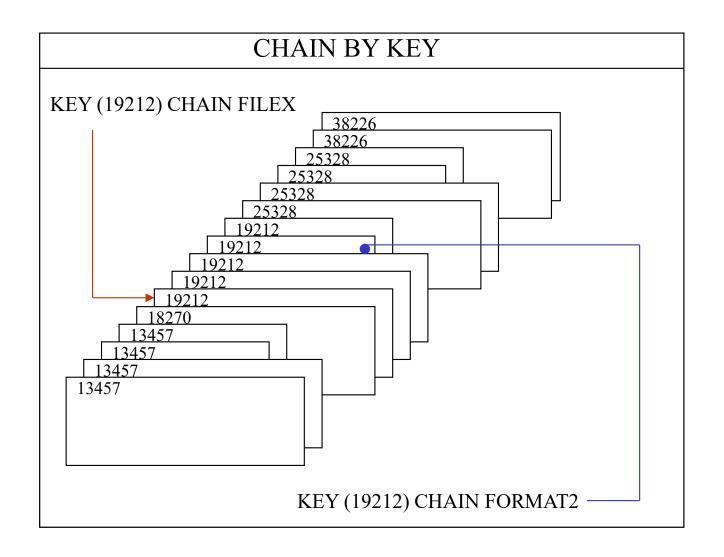
接受資料的方式

檔案名稱

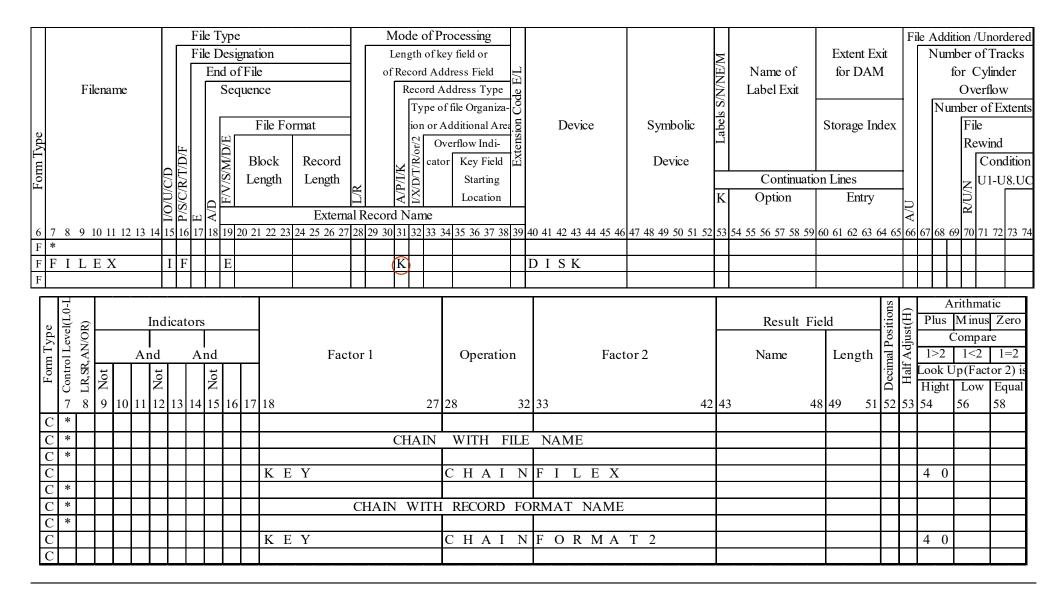
- •程式外宣告之資料
- •程式內描述之資料

記錄格式名稱號(RECORD FORMAT)

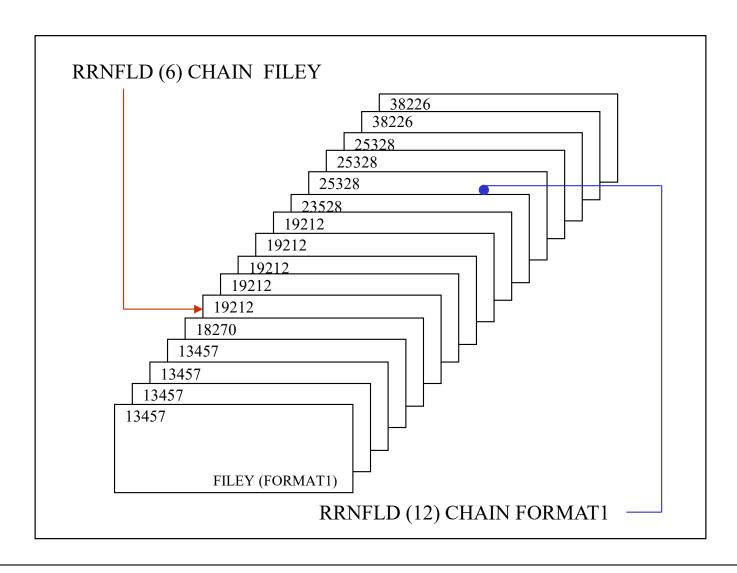
•程式外部宣告資料



CHAIN BY KEY



依相關記錄序號擷取資料

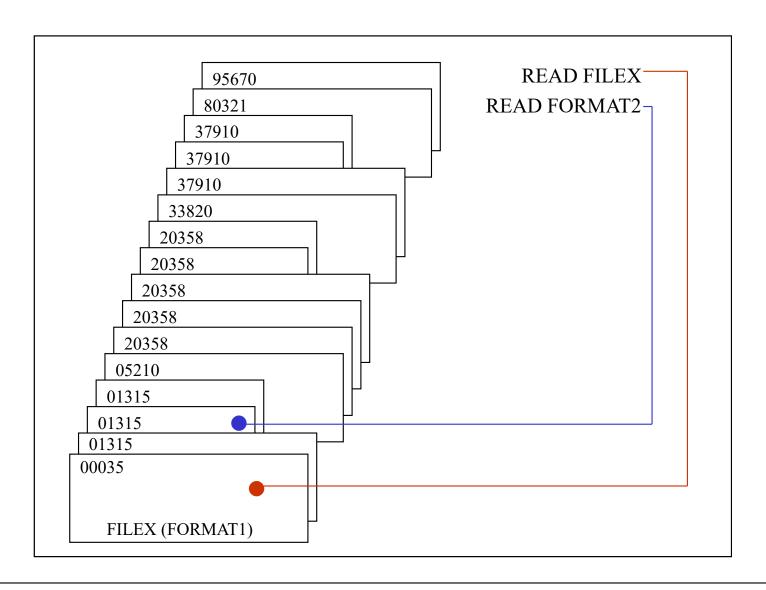


依相關記錄序號擷取資料

Гуре	I	Filena	me				Er	Designed of Second	gnat f Filo quen	ce File Fo				Leng of Rec	cord A ecord Type ion or	key ddr Ado of fi	field or ress Field dress Type file Organiza- ditional Area rflow Indi-		Device	Symbolic	Labels S/N/NE/M	Name of Label Exit	Exten for D	DAM	[File	Num	ber of Overl Overl mber o File Rew	low f Extents ind
Form Type					I/O/U/C/D	P/S/C/R/T/ E	ΑΊ		Le	lock ength	Record Length Extern				ame		Starting Location			Device	K	Continuati Option	En	ntry		A/U		R/U/N	ondition 1-U8.UC
6 F	789 *	10 1	1 12	13 1	4 15	16 1	/ 18	19/2	20 2.	1 22 23	24 25 26 2	/ 28	29 3	0 31	32 33	34	35 36 37 38 3	39 2	40 41 42 43 44 45 46	6 47 48 49 50 51 52	2 53	54 55 56 57 58 59	60 61 62	63 6	4 65	66 6	5/ 68 6	9 70 71	72 73 74
F	FIL	Е У	ľ		I	F	T	Е				T							DISK							Ħ	+		
F																										П			
Form Tythe	Control Level(L0-L	Not		An	ndic		s nd Not				Fac	tor	1				Operation		Fact	tor 2		Result F	Leng	th	Decimal Positions	Ialf Adjust [디 I	Plus C 1>2 ook U	rithmat M inus Compar 1<2 p(Fact	Zero e 1=2 or 2) is
							1																			1	-	Low	-
L	7 8	3 9	10	11	2 1	3 14	15	16	17	18					27	28	8	32	33	42	2 43	3 4	8 49	51	52	53 5	4	56	58
(_	+	Н	\dashv	-	+	\vdash	-						CU	AIN	Ц,	WITH FI	E	NAME						\dashv	+	\dashv		
		+	H	\vdash	+	+	╁	1						СП	AIIN	T	WIIH FII	_C	INAIVIE		┢				\dashv	+	\dashv		
		+	H		+	+	+			R R	NFL	D				С	НАІ	N	F I L E Y		+			_	+	+,	4 0		
																1	•		 								-		1
				\dashv	+																								
	*			\exists			L	E					HAI	N V	VITE	 	RECORD :	FΟ	RMAT NAME		L				\exists	\pm			
(* * * * * * * * * * * * * * * * * * * *										NFL	CI		ΝV	VITH				RMAT NAME								4 0		

將全程控制(FULL PROCEDURAL)檔案的檔案描述表格第31欄留空,表示當我們在執行CHAIN指令時,將會依相關記錄號碼(RRN)擷取資料。

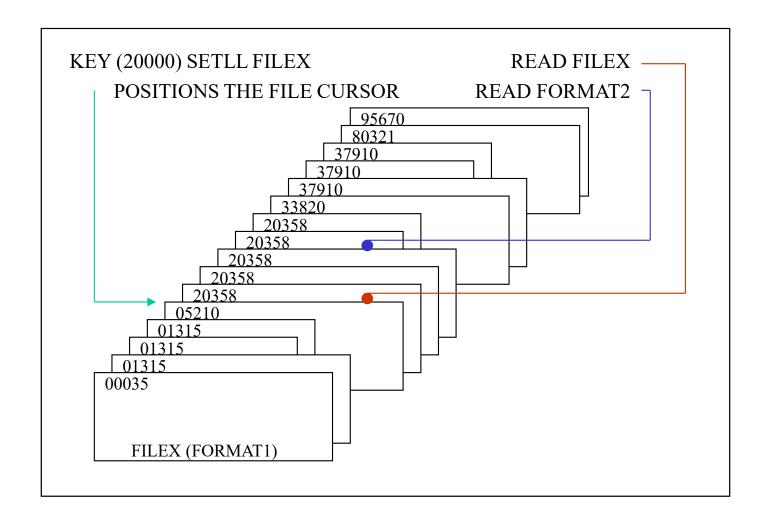
READ



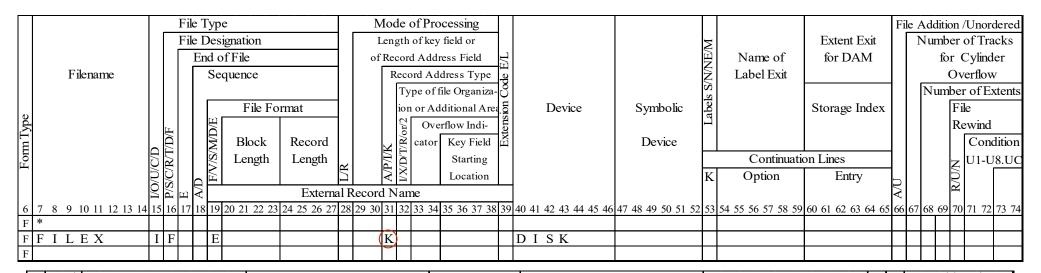
READ

							F	ile 7	Гур	e					Mod	le of F	ro	cessing												File	Additi	on /Uno	rdered
							F	ile I	Des	igna	tion				Leng	gth of k	æy	field or						\mathbb{Z}		I	Extent	Exit	:		Numb	er of Tr	racks
							Γ	Er	nd o	fFi	ile			0	fRec	ord A	ddre	ess Field	7/C					Œ	Name of		for D	AM			fc	r Cylin	der
		F	ilena	me					Se	que	nce		Ī		R	ecord A	Add	dress Type	le E					S/N/NE/M	Label Exit							Overflo	w
																Туре	of fi	dress Type ile Organiza-	Sol										\exists		Nun	ber of F	Extents
											File Fo	ormat	1					ditional Area			Device	Svm	bolic	Labels		St	orage	Inde	ex			File	
)De									Œ				1			20		rflow Indi-	susi					La			8					Rewind	i
T							1/D/F		(LD	F	Block	Record				S cat	_	Key Field	Ext			De	vice										ndition
Form Type						Q			VS/V		ength	Length			/I/K			Starting	$\lceil \rceil$			50	V100	H	Continuation	on I	ines		\dashv				
щ							3		F/V/S/M/D/E	L	Ciigui	Length	<u>/</u> R		A/P/I/K	cat cat		Location						K	Option		Ent	17.7	\dashv			Z U1-1	06.00
						Į į	F/S/C/K	A/D	٣			Extern	I		,		!	Location						11	Option		Litt	ı y	ŀ	\supseteq		[⊠	
6	7 8	3 9	10 1	1 12 1	13 14					20.2	21 22 23						34	35 36 37 38	39	40 41	42 43 44 45 46	47 48 49	50 51 52	53	54 55 56 57 58 59	60 6	61 62 6	63 64	65	4 66 6	7 68 69	70 71 7	2 73 74
F	*	, ,	10 1	1 12 1	15 17	13	10 1	, 10	1)	20 2	21 22 23	24 23 20 2	20	2) 3	0 31	32 33	54	33 30 37 30	37	10 11	12 13 11 13 10	47 40 42	30 31 32	33	34 33 30 37 30 37	00 (01 02 (05 01	051	70 0	100 0	70 71 72	2 73 74
F	F I	L	E	Y		Ι	F		Е								T			DΙ	S K			H					寸	十	+		
F																																	
	H	- 1															1			1									S			Arithma	tic
l o	-O-T				Ind	ioot	O#0																		Result I	Fial	d		ion	(H		Minus	
Form Type	Control Level(L0-]	LR,SR,AN/OR)			T	Icai	.015																	F	Kesuit 1	1.101	u		Decimal Positions	Half Adjust(H)		Compa	
l m	Le	Ž		Δ	nd		A:	nd				Fac	tor	1				Operatio	n		Fac	tor 2			Name		Leng	oth	al P	Ådj	1>2		1=2
For	tro	SR,	اپ		_		7 1	_				1 uc	.01					орегино			Tue	101 2			Turre		Leng	5111	in:	alf ,		Jp(Fact	
ľ	Son	LR,	Not		Not			Not																					Da	Ĥ	Hight		Equal
6	7		9	10 11	12	13	14	15	16	17	18					27	28	3	32	2 33			4	2 4	43	48	49	51	52	53	54	56	58
C	*				T																			T					T	П			
C			T		1										RF	EAD	V	VITH F	LE	. N	AME			T					┢	П			
C			T		T																								m				
C																	R	E A D		F	I L E X								⇈	П			4 0
C	*																												Г				
C	*												R	EΑΙ) W	VITH	R	RECORD	FC	DRM	AT NAME												
C	*																																
C																	R	E A D		F	O R M A	T 2											4 0
C																									<u>-</u>						1		

SETLL



STELL



	ď)R																													us		Α	rithma	tic
be	vel(L0-	N/OR			Ind	lica	tors	;																			Result	Fiel	d		itio	t(H	Plus	M inus	Zero
Τ̈́	โ อ	4									1																				Positions	Adjust(H)	•	Compai	re
FormType	Control L	SR		Α	nd		A	nd]	Facto	r 1				Ope	eratio	n		Fact	or 2			Name		Len	gth	lal]	Ad	1>2	1<2	1=2
Ю	l ŧi	L9,LR	Σ		ĭ			Σţ			1								•												Decimal	Half	Look U	Jp(Fact	tor 2) is
	ပိ	F)	Not		Not			Not																							De	H	Hight	Low	Equal
6	7	8	9	10 1	1 12	13	14	15	16	17	18						2	7 28			32	33			42	43		48	49	51	52	53	54	56	58
С	*																																		
С	*																																		
С											K	ΕY						S	Е	T L	L	F	I L E X												5 0
С											*	I N	5	0				Ι	F	ΕQ	1	'	1 '												
С																		R	Е	ΑΕ)	F	O R M A	T 2											4 0
С																																			
С						-	-	-	-	-	-		-	-	P	R	0 (E	S	S	R	Е	C O R D					-							
С																		Е	N	D															
С												•		•		•	•			•										·					
\mathbf{C}																							·					, The second sec							

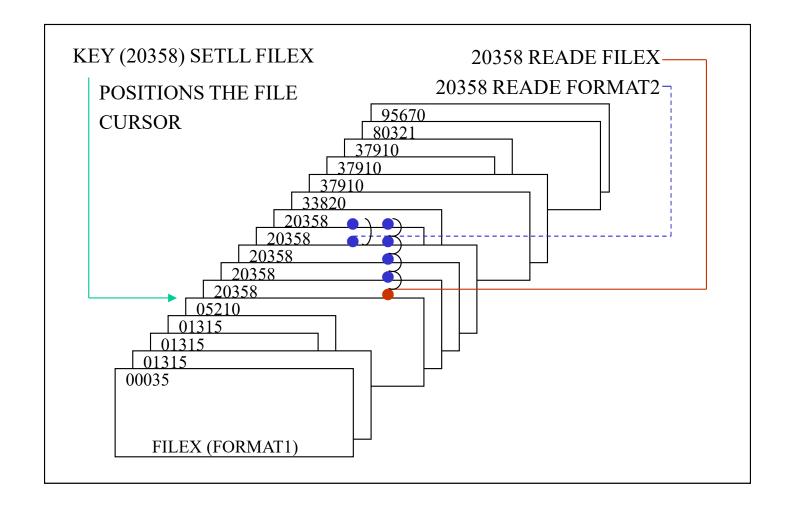
STELL指令使用的燈號如下:

56,57欄=讀取錯誤發生

54,55欄=已到檔尾資料未找到

58,59欄=找到與KEY值相等的資料時會ON(值=1)

READE



READE

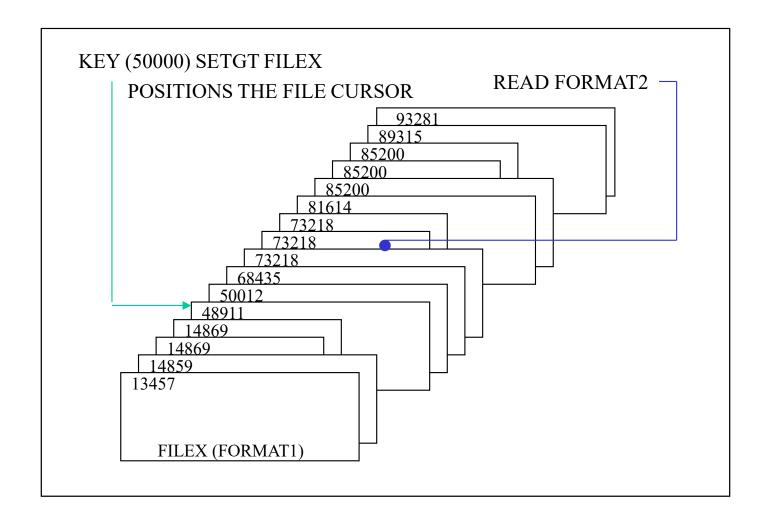
Form Type	Filename		En	<	File	Record Length	L/R	L	Reco Reco Reco Reco NA/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/	cord Addrage of Addrage of Addrage of Addrage of Overall Caton	y field or lress Field ldress Type file Organiz dditional A erflow Indi- Key Fiele Starting Location	Extension Cod		Device	Symbolic Device	X Labels S/N/NE/M	Name of Label Exit Continuati Option	Extent Exit for DAM Storage Index on Lines Entry	File	Νι	for O Tumber F	Vunor of Tr Cyline verflor er of E Tile Rewind Cor U1-U	rack der w Exte
6	5 7 8 9 10 11 12 13 14			19 20	21 22 23	Externa 24 25 26 27					35 36 37	38 39	40 41	42 43 44 45 4	6 47 48 49 50 51	52 53	5 54 55 56 57 58 59	60 61 62 63 64 65	∢ 66 6	67 68	8 69 7	0 71 72	2 73
F	7 *																						
F	FILEX	I F		Е				(K				DΙ	S K									
F	7				_)														T

3		2	T 1																	D 1/ E' 11				Decimal Positions	$\widehat{\Xi}$		rithmat		
þe	ΙÇ	Ō		Indicators																Result Field]: <u>ਜ਼</u>	닱		M inus		
Form Type	Control Leve	AN/OR)	And And									ļ							õ	Adjust(H)		Compar	e						
		LR,SR,							Factor 1				Operation			Factor 2		Name		Len	Length	lal]	Αd	1>2	1<2	1=2			
			 					Not			1				_								Č	Scin	Half	Look Up(Factor 2)		or 2) is	
			Not		Not			Ž													ď	Т	Hight	Low	Equal				
6	7	8	9 10	11	12	13	14	15	16	17	18				27 2	28		32	33 42	2 4	13	48	49	51	52	53	54	56	58
C	*																												
С											K E Y				(СН	A I	N	F I L E X								4 0		
C											I N 4	0]	D O	W E	Q	' 0 '										
C																													
С																													
С											K E Y				F	RЕ	A D	Ε	F I L E X										4 0
С	*					OF	R,IF		FΑ	CT	OR 1	IS	BLA	NK,	DEF	AULT	Γ IS	Ī	FULL KEY										
С	*														F	R E	A D	Е	FILEX										4 0
C																E N	D D	O											

使用READE(讀取與設定之值KEY相等之資料的指令)命令時如果FACTOR 1的欄位留空時,那麼READE會用最近一次讀取的資料當FULL KEY來往下讀。

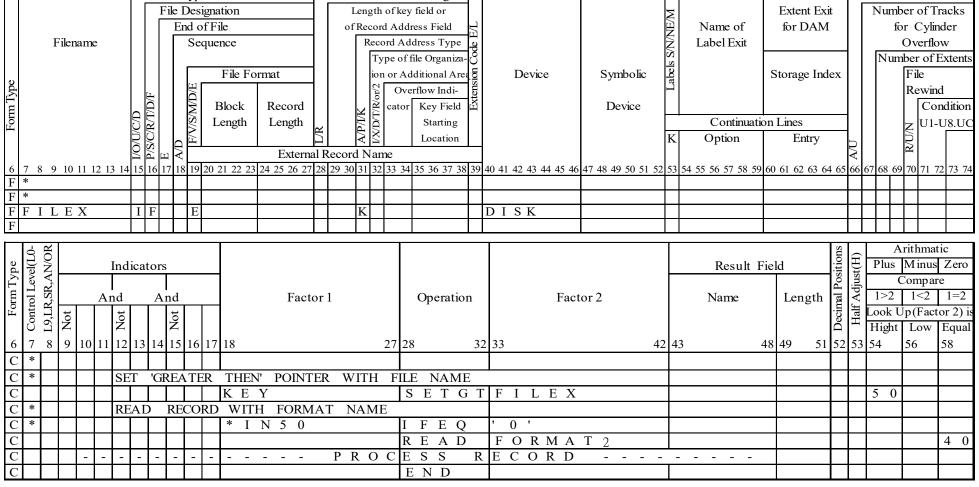
FULL KEY:檔案所設定的所有KEY欄位。

SETGT



SETGT

Mode of Processing



SETGT指令使用燈號如下:

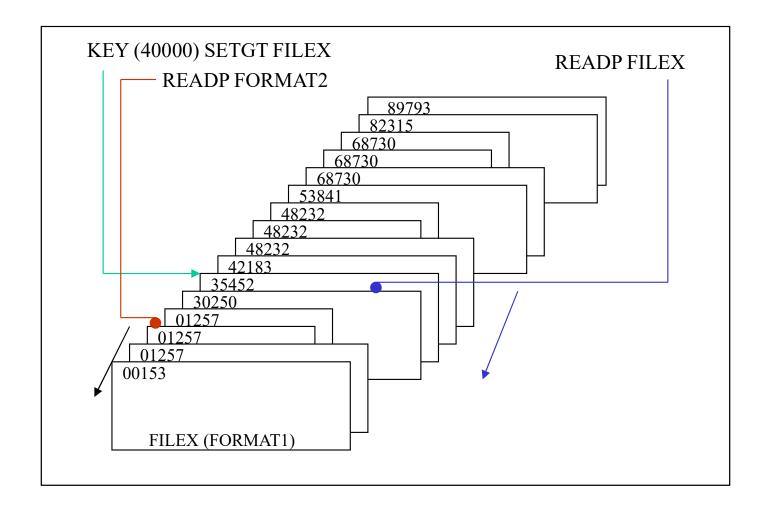
54,55欄=到檔案尾,資料沒找到

File Type

56,57欄=檔案讀取時有錯誤發生

File Addition /Unordered

READP



READP

Mode of Processing

											- -				0									_	7 Iddi		
						File	De	sigı	nation			I	engt	h of ke	field or				X]	Extent Ex	it		Num	ber of Ti	racks
						I	End	of l	File		7	of	Reco	rd Add	ress Field	<u>T</u>			E	Name of		for DAM]		f	or Cylin	der
		Filer	name			Ē			ience		┤ │				ldress Type	Œ			Σ	Label Exit						Overflo	
		1 IICI	ianic				50	cqt	icricc							g			3	Lauci Exit	-				N.T.		
							_				╛╽				file Organiza-				S S						Nur	nber of I	Extents
									File Fo	rmat			io	on or A	lditional Area	.G	Device	Symbolic	abels		St	torage Inc	lex			File	
Form Type					ſτ.		Œ				7		C/1	Ov	erflow Indi-	ens			Ľ							Rewin	d
Ę.					D/E		M/D/E		Block	Record			. /S	Cator	Key Field	Ř		Device								Co	ndition
ΙĒΙ				٤	a 🖺		Š						A/P/I/K I/X/D/T/R/or	Eleator		ш.		Device		C 1: 1:	·					1 20	TIO TIO
Fc				ζ	5 3		Š		Length	Length	K		(P)	3	Starting					Continuati	ion 1					₹ U1-	U8.UC
							ı	i			I				Location				K	Option		Entry				[2]	
				5	I/O/U/C/D P/S/C/R/T/D/F	ΉE	₹			Extern	al R	ecord	l Na	me	·									A		 	
6	7 8	9 10	11 12 13	3 14	15 16	17	18 19	20	21 22 23	24 25 26 27	7 28	29 30	31 3	2 33 34	35 36 37 38	39 4	10 41 42 43 44 45 46	47 48 49 50 51 52	53	54 55 56 57 58 59	60	61 62 63 6	4 65	66 6	68 6	9 70 71 7	2 73 74
	*										\Box																
F	FΙ	LE	X		ΙF		F	3					K			I	DISK										
F											11																
						_														•							
_																			_					_			
	9 8	¥ _																					SUC		A	Arithmat	
be	el(L0-	N/OK		Indi	cator	rs														Result I	Field	i	itions	t(H)	Plus	Arithmat M inus	
Type	evel(L0-	, AN/OK]	Indi	cator	rs														Result 1	Field	d	Positions	just(H)	Plus		Zero
m Type	ol Level(LO-	,sk,an/ok					Ĺ			Fact	tor 1	1			Operation	n	Fact	tor 2				d Length	al Positions	Adjust(H)	Plus 1>2	M inus Compar	Zero
Form Type	atrol Level(L0-	LK,SK,AN/OK t	Ar	nd		 \nd	_			Fact	tor 1	1			Operation	n	Fact	tor 2		Result I		d Length	simal Positions	alf Adjust(H)	Plus 1>2 Look	M inus Compar 1<2	Zero e 1=2
Form Type	Control Level(LO-	Jy,LK,SK,AN/OK Not	Ar	nd		 \nd	_			Fact	tor 1	1			Operation	n	Fact	tor 2				d Length	Decimal Positions	Half Adjust(H)	Plus 1>2 Look	Minus Compar 1<2 Up(Fact	Zero e 1=2 or 2) is
		b L9,LK,SK,AN/OK	Ar	nd Not Not	A	And Z			7.19	Fact	tor 1	1		27.2	•				2 4	Name				$^{\mathrm{H}}$		Minus Compar 1<2 Up(Fact Low	Zero e 1=2 or 2) is Equal
6	7		Ar	nd Not Not	A	And Z		5 1	7 18	Fact	tor 1	1		27 2	•		Fact		2 4:	Name				(H) Half Adjust(H)		Minus Compar 1<2 Up(Fact Low	Zero e 1=2 or 2) is
6 C	7		Ar	nd V NZ 12	13 1 ²	And For V	5 16								8				2 4:	Name						Minus Compar 1<2 Up(Fact Low	Zero e 1=2 or 2) is Equal
6 C C	7		Ar	nd V NZ 12	A	And For V	5 16		URSOR	WITH		l FII	Æ	NA	8 ME	32	33	4	2 4:	Name					54	M inus Compar 1<2 Up(Fact Low 56	Zero e 1=2 or 2) is Equal
6 C C	7 * *		10 11	nd Ž 12 POS	A 13 14 SITIO	And Z 4 1:	5 16	Cl	URSOR K E	WITH Y	-I	FIL		NA S	8 ME B E T G	32 T	33 F I L E X	4	2 4:	Name						M inus Compar 1<2 Up(Fact Low 56	Zero e 1=2 or 2) is Equal
6 C C C	7 * * *		10 11	nd V NZ 12	A 13 14 SITIO	And Z 4 1:	5 16	Cl	URSOR K E PRIO	WITH Y OR R	-I			NA S WITH	ME S E T G I FOR	32 T MA	33 FILEX T NAME	4	2 4.	Name					54	M inus Compar 1<2 Up(Fact Low 56	Zero e 1=2 or 2) is Equal
6 C C	7 * *		10 11	nd Ž 12 POS	A 13 14 SITIO	And Z 4 1:	5 16	Cl	URSOR K E PRIO	WITH Y	-I	FIL		NA S WITH	ME SETG FOR FEQ	32 T MA	33 F I L E X T NAME ' 0 '	4	2 4.	Name					54	M inus Compar 1<2 Up(Fact Low 56	Zero e 1=2 or 2) is Equal 58
6 C C C	7 * * *		10 11	nd Ž 12 POS	A 13 14 SITIO	And Z 4 1:	5 16	Cl	URSOR K E PRIO	WITH Y OR R	-I	FIL		NA S WITH	ME S E T G F E Q E A D	32 T MA	33 F I L E X T NAME ' 0 ' F O R M A	4	2 4.	Name					54	M inus Compar 1<2 Up(Fact Low 56	Zero e 1=2 or 2) is Equal
6 C C C C	7 * * *		10 11	nd Ž 12 POS	A 13 14 SITIO	And Z 4 1:	5 16	Cl	URSOR K E PRIO * I	WITH Y OR R	H ECC	FIL		NA S WITH I	ME S E T G F E Q E A D	32 T MA	33 F I L E X T NAME ' 0 '	T 2		Name					54	M inus Compar 1<2 Up(Fact Low 56	Zero e 1=2 or 2) is Equal 58

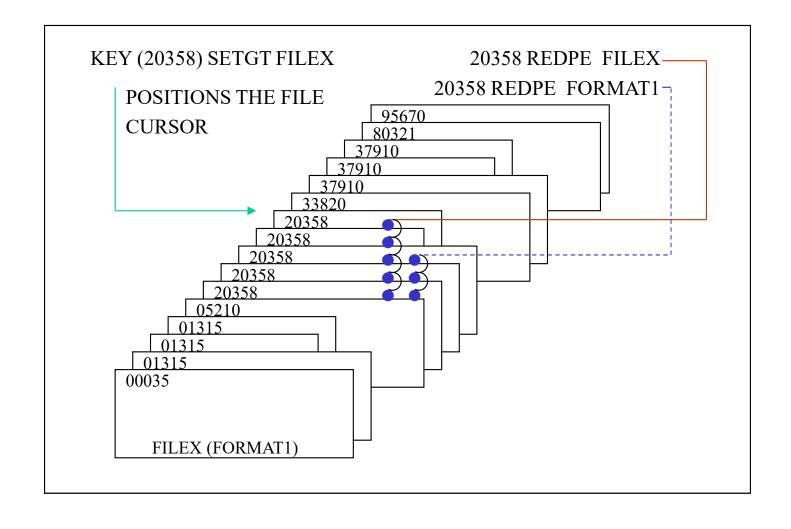
- 1.檔案指標定位
- 2.依記錄格式名稱(FORMAT NAME)往前讀取檔案資料

File Type

E N D

File Addition /Unordered

REDPE



REDPE

File name							F	ile	Тур	e					M	ode of	Pro	cessing									File	Addit	ion /Un	ordered
File name							I	ile	Des	igna	tion			7 F	L	ength o	f key	field or	1			Z		Exte	ent Ex	it	ΙΓ	Numl	er of T	racks
File Format								Е	end o	of Fil	le			1	of	Record .	Addı	ess Field	Ţ			Œ	Name of	for	DAM	[f	or Cyli	nder
Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization Type of file Organization			Filer	name				Г	Se	quei	nce			1	ſ	Record	l Ad	dress Type	e E			\leq	Label Exit							
File Format										1						Type	off	ile Organiza	<u> </u> Z			S/J						Nun	ber of	Extents
Block Record Length Record Length Record Length Record Length Record Length Record Length Record Re											File Fo	rmat		1						Device	Symbolic	sels		Stora	ge Inc	lex				
Comparation Factor 2 Factor 3 Factor 4 Factor 4 Factor 5 Factor 6 Factor 2 Factor 6 Factor 2 Factor 6 Factor 2 Factor 6 Factor 6 Factor 6 Factor 7 Factor 7 Factor 8 Factor 8 Factor 8 Factor 8 Factor 8 Factor 9 Factor	g								Œ		1 110 1 0	11124		1		27			isi	Bevice	Symbolic	Lal		Stora	50 m	.011				nd l
C C C C C C C C C C	E	,)/F		Q	Ъ	Block	D _O	cord			%o1			 X		Device									
Comparation Factor 2 Factor 3 Factor 4 Factor 4 Factor 5 Factor 6 Factor 2 Factor 6 Factor 2 Factor 6 Factor 2 Factor 6 Factor 6 Factor 6 Factor 7 Factor 7 Factor 8 Factor 8 Factor 8 Factor 8 Factor 8 Factor 9 Factor						Q	[]		S			1				$\exists \xi $	atoi		"		Device		Continuati	on Line	C					
External Record Name	H					J/C	$\frac{7}{R}$		<u>//</u>	L	engui		ngui	\approx	ļ	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		_				17								-08.00
C R 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 65 75 58 59 60 61 62 63 64 65 66 66 67 68 69 70 71 72 73 74 74 74 74 74 74 74						0/1)/S/	(ίĒ			ļ		I				Location	Щ			K	Option	1	entry		7			
F F L E X										20.2								25.26.25.2	Jac			ا ۔ ا					~			
F I L E X I F E E K K K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S K D I S I I I I I I I I			9 10	11 12	13 1	1 15	16	7 1	8 19	20 2	21 22 23	24 25	5 26 27	/ 28 2	29 30	31 32 3	3 34	35 36 37 38	39 2	0 41 42 43 44 45 46	47 48 49 50 51 52	2 53	54 55 56 57 58 59	60 61 6	2 63 6	4 65	66 6	7 68 69	70 71	72 73 74
Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Result Field Resu			ΙE	v		ī	E	+	F					++		V			++) I S K		+					${f +}$	++	++-	
Result Field Factor 2 Result Field Factor 2 Result Field Factor 2 Factor 2 Factor 2 Factor 2 Factor 2 Factor 3 Factor 2 Factor 3 Factor 4 Factor 4 Factor 4 Factor 5 Factor 6 Factor 6 Factor 7 Factor 7 Factor 7 Factor 8 Factor 8 Factor 8 Factor 9 Factor 9 Factor 9 Factor 1 Factor 2 Factor 1 Factor 2 Factor 1		ьь	Λ		1	1	+	15					++	_	4			++	JISK		+					\vdash	++	++-		
Result Field Fig.	Ŀ	<u> </u>				-!								<u> </u>							L			1						
6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 32 33 42 43 48 49 51 52 53 54 56 58 C		ا ا	ž 📗						-																	SU		A	rithma	tic
6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 32 33 42 43 48 49 51 52 53 54 56 58 C	ع ا		<u> </u>		Inc	lica	itors	S															Result I	Field		itio	\mathbb{H}	Plus	M inus	Zero
6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 32 33 42 43 48 49 51 52 53 54 56 58 C	[2	5 8 3	₹																							So	jnst	- (Compa	re
6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 32 33 42 43 48 49 51 52 53 54 56 58 C	3		ž Ž	1	And		A	nd					Fact	or 1				Operation	n	Fac	tor 2		Name	Le	ngth	lal I	Ad			
6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 32 33 42 43 48 49 51 52 53 54 56 58 C	FO.] ta :	ž z		٦			ĭ										•							Č	ÇiL	alf	Look (Jp(Fac	tor 2) is
C		ပိ ဒိ	ž ž		ĮΖ			Ž																		Ğ	$^{\perp}$	Hight	Low	Equal
C	6	7	8 9	10 1	11 12	13	3 14	15	16	17	18					2	7 28	3	32	33	4	2 4:	3	48 49	51	52	53	54	56	58
C						T				-		Y					S	ЕТО	T	FILEX		1								
C				H	+	1							5 0				ī										H			
C I KEY REDPEFILEX 40 C * OR IF FACTOR 1 IS BLANK , DEFAULT IS FULL KEY 40 C * I REDPEFILEX 40 C * I FIVE STAND ST				\vdash	+	1											D		-	-							H			
C * OR IF FACTOR 1 IS BLANK , DEFAULT IS FULL KEY C * R E D P E F I L E X 4 0 C I I I I I I I I I				H	+	t														-										4 0
C *				\vdash	+	0	Ŕ		İF				1		IS	BI					FULL	KF	EY				H			
C				H	+	Ť	Ť	Π	Ī	П					12						1 022	T				1	H			4 0
C				H	+	t					* I	N 4	4 0				I													
C				-	- -	†-	†-	<u> </u>	† -	-					P R	0 (E					. † -					M			
C ENDDO						t	T	T	T													+					H			
					\top	十	+															+					H			
		/																												

使用REDPE命令時也可將FACTOR 1的欄位留空,如此則程式會以最近一筆資料所有的KEY欄位值為KEY值,繼續向前讀取相同KEY值之檔案資料。

KEY欄位組合

--KLIST

--KFLD

→搜尋用的KEY組合包含FLD1和FLD2兩欄位

pe	el(L0-N/OR	370/11		Indic	ators													Result	Fiel	d		itions	t(H)		rithmat M inus	
Form Type	Lev R	,,,,,,,,	A	nd	A	nd				Factor 1			Op	eration		Factor 2		Name		Len	ıgth	Decimal Positions	f Adjust(H)	1>2	Compar 1<2	1=2
Fc	၁			Not		Not																		Hight		Equal
6	<u> </u>	9	10 11		_							27			33	l .	2 4	3	48	49	51	52	53	54	56	58
C	*		Sl	EARC	H	K	EY	I	S	COM	POSED		OF	(FLI)1FLI	D2)										
C	*																									
C								ΚЕ	Y				K L	I S T												
С]	K F	L D			I	F L D 1								
С									*				K F	L D			I	F L D 2								
С								ΚЕ	Y				S E	T L L	F I	LEX										5 0
С								* I	N 5	0			I F	ΕQ	' 1	1										
С								КЕ				[]	R E	A D E	F (ORMAT2										6 0
С]	ΕN	D												

外部描述檔案KEY欄位組合的配置

		Control Level(L0-	5																																	Decimal Positions	(F	D1	Arithn	
C	, be)e/	<u> </u>			Indi	icat	ors																							Re	sult	Fie	ld		siti	st(F	Plus		us Zero
1.	ĮĮ.	Le Le	7,7																																	Po	djn	1. 0	Comp	
Line	Form Type	Control Level(L0-	<u> </u>		Ar			Ar						l	Facto	r l				Ope	ratio	n			F	actor	2				Nar	ne		Lei	ngth	mal	Half Adjust(H)	1>2		
	ΙŢ	onto	Not I	3		Not			Not																											eci	Hal	LOOK		actor 2) is
_							1.0				1.7	1.0						•	ر ا			20	22						ر ا ۱				40	10	- 1	1		High		v Equal
4 5	_		3 9	10	11	12	13	14	15	16	17	18						2	7 28			32	33					- 4	12 4	13			48	49	51	52	53	54	56	58
1	C	_																																						
2	C				SE	T		PO	IN	TE	R	A	Γ	В	EGI	ININ	\lG	0	F	FI	LE																			
3	C	*		_																									_											
4	C											* 1	ر <u>ر</u>) V	A	L			S	Е	T L	L	FΙ	L	Е	X												5 (<u> </u>	
5	C									<u> </u>	Ш																												-	
6	C				SE	Γ		POI	lN'.	ΓEŀ	<u>₹</u>	ΑΊ		E	ND	()F	FI	LE																					
/	C		+	-																									_											
8	C		-	+								₩ Т	, ,	17	A	т				г -	т с	T	г	т т	Г	37			_									- (
9	C	_										* F	1 1	V	Α	L			S	E	I G	1	F I	L	Е	X												5 (<u> </u>	
0	C	_	-	+															-										_							-				
	C		+	+															+										_											+
2	C	_																	-																					
3	C	_	+	+															+										-										1	_
4	C		+	+															+			-							-										-	+
5	C		+	+	\vdash		-	-			\vdash								+										-							+	-		+	+
6	C		+	+															+										-							+	-		+	+
8	C	_	+	+															+										-										+	
9	C	_	+	+															+																	+	1		+	+
1 9	C	_	+	+			\dashv	\dashv		\vdash	H								+										-							+	\vdash		+	+

*HIVAL和*LOVAL的意義依它們的使用而定:

*HIVAL *LOVAL

文數字欄位=(16進位碼)Hex FFFF...... 文數字欄位=(16進位碼)Hex 0000......

c	ype	el(L0-	N/OR			Inc	lica	ators	8																								Rest	ılt]	Fiel	d		itions	t(H)	F	Plus		ıs Zer	0
Line	Form Type	Control Level(L0-	L9,LR,SR,AN/OR	Not	T	Nnd Sot Nnd		A	nd Vot	$\overline{}$				F	Facto	or 1				Оре	eratio	n				Fac	ctor 2	2				N	ame			Ler	ngth	Decimal Positions	Half Adjust(H)	, 1 Lo	1>2	Jp(Fa	1=2 ctor 2)	is
4 5	6				$0 _{1}$	1 12		3 14			$ _{17}$	18						2	27 28			32	33							42	43				48	49	5	1	$\frac{1}{2} _{53}$		-	56	58	
1	C	*			T					T	1																											T		\top	\neg			٦
2	С	*			T	ZEF	(O-	FIL	Ĺ		1																												1	T	$\overline{}$			٦
3	С	*			T																																			1	\neg			٦
4	C																		M	О	VE).	*	Z	E I	R 0					F :	LΙ) 1				5	0						
5	С	*																																										
6	C	*			F	LD1		C	ON	NT/	ΝI	S	00	000																														
7	C	*																								<u></u>														:==			*	_
8	C	*			1																																			┷		<u> </u>		_
9	C	*	Ш		E	LA	NK	-FIL	L	_	╄																								_			_	_	\bot		<u> </u>		4
0	C	*			+			-	_	-	-								1,		T. T	,			<u> </u>			-									1 0	_	_	+		<u> </u>		4
	C	*	\perp		+		+	+	-	╀	+								M	O	V E	Ĺ	*	В	L	A N	K	S			F :	LL) A				1 0	<u>'</u>	+	+		├──		4
$\frac{1}{2}$	C	*	\vdash		-	LDA		T	S	<u> </u>	EII	LEI	,	WI	TH		DI A	NKS	1				+															+	+	+		 		4
3	C	*			I	LDF	1	1	.S		LII	LLL	,	VV 1	111		DLA	INKS	•																				-			Ь	*	\dashv
5	C	*		干	Ŧ		Ť	T		Ť	\overline{T}												T															T		亡		 -	-	\dashv
6	C	*	\forall	+	F	TLL		W	IT	H	1	REP	EAT	ING		PA	ТТЕ	RN					\dagger															\dagger	+	\dagger	-	\vdash		┨
7	C	*	\Box		Ť	1	T	T	Ī	Ť	T							,					T															T	+	+				٦
8	C				T		t	T		t	1								M	О	VI	Ξ	*	A	L	L '	X	Y 2	7 1		F	LI) A		\neg			T	1	T				٦
9	С	*			T			1		T	1												1															T		1	\neg			٦
0	С	*			F	LD/	1	(CO	NT	ΑIN	S	7	XYZX	(YZ	XYZ	ZX																							Ī				

不論是數字或文數字欄位*ALL 'XYZ'的意思是:

字串 'XYZ'會重複循環填入結果欄(RESULT FIELD)直到欄位長度全部填滿為止。

c	pe	el(L0-	N/OR]	Ind	ica	tors	S																		Re	sult]	Fiel	d		itions	t(H)	Plus	Arithma M inu	ıs Ze
Line	Form Type	Control Level(L0-	L9,LR,SR,AN/OR	↓ [I	Ar	_	l	A	nd	_				Factor	r 1			Oj	pera	ntion			Fac	tor 2			Nan	ne		Len	gth	Decimal Positions	Half Adjust(H)	1>2	Compa 1<2 Jp(Fac	1=
4 5	6			Not	10		Not		14	toN 15		6 17	, 18	8				27 2	8		3:	2 33				42	43			48	49	51	52		Hight		
1	C										T		T																								\top
$\frac{1}{2}$	С	*		1		*O	N		IS			ALI		ONES																							+
3	С	*																																			\top
4	C												*	' I N 0	3			I	F	I	Q	*	O N														
5	C																																				
6	C																																			<u> </u>	
7	C]	E N	1 L	I	₹														<u> </u>	
8	C	*		_						L			┸																							<u> </u>	
9	C	-		_		*O	FF		I	<u>S</u>	_	AL	L	ZERO	S							-											-			↓	—
0	C	*		4				<u> </u>				-	+		-			т.	Г			-	O F	Г						_			-			↓	—
	C	\vdash		+					-	-		-	+*	I N 0	3			1	F		Q	-	O F	r									-			—	—
$\frac{1}{2}$	C	-		+				H			-	-	+									+											-			 	+
3	C	-		\dashv				H		H	+		+					1	F N	JF) I F	7											+			 	+
4	C			+				┢	1		-	+	+						יוט	N L	1 1									_			+			\vdash	+
$\frac{1}{6}$	C	-		+				\vdash	H	H	t	+	\dagger									+											╁			\vdash	+
7	C	*	+	\dashv							+	+	\dagger									\top								\dashv			I			\vdash	+
8	C	*	1	\dashv			*C	N			١N	D		*OFF	ARI	<u></u>	ONI	Υ	7	/AI	ID	W	/ITH													\vdash	+
9	C	*		十					RA					IELDS				<u> </u>				T								_						<u> </u>	十
\int_{0}^{∞}	C	*	7	寸						Ē	Ī		Ť																							†	\top

^{*}ON,*OFF只能用在文數字欄位

c	_ 0	el(L0-	N/OK			In	dic	atc	ors]	Resu	lt Fie	eld		itions	t(H)	Plus		us Zero
Line	Form Type	Control Level(L0-	L9,LK,SK,AN/OK	Not	A	And			An	Not Id		<u> </u>			I	Facto	or 1				Opera	ıtion			Fa	actor 2	:			N	ame		Le	ngth	Decimal Positions	Half Adjust(H)	1>2 Look	Up(Fa	2 1=2 actor 2) i
4 5				ž 9 1	$\begin{bmatrix} 0 \\ 1 \end{bmatrix}$			3 1			16	17	18	3					,	27 2	28	32	2 33					42	43			48	49	5	1	53		t Lov 56	v Equal 58
1	С	*	1		T				1											1													1		T	t			
2	С	*	T		*	ON	[IS		Щ.	ΑL	L	0	NES					1															t				
3	С	*	T		T															T															T				
4	С																			N	M O V	Е	*	O N					*	ΙN	1 2	0							
5	С	*																																					
6	С																			N	M O V	Е	*	O N					S '	ΤА	R	T		3					
7	C																																						
8	C		4																											'1	11'				┸				
9	C	_	4		*	OF:	F		IS	5		ΑI	L	Z	ZERC)S				4										1	11				_				
0	C	*	4	_	\perp			_	4											4													-		\bot				
1	C	\vdash	4	_	+	+			4											1	M O V	Е	*	O F	F				*	l N	5	0			╄	-			
2	C	_	4	_	+	_	-	4	4				-							٠,	10.1	, I	*	O F	Г				D	A C	Г				+	-			
3	C	_	+	-	+	+	+	+	4											- 1	M O V	Е	*	O F	F				В	A S	E		+	5	+	-	-	-	
4	C		-	-	+	+	+	+	+											+															+	-			-
5	C	_	+	+	+	+	+	+	\dashv				H				—			+			+						\vdash \vdash	'^^	000	, -			+	-	-	+	1
6	C	*	+		+	+	+		\dashv											+			+						\dashv	UÜ	000				+	\vdash			
8	C		+	+	*	ON	<u></u>		Aì	VID.	<u> </u>	L	*O	FF	Δ	RE	—	ONL	V	Н,	VALID	VX.	I /ITH												+	┢	-	+	1
9	C	*	+	+		ΉA								DS	Γ1.	ILL	—	OINL	7.1	Т	TALID	**	1111												+	┢		1	+
	$\frac{C}{C}$	*	+	+	+		T	Ť	Ť	4.		Ė					—			+			+												+	\vdash		+	+

*ON會重覆'1'到文數字欄位,直到填滿該欄位。

*OFF會重覆 '0' 到文數字欄位,直到填滿該欄

UPDAT-DELET

Form Tyne		Fi	ilenam	ne		C/D B/T/D/F		le I En	Designd of Seq	gnat Fil uer	e	Re	ecord	/R		Record	th of lord A ecord. Type of on or	key f ddre Add of fil Add Overf	essing field or ess Field ress Type e Organiza- litional Are flow Indi- Key Field Starting		Device		Symbolic Device	Labels S/N/NE/M	Name of Label Exit Continuat	S	Extent for D. Storage	AM	t	File	Numl fo	oer of Tor Cylindrical Cylindr	nder ow Extents
						1/O/U/C/D	E S	A/D					Exter	nal R		d Na	<u>⊃</u> ame		Location					K	Option		Ent	•		A/U		R/U/	
F		3 9	10 11	12 13	3 14	15 1	6 17	18	19 2	20 2	1 22 23	24 2	5 26 2	7 28	29 3) 31 .	32 33	34 3	35 36 37 38	39 2	40 41 42 43 44 4	15 46	47 48 49 50 51 52	2 53	54 55 56 57 58 5	9 60	61 62 6	3 64	65	66 6	7 68 69	70 71	/2 //3 //4
		ΙΙ.	ЕХ			UI	F		Е							K	-			H	DISK			1		+			_	+	++	++-	
F						1														Ħ	2 1 2 11												
Trino	Control Level(L0-	L9,LR,SR,AN/OR		Ar	Indi 1d	cate	ors An	d					Fac	tor	1				Operatio	n		Fact	tor 2		Result Name	Fiel	ld Leng	th	Decimal Positions	Half Adjust(H)	Plus 1>2	Compa 1<2	Zero re 1=2
	Cont 7		5 9 10		12 Not	13		You 15	16 1	17	18						27	28		32	33		4	2 4	.3	48	49		25 Deci		Hight		Equal 58
(Ī				ΚЕ	Y						С	НАІ	N	F O R M	Α	T 2	Ī							5 0		
(* I	N	5 0					Ι	F E Q)	' 0 '												
	7)																			T	F O R M	Α	T 2										
	()			Ш	Ш													Е	N D														igsquare
	*	Щ	\perp	Ш	Щ	_	_			4			$\overline{}$					Ļ						4						_			\sqcup
		\vdash	-	Н	${oxed{\square}}$	_	_		\dashv		K E	Y)_					D	ELE	T	F I L E	X		+						_	4 0		\square
	(1)	\vdash	_	Н	${oxed{H}}$	\dashv	\dashv	\dashv	\dashv	4														+						\dashv			+
Ľ	~																																

指令DELET的FACTOR 1如果有填入搜尋KEY則結果欄三燈號(位置54,55)必須填入一個燈號代碼。如果要刪除之資料找不到,則此燈號值就會='1'(ON)否則為'0'(OFF)。

外部宣告檔案用KEY值新增資料

Form Type		Filena	ame		D	F	ile I Er	nd o	igna of Fi que:	rile Fo	Record]	Leng Rec	gth of cord A Record Type ion or	Addr Addr of f r Ad	field or ress Field dress Type ile Organiza- ditional Area rflow Indi- Key Field Starting	ension	Dev	ice	Symbolic Device		Ò	Name of Label Exit Continuati	S	torag	DAM ge Ind		File	Nun	for Cyl Overfi mber of File Rewi	nder ow Extents
		9 10	11 12	13 14		1 P/S/C/R/T/D/F	A/D	ΕΛ		ength 21 22 23	Extern 24 25 26 27			d N	lame	34	Location	39	40 41 42 43	44 45 46	5 47 48 49 50 5	F 52 5	X 53 54	Option 64 55 56 57 58 59		Eı	ntry	4 65				72 73 74
	F I I	. E	X		U	F	+	Е				H		K				-	DISK				+		+				Α	++	+	
F					Ť	1	\top					T		1					2 1 2 1	•									\sqcap	+		
FormType	Control Level(L0-L9,LR,SR,AN/OR	Not	A	Ind Ind And		tors Aı					Fact	or	1				Operation	1		Fac	tor 2			Result l	Fiel	d Len	ıgth	Decimal Positions	Half Adjust(H)	Plus 1>2 Look	Up(Fac	Zero re 1=2 tor 2) is
			10 1			1.4		16	17	10					27	, ,)	22	22			42	12		10	40	<i>E</i> 1	1		High	t Low 56	Equal 58
С	7 8	9	10 1	1 12	13	14	13	10	1 /	10					21	28	<u> </u>	32	33			42	43		48	49	31	32	53	34	30	36
C		╫		+		Н										W	RIT	E	FOF	R M A	T 1	-			_				$\vdash \vdash$			
C		H				Н										Ť			1 0 1	. 1/1 /1	- 1								Н			
С		$\dagger \dagger$				П										T													П			
С																													П			
						-																										
C		口																														

注意:若有新增資料時,檔案描述表格 F SPEC 第66欄一定要打上 'A'。

外部宣告檔案用相關記錄序號方式新增資料(循序方法)

Form Type		F	Filena	ame	:		<u>G/J/N/C/D</u>		ile 1	N/S/M/D/E	igna of F que	ration ile ile ince File Fo	Re L	t ecord ength	ZK ,	'	Le: of R	Recordior Z/M/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/N/	of ke d Add ord A ord A ore of A or A Ov cato	ey fi ddres ddr f fild dddr verfi	essing ield or ss Field ess Typ e Organi itional A low Indi Key Fiel Starting Location	rea g	IDIGID:		Devio	ee		Symbolic Device	X Labels S/N/NE/M	Name Label Cor Opti	Exit	for Stora		[File File	Nun		Tracks inder ow Extents	
6 F	*				2 13			16 1		19	20	21 22 23	24 2	25 26	27 28	3 29	30 3	1 32	33 34	4 3:	5 36 37	38 3				44 45 46	6 47	7 48 49 50 51 52				_		4 65	66	67 68	59 70 71	72 73 74	
F F	F	I L	Е.	X			О			Е													D	I	S K			(K	RECN	10	RRN	1						
Form Tyne	၂၀	∞ L9,LR,SR,AN/OR	6 Not		An	Not		Aı	Not	16	17	18		Fa	ctor	1			27 2		Operat		32 3	33		Fac	toı		2 4	Nan			ngth 51	S Decimal Positions	9 Half Adjust(H)	Plus 1>2 Look High	Arithma S M inus Compa 1<2 Up(Fact Low 56	Zero I = 2 etor 2) is	
C			Ш																_																		 		ı
C			dash	_	_																D D R I	Т	F	<u>l</u>) D	M A	т	T 1	Į F	RRN			2	0	\vdash		+-		l
	_		Н																	vv	IX I	1	E	r v	O K	IVI A	1	1	t					H			+-		İ
C			Н																+				十						T						t		+		l
C																																							ĺ
C			Ш																4				_												_		\bot		l
C			\square		_																		\perp						+					\vdash	_		┼		l
																													+					\vdash	\vdash		+-		ĺ

在檔案描述表格上,當第31欄位留空白時,表示依相關紀錄序號處理。在接續行(CONTINUATION LINE)中RECNO用來定相關記錄序號的欄位名稱(程式中使用),而且定義的相關記錄序號值必須對應到新增資料的序號值。

5.4 檔案控制

檔案控制

 內含
 VS
 直接定義

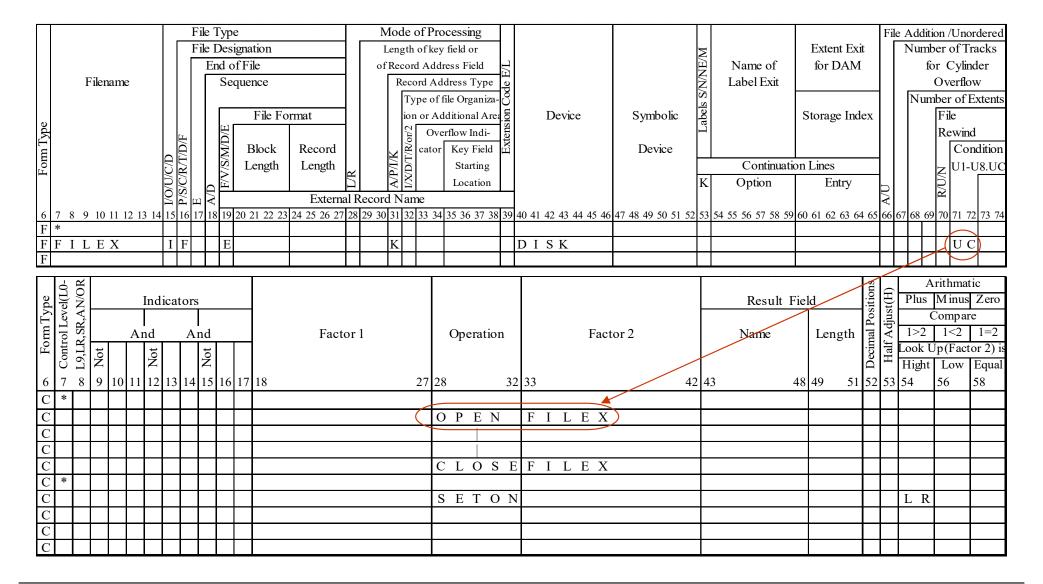
 RPG程式
 程式設計者

 自動開關檔案
 VS
 使用者控制

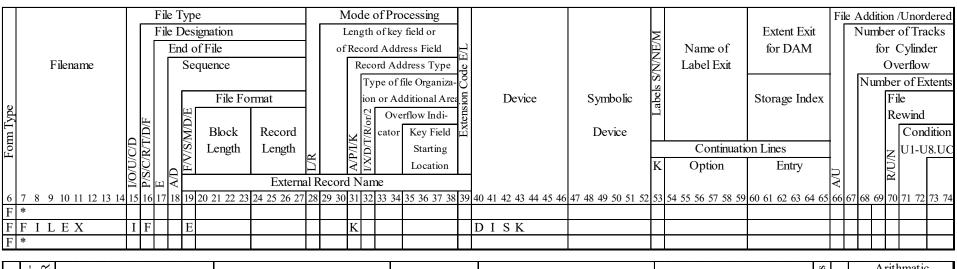
下列狀況採取直接由程式設計者在程式中控制檔案開關較有利:

- 1.檔案只用一次
- 2.檔案數量多時--可降低程式啟動時間
- 3.查詢用的程式只使用許多檔案中的某一個檔案時

OPEN-CLOSE



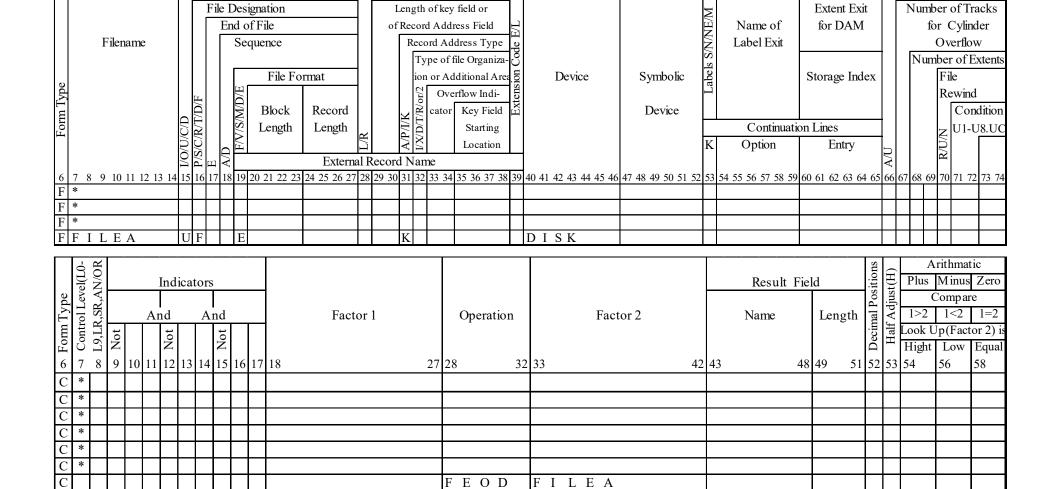
由程式自動開



	Ó	\approx																							ns		A	rithmat	t1C
	Control Level(L0-	N/OR			Inc	lica	tors	;													Result	Fiel	ld		Decimal Positions	Adjust(H)	Plus	Minus	Zero
be a		Ą									1														Pos	ins	(Compar	re
Form Type	ol I	SR.		F	۸nd		A	nd				Fact	or 1		Op	eratio	on	Fac	tor 2		Name		Leng	gth	lal]	Ad	1>2	1<2	1=2
표	ntr	L9,LR,	ot		ot			ot			1				1										cin	Half	Look U	Jp(Fact	tor 2) is
Ро	ပိ	L9	Not		Not			Not																	Ď	ľ	Hight	Low	Equal
6	7	8	9 1	0 1	1 12	13	14	15	16	17	18			2	7 28		32	33	42	2 43		48	49	51	52	53	54	56	58
С	*																									П			
С	*																									П			
С	*																									П			
С															C L	O S	S E	FILEX											
С	*																												
C															O P	E 1	N	F I L E X											
С																										Ш			
C														-					·							Ш			
C																			·							\Box			
C																										Ш			

FEOD

Mode of Processing



File Type

File Addition /Unordered

CLOSE

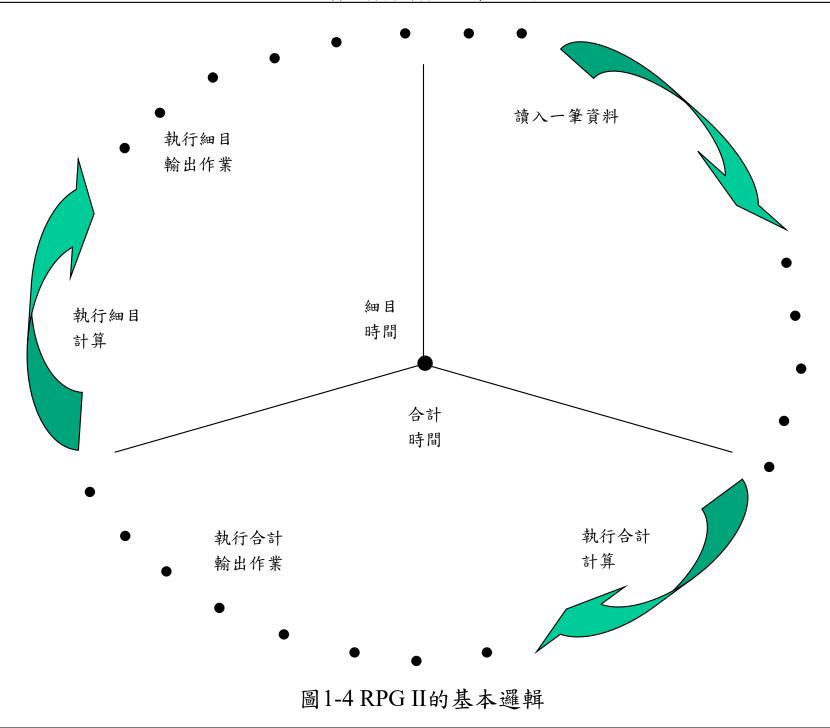
輸出暫存區(OUTPUT BUFFER) 中資料寫入磁碟機中 檔案從程式中切離(即關檔)

VS

FEOD

輸出暫存區(OUTPUT BUFFER) 中資料寫入磁碟機中 檔案中指標移至檔尾 下次讀取資料前狀態成為'檔案尾'

5-4 RPG CYCLE



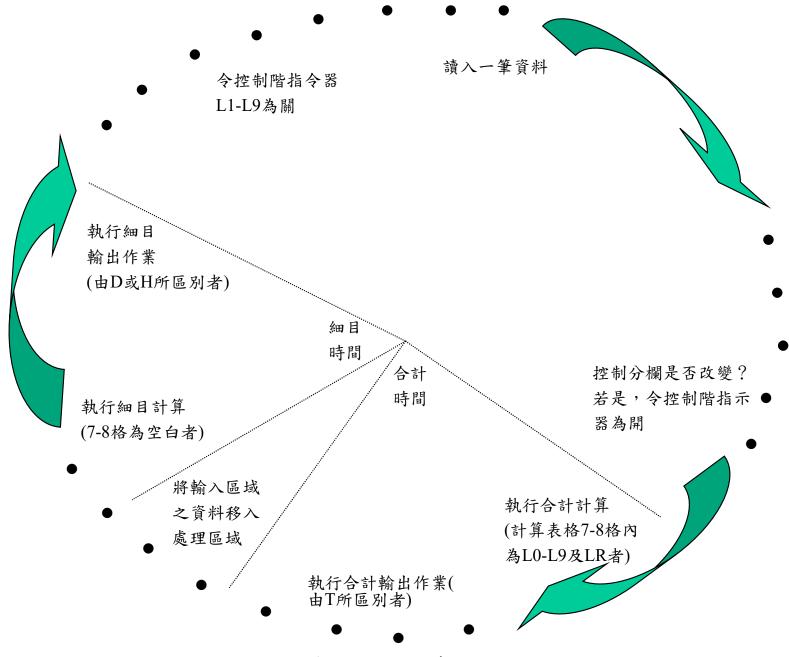


圖1-8在 RPG II 合計及細目時間邏輯裡的各個步驟

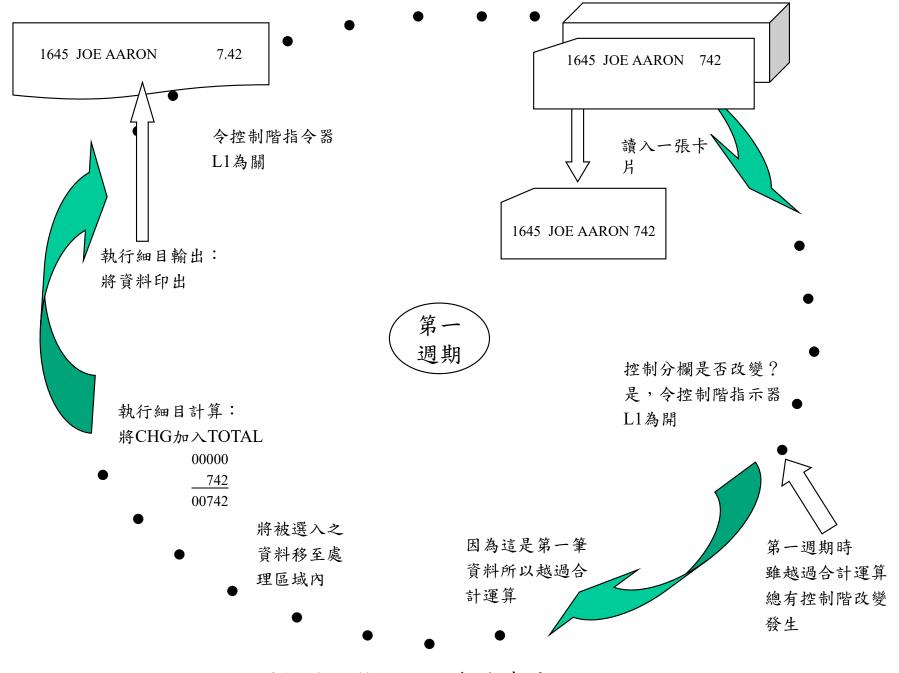
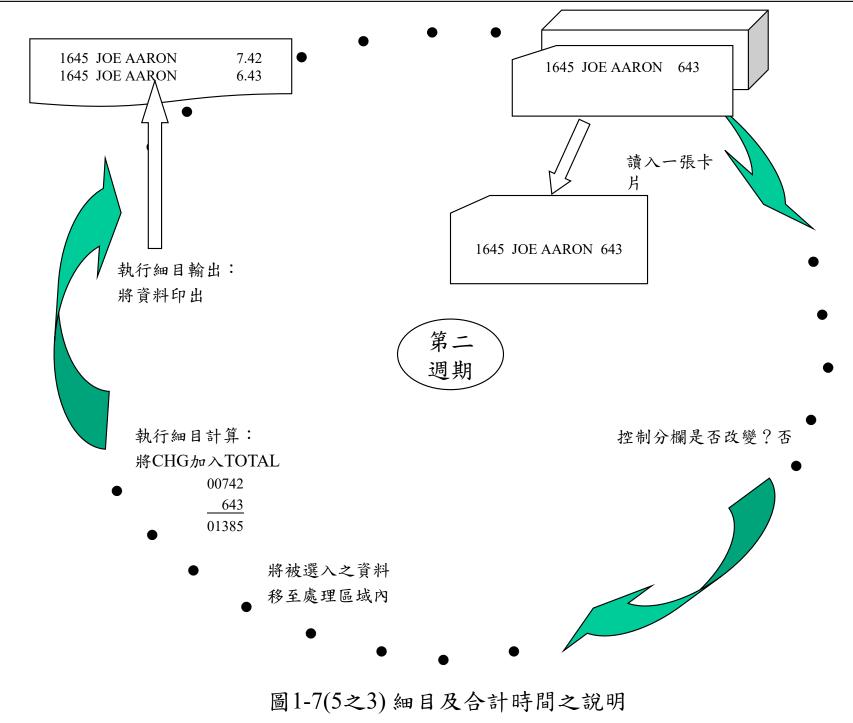
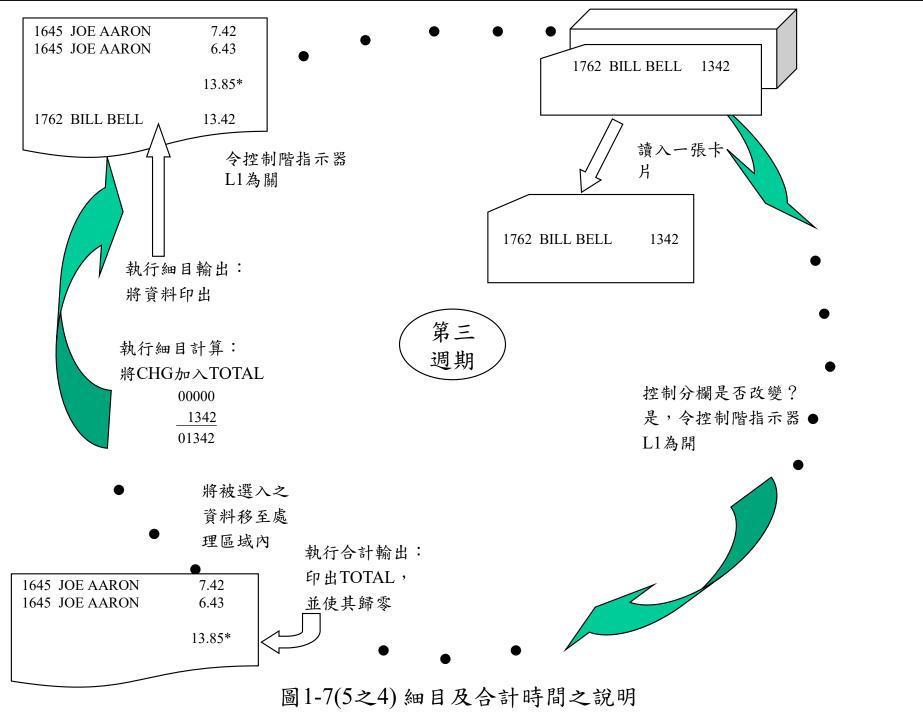


圖1-7(5之2) 細目及合計時間之說明



AS/400 RPG Interactive Programming Workshop



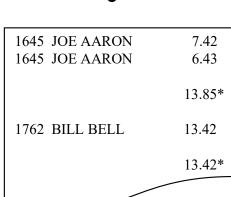
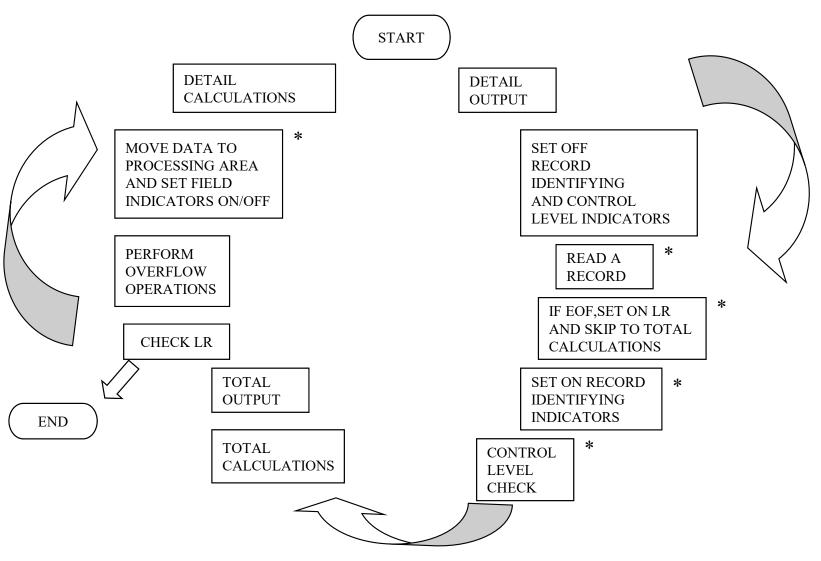


圖1-7(5之5)細目及合計時間之說明

WHAT IS FULL PROCEDURAL PROCESSING?



* STEPS DONE BY PROGRAMMER WHEN USING FULL PROCEDURAL PROCESSING

Full Procedural Processing and the RPG Logic Cycle

```
5 7 3 8 P W 1 V 2 R 1 M 1
                       9 2 0 3 2 7
                                                               SEU SOURCE LISTING
                                          K F P L I B / A R D D S S R C
SOURCE FILE
MEMBER
                                          S T P F
   2 0 0
   3 0 0
   4 0 0
                                                                               UNIQUE
   5 0 0
                 Α
                                  R ST0
                                                             8
   6 0 0
                                      S T 0 1
                                                                               COLHDG('
   7 0 0
                                      S T 0 2
                                                            1 4 0
                                                                               COLHDG('
   8 0 0
                                      S T 0 3
                                                            1 2
                                                                               COLHDG('
                                                                              COLHDG('
   9 0 0
                                      S T 0 4
                                                            1 4 0
                                                                               COLHDG('
 1 0 0 0
                 Α
                                      S T 0 5
                                                            3 0 0
 1 1 0 0
                                  K S T 0 1
```

5 7 3 8 P W 1 V	2 R 1 M 1	9 2 0 3 2 7		S E	U SOURCE LISTIN	G	1
				ARDDSSRC			
			+	3 + .	4 + 5	+ 6 +	. 7 + 8
1 0 0	A * * * *	* * * * * * * * * *	* * * * * * * *	* * * * * * * *	* * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * *	* * *
2 0 0	A *	泛 太 資 訊 科	↓ 技 開 發 F	设份有限公	公司 - 版權所有	T E L: 7 3 1 3 2 5 0	*
3 0 0	A *						*
4 0 0	A *	PROGRAM N	AME : EX	P 0 1			*
5 0 0	A *	DSPF NAME	: E X	P 0 1 D			*
6 0 0	A *	PRTF NAME	: E X	P 0 1 P			*
7 0 0	A *	REMARK	: 學	生 基 本 資	料簡冊		*
8 0 0	* * I	N 3 9	- OVERF	LOW IND.			*
9 0 0	* * I	N 4 5	- END O	F FILE I	ND.		*
1 0 0 0	* * I	N 6 2	- FINIS	FED MESS	AGE		*
1 1 0 0	* * I	N 9 9	- SUBRO	UTINE ER	ROR DETECT & SK	I P CHECK	*
1 2 0 0	* * * *	* * * * * * * * * *	* * * * * * * *	* * * * * * * *	* * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * *	* * *
1 3 0 0	F * F L I	ENAMEIP F.		I	DEVICE+	. KEXIT++ENTRY+A.	U 1
1 4 0 0	FEXP	O 1 D C F E			WORKSTN		
1 5 0 0	FSTPI	IF E		K	DISK		
1 6 0 0	F * F L I	ENAMEIF.		OV	DEVICE		
1 7 0 0	FEXP	0 1 P 0 E		3 9	PRINTER		

```
1 8 0 0
1 9 0 0
2 0 0 0
2 1 0 0
                                                EXSR INIT
                  * INO3 IF SET ON---> END OF JOB
2 2 0 0
2 3 0 0
             C * . N 0 1 N 0 2 N 0 3 F a c t o r 1 + + + O p c d e F a c t o r 2 + + + R e s u 1 t L e n D H H i L o E q C o m m e n t s + + + + + + + +
2 4 0 0
2 5 0 0
2 6 0 0
             C
                                * I N 0 3
                                                DOUEQ'1'
2 7 0 0
                                                EXFMTDSPC1
2 8 0 0
              C
                                                M O V E A * A L L ' 0 '
                                                                       * IN, 60
2 9 0 0
3 0 0 0
                    IF NOT END OF JOB CHECK SCREEN FIELD
3 1 0 0
                                * I N 0 3
                                                IFEQ 'O'
3 2 0 0
3 3 0 0
                                                EXSR CHECK
3 4 0 0
                                                                                                  . C H E C K
                                                       PRINT EXTERNAL PRINTER FILE
3 5 0 0
                    IF NO ERROR OCCURRED,
3 6 0 0
             C *
                                * IN99
3 7 0 0
                                                IFEQ 'O'
3 8 0 0
                                                EXSR PRINT
                                                ENDIF
3 9 0 0
4 0 0 0
             C *
4 1 0 0
                                                ENDIF
             C
                                                ENDDO
4 2 0 0
4 3 0 0
                    LR SET ON END OF FILE
4 4 0 0
4 5 0 0
4 6 0 0
4 7 0 0
4 8 0 0
                                INIT
                                                BEGSR
4 9 0 0
5 0 0 0
                                                MOVE * BLANK
                                                                       D S T 0 1 S
5 1 0 0
                                                MOVE * BLANK
                                                                       D S T 0 1 E
                                                TIME
5 2 0 0
                                                                       H M S D T E 1 2 0
             C
                                                MOVE HMSDTE
5 3 0 0
                                                                       DATE
```

5 7 3 8 P W 1 V 2	R 1 M 1 9 2 0 3 2 7		SEU SOURCE LISTING	
	E		ARDDSSRC	
S E Q N B R *	+ 1 +	2 +	3 + 4 + 5 +	6 .
5 4 0 0	*	_		
5 5 0 0	С .	Е	NDSR	
5 6 0 0	* = = = = = = = =		: = = = = = = = = = = = = = = = = = = =	:====
5 7 0 0	*	C H E C K C	CHECK SCREEN	
5 8 0 0	* = = = = = = = =	= = = = = = = = = = = = = = = = = = = =	: = = = = = = = = = = = = = = = = = = =	:====
5 9 0 0	С *	C H E C K B	BEGSR	
6 0 0 0	·	ALUE TO DE	CIMNING FIELD	
6 1 0 0	* MOVE LOW VA	ALUE IO BE	GINNING FIELD	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	r C		EEO * DIANKS	
6 4 0 0			FEQ * BLANKS 40 VE * LOVAL DST 0 1 S	
6 5 0 0	C I C C		ND	
6 6 0 0	*	L	A N D	
6 7 0 0	* MOVE HIGH V	VALUE TO E	ND FIELD	
6 8 0 0	*	VALUE IO E		
6 9 0 0	C	DST 0 1 E	FEQ * BLANKS	
7 0 0 0	C C		MOVE * HIVAL DST 0 1E	
7 1 0 0	Č		N D	
7 2 0 0	*	_		
7 3 0 0	C	D S T 0 1 S I	FGT DST01E	
7 4 0 0	C I C C		E T O N 6 1 9 9	
7 5 0 0	C	G	GOTO ENDCHK	
7 6 0 0	C	E	ND	
7 7 0 0	*			
7 8 0 0	C F	E N D C H K E	NDSR	

```
7 9 0 0
 8 0 0 0
 8 1 0 0
 8 2 0 0
                                               BEGSR
 8 3 0 0
                * SET THE KEY POINTER
 8 4 0 0
 8 5 0 0
                                DST 01S
 8 6 0 0
                                               SETLISTO
                                               READ STO
                                                                                           4 5
 8 7 0 0
 8 \ 8 \ 0 \ 0
                * WRITE REPORT HEADER
 8 9 0 0
 9 0 0 0
              \mathbf{C}
 9 1 0 0
 9 2 0 0
                                               MOVE DATE
                                                                     SYSDTE
                                                                                              REPORT DATE
                                               WRITEPH1
 9 3 0 0
                * DO LOOP ,
 9 4 0 0
                               READ THE STUDENT DATA FROM STPF AND WRITE TO
                                                                                                    PRINTER FILE
 9 5 0 0
 9 6 0 0
                                * I N 4 5
                                               DOWEQ' 0'
                                S T 0 1
 9 7 0 0
                                               ANDLEDST 0 1 E
 9 8 0 0
                                                                                                                 ILE
                * OVERFLOW
                                满翻頁行數,列印表頭
 9 9 0 0
1 0 0 0 0
                                * I N 3 9
                                              I F E Q' 1'
1 0 1 0 0
              \mathbf{C}
                                               WRITEPH1
1 0 2 0 0
1 0 3 0 0
                                               SETOF
                                                                                           3 9
              C
1 0 4 0 0
                                               E ND
1 0 5 0 0
                                               WRITEPD01
1 0 6 0 0
```

5 7 3 8 P W 1	V 2R 1M 1	9 2 0 3 2 7	S E U	S O U R C E L I S T	ING
SEQNBR*	+ 1	+ 2	+ 3 +	4 +	5 + 6
1 0 7 0 0	C		READ STO		4 5
1 0 8 0 0	C		ENDDO		
1 0 9 0 0	*				
1 1 0 0 0	* WRI	TE REPORT END	LINE AND DSPL	LAY FINISHED	MESSAGE
1 1 1 0 0	*		WRITEPE 1		
1 1 2 0 0	C				
1 1 3 0 0	*				
1 1 4 0 0	*		ENDSR		
1 1 5 0 0	C				
			* * * * E N	N D O F S	O U R C E * *

```
5 7 3 8 W 1 V 2 R 1 M 1
               9 2 0 3 2 7
                                          SEU SOURCE LISTING
SOURCE FILE . . . . . .
                            KFPLIB/ARDDSSRC.
MEMBER
                            EXP01P
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+...
  1 0 0
  2 0 0
           A *
                  泛太資訊科技開發股份有限公司 - 版權所有
                                                          TEL: 7313250
  3 0 0
           A *
  4 0 0
           A *
                 DSPF NAME
                             : EXP01D
  5 0 0
           A *
                 PROGRAM NAME : EXP01
  600
           A *
                  R EMARK
                               : 學生基本資料簡冊
  700
  800
                                                    REF(*LIBL/STPF)
           Α
  900
                                                    PRINT
           Α
 1 0 0 0
           Α
                       R DSPC1
 1 1 0 0
               91/05/23 14:22:47
                                      ETPGMR
                                                   REL-R03M00 5728-PW1
 1 2 0 0
                                                    OVERLAY
           Α
 1 3 0 0
                                                    CA03(03 ' 結 東 執 行 ')
           Α
 1 4 0 0
           Α
                                                   2' < EXP01D > '
 1 5 0 0
           Α
                                                1 65' 日期:'
                         DATE
                                         6 Y 0 O
 1600
           Α
                                               1 73 EDT CDE (Y)
 1700
                                                2 29' 學生資料簡冊列印'
           Α
                                                8 26' 學生編號:'
 1800
           Α
 1900
                         DST01S
                                   R
                                                8 38REFFLD(ST01)
           Α
           Α
 2000
              6 1
                                                    DSPATR (RI)
 2 1 0 0
           Α
              6 1
                                                    ERRMSG(' 起始值大於終止值' 61)
                                                8 47' ~ '
 2 2 0 0
           Α
                         DST01E
 2 3 0 0
           Α
                                   R
                                             B 852REFFLD(ST01)
              6 1
 2 4 0 0
                                                    DSPATR (RI)
              6 1
                                                    ERRMSG(' 起始值大於終止值' 61)
 2 5 0 0
           Α
                                               21 26'*** 請準備 8 0 格報表紙 ****
 2600
           Α
                                                    DSPATR(HI)
 2700
           Α
 2800
           Α
                                                   2'PF3= 回主畫面'
                                                       【泛太資訊】
 2800
           Α
                                               24 66'
                                           END OF SOURCE * * * *
```

SOURCE FILE	5 7 3 8 PW 1	V 2 R 1 M 1	9 2 0 3 2 7	327 SEU SOURCE LISTING				1		
100 A***********************************						DSSR	.C .			
200 A* 泛太資訊科技開發股份有限公司-版權所有 TEL:7313250 * 300 A*		+	1+2	+ .	3	+		4 + 5 +	. 6 +	7 + 8
300 A*	1 0 0	A * * *	* * * * * * * * * * * *	* * * * *	* * * * *	* * * *	* * * *	* * * * * * * * * * * * * * * * * * *	* * * * * * * * * * *	*
## PRTF NAME : EXP01P	2 0 0	A *	泛太資訊科	技開	發 股 份	有 限	公司	- 版 權 所 有 TEL	.: 7 3 1 3 2 5 0	*
************************************	3 0 0	A *								*
600 A* REMARK : 學生基本資料簡冊 * 700 A***********************************	4 0 0	A *	PRTF NAME	:	EXP01	P				*
700	5 0 0	A *	PROGRAM NA	ME :	EXP01					*
REF(*LIBL/STPF) 900 A R PH1 SKIPB(2) 1000 A 34' 學生基本資料簡冊' 1100 A SPACEA(2) 1200 A DST01S R +1REFFLD(ST01) 1400 A DST01E R +0' ~ ' 1500 A DST01E R +0REFFLD(ST01) 1600 A SYSDTF 6 0 +1EDTCDE(Y) 1800 A SYSDTF 6 0 +1EDTCDE(Y) 1800 A +1' 頁次:' 1900 A SYSDTF 6 0 +1PAGNBR EDTCDE(Z) 2000 A +1TIME 2300 A +2' <expo1p>' 2400 A SPACEA(1) 2500 A SPACEA(1) 1'===================================</expo1p>	6 0 0									*
900 A R PH1 SKIPB(2) 1000 A 34'學生基本資料簡冊' 1100 A SPACEA(2) 1200 A DST01S R +1REFFLD(ST01) 1400 A DST01E R +0refflow (ST01) 1600 A SYSDTF 6 0 +1EDTCDE(Y) 1800 A SYSDTF 6 0 +1PAGNBR EDTCDE(Z) 2000 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1) 2100 A SPACEA(1)	7 0 0	A * * *	* * * * * * * * * * *	* * * * *	* * * * *	* * * *	* * * *	* * * * * * * * * * * * * * * * * *	* * * * * * * * * * * *	*
1000 A 1100 A 1100 A 1100 A 1200 A 1' 學生編號:' 1300 A DST01S R +1REFFLD(ST01) +0' ~ ' 1500 A DST01E R +0REFFLD(ST01) 1600 A SYSDTF 6 0 +1EDTCDE(Y) 1800 A +1' 頁次:' 1900 A +1PAGNBR EDTCDE(Z) 2000 A 2100 A 2200 A 2200 A 2300 A 2400 A 2500 A	8 0 0	A						REF(*LIBL/STP	'F)	
1100 A 1200 A 1300 A 1400 A 1500 A 1500 A 1500 A 1600 A 1700 A 1800 A 1900 A 2000 A 2100 A 2200 A 2300 A 2400 A 2500 A	900	A	R PH1					SKIPB(2)		
1200 A 1300 A 1400 A 1500 A 1500 A 1500 A 1700 A 1700 A 1800 A 1900 A 2000 A 2100 A 2200 A 2300 A 2400 A 2500 A 11 ** ** 12 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 ** ** 10 **	1000	A						34' 學 生 基 本 資 米	斗 簡 冊 '	
1300 A DST01S R +1REFFLD(ST01) 1400 A DST01E R +0REFFLD(ST01) 1500 A DST01E R +0REFFLD(ST01) 1600 A 52' 日期:' 1700 A SYSDTF 60 +1EDTCDE(Y) 1800 A +1PAGNBR EDTCDE(Z) 2000 A SPACEA(1) 2100 A 52' 時間:' 2200 A +1TIME 2300 A +2' < EXP01P>' 2400 A 2500 A	1 1 0 0	A						SPACEA(2)		
1400	1 2 0 0	A						1' 學生編號:'		
1500 A DST01E R +0REFFLD(ST01) 1600 A 52' 日期:' 1700 A SYSDTF 6 0 +1EDTCDE(Y) 1800 A +1' 頁次:' 1900 A +1PAGNBR EDTCDE(Z) 2000 A SPACEA(1) 2100 A 52' 時間:' 2200 A +1TIME 2300 A +2' < EXP01P>' 2400 A SPACEA(1) 1'===================================	1 3 0 0	A	DST	0 1 S	R			+1REFFLD(ST01)		
1600 A 1700 A SYSDTF 600 +1EDTCDE(Y) 1800 A H1' 頁次:' 1900 A SPACEA(1) 2100 A 52' 日期:' 1 PAGNBR EDTCDE(Z) SPACEA(1) 52' 時間:' +1 TIME 2300 A +1 TIME 2300 A SPACEA(1) 1'===================================	1 4 0 0	A						+0'~~'		
1700 A SYSDTF 6 0 +1EDTCDE(Y) 1800 A +1' 頁次:' 1900 A +1PAGNBR EDTCDE(Z) 2000 A SPACEA(1) 2100 A 52' 時間:' 2200 A +1TIME 2300 A +1TIME 2300 A SPACEA(1) 2100 A SPACEA(1) 1'===================================	1 5 0 0	A	DST	0 1 E	R			+ 0 R E F F L D (S T 0 1)		
1800 A 1900 A 2000 A 2100 A 2200 A 2300 A 2400 A 2500 A 1'====================================	1600	A						5 2 ' 日期:'		
1900 A +1 PAGNBR EDTCDE(Z) 2000 A SPACEA(1) 2100 A 52'時間:' 2200 A +1TIME 2300 A +2' <expoip>' 2400 A SPACEA(1) 1'===================================</expoip>	1700	A	SYS	DT F		6	0	+ 1 EDTCDE(Y)		
2000 A 2100 A 52'時間:' 1TIME 2300 A 2400 A 2500 A 1'====================================	1800	A						+1' 頁次:'		
2000 A 2100 A 52'時間:' 1TIME 2300 A 2400 A 2500 A 1'====================================	1900	A						+1 PAGNBR EDTCDE	E(Z)	
2 2 0 0 A + 1 T IME 2 3 0 0 A + 2 ' < EXP 0 1 P > ' 2 4 0 0 A S PACEA (1) 2 5 0 0 A 1 ' =================================	2000	A								
2 2 0 0 A + 1 T IME 2 3 0 0 A + 2 ' < EXP 0 1 P > ' 2 4 0 0 A S PACEA (1) 2 5 0 0 A 1 ' =================================	2 1 0 0	A						52' 時間:'		
2 4 0 0 A S P A C E A (1) 2 5 0 0 A 1 ' ===================	2 2 0 0	A						* * *		
2 4 0 0 A S P A C E A (1) 2 5 0 0 A 1 ' ===================	2 3 0 0	A						+2' <exp01p>'</exp01p>		
2 5 0 0 A 1 ' =================================		A						SPACEA(1)		
		A						, ,	:====+	
	2600	A						=========	:====+	
2 7 0 0 A ===============================		A						=========	=====+	
2 8 0 0 A ===============================	2800	A						========	======'	

2900	A			SPACEA(1)
3 0 0 0	A			1' 學 生 編 號 '
3 1 0 0	A			11' 學 生 姓 名 '
3 2 0 0	A			30'電話'
3 3 0 0	A			50' 連絡人'
3 4 0 0	A			SPACEA(1)
3 5 0 0	A			1'地""
3 6 0 0	A			S PACEA(1)
3 7 0 0	A			1'===========+
3 8 0 0	A			=========+
3 9 0 0	A			=========+
4 0 0 0	A			=======================================
4 1 0 0	A			SPACEA(1)
4 2 0 0	A *			
4 3 0 0	A	R PD01		SPACEA(1)
4 4 0 0	A	ST 02	R	2
4 5 0 0	A	ST 03	R	1 1
4 6 0 0	A	ST 04	R	3 0
4 7 0 0	A	ST 05	R	5 0
4 8 0 0	A			SPACEA(1)
4900	A	ST 05	R	2
5 0 0 0	A *			
5 1 0 0	A	R PE1		
5 2 0 0	A			1'=========+
5 3 0 0	A			=========+

5 7 3 8 W 1 V 2 R 1 M 1 9 2 0 3 2 7 SEU SOURCE LISTING SOURCE FILE KFPLIB/ARDDSSRC. MEMBER E X P 0 1 P SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 5 4 0 0 Α 5 5 0 0 A 5 6 0 0 A SPACEA(2) 2' 報表結束' 5 7 0 0 A

<EXP01D>

學生資料簡冊列印

日期:10/30/92

學生編號:F000001~F9999999

*** 請準備80格報表紙 ***

PF3=回主畫面

【泛太資訊】

學生基本資料簡冊

 學生編號: F00000001 ~ F9999999
 日期: 10/30/92 頁次: 1時間: 17:45:58 <EXP01P>

 學生編號: 學生姓名
 電話
 連絡人

 地
 址

 F921029 李木達
 02-331-1234 李水嚴

 台北市三水街33號
 02-222-2213

 周月眉

新竹市東城街123巷123號

報表結束

5 7 3 8 PW 1	V 2 R 2 M 0	9 2 0 6 1 5	SE	U SOUR	CE LISTING
SOURCE F	ILE	RPGI	LIB/QRPGSRC		
MEMBER		PODE	ET P		
SEQNBR*.	+ 1	+ 2 +	3 + .	4 .	+ 5+ 6+ 7+
1 0 0	A				REF(APFLDREF)
200	A	R ORDDTL			TEXT('PO LINE ITEM RECORD')
3 0 0	A	PORNBR	6	0	TEXT ('PURCHASE ORDER NUMBER')
4 0 0	A				COLHDG('PURCHASE' 'ORDER' 'NUMBER')
4 0 1	A	I TMNBR	5	0	TEXT ('ITEM NUMBER')
402	A				COLHDG('ITEM' 'NUMBER')
4 0 3	A	ITMDSC	2 5		TEXT('ITEM DESCRIPTION')
4 0 4	A				COLHDG('ITEM' 'DESCRIPTION')
900	A	QTYORD	5	0	TEXT('ITEM ORDERED QUANTITY')
1000	A	•			COLHDG('ITEM' 'ORDERED' 'QUANTITY')
1 1 0 0	A	K PORNBR			
1 2 0 0	A	K ITMNBR			

* * * * E N D O F S O U R C E * * * *

* * PURCHASE ORDER DETAIL REPORT * *

= = = = = = = = = = = = = = = = = = =	= = = = = = = = = = = = = = = = = = =	= = = = = = = = = = = = = = = = = = =	ORDER QUANTITY
			ORDER QUANTITI
1 0 0 0 0 0	0 0 0 0 1	C U P - 1	2 5
1 0 0 0 0 0	0 0 0 0 1	C U P - 1	2 3
	0 0 0 0 1	C U P - 1	4 5
	BTOTAL :		9 3
1 0 0 0 0 0	0 0 0 0 2	CUP - 2	3 0
SUE	BTOTAL :		3 0
	0 0 0 0 3		7 8
	BTOTAL :		7 8
ТОТ	ΓA L :		2 0 1
2 0 0 0 0 0	0 0 0 0 5	C U P - 5	4 5
		C U P - 5	6 7
2 0 0 0 0 0	0 0 0 0 5	C U P - 5	7 8
	BTOTAL :		1 9 0
	Г А L :		1 9 0
	0 0 0 0 7		6 7
	BTOTAL :		6 7
3 0 0 0 0 0	0 0 0 0 8	CUP - 8	4 5
	BTOTAL :		4 5
	ΓAL :		1 1 2
G R A	ANT TOTAL	:	5 0 3

0 4 / 1 2 / 9 5	1 2 : 0 1 : 5 9		P A G E 1
ORDER NO.	ITEMNO.	ITEM DESC.	QUANTITY
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 1	C U P - 1 C U P - 1 C U P - 1	2 5 2 3 4 5
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2 3	C U P - 2 C U P - 3	3 0 7 8
$egin{array}{cccccccccccccccccccccccccccccccccccc$	5 5 5	C U P - 5 C U P - 5 C U P - 5	4 5 6 7 7 8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7 8	C U P - 7 C U P - 8	6 7 4 5
* * * E N	D O F R	E P O R T * * *	

```
5 7 3 8 P W 1 V 2 R 2 M 0
                    9 2 0 6 1 5
                                                   SEU SOURCE LISTING
SOURCE FILE . . . . . .
                                  RPGLIB/QRPGSRC
MEMBER
                                  PORPT
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7...+...
                                                                REF (APFLDREF)
  1 0 0
                            R P H 1
                                                                SKIPB(2)
  2 0 0
              Α
                                                              20'**PURCHASE ORDER DETAIL REPORT *
  3 0 0
  4 0 0
  4 0 1
  4 0 2
  4 0 3
  4 0 4
                                                                 SPACEA(1)
                                                                    PO NO.
                                                                              ITEN NO.
  4 0 5
                                                                                ORDER QUANTITY
  4 0 6
  4 0 7
                                                                 SPACEA(1)
  4 0 8
              Α
  4 0 9
  4 1 0
                                                                SPACEA(1)
  4 1 1
                             R P D 1
                                                                SPACEA(1)
  5 0 0
  5 0 1
                                PORNBR
  5 0 3
                                ITMNBR
                                            R
                                                              + 3
  5 0 4
                                ITMDSC
              Α
  5 0 5
              Α
                                QTYORD
                                                              + 6 E D T C D E ( 1 )
```

```
6 0 3
             Α
6 0 4
                                                                         SPACEA(1)
             Α
6 0 5
                                                                      10'SUBTOTAL: '
             Α
                                 STOT
                                                                      5 3 E D T C D E ( 1 )
                                                            0
0 \ 0 \ 0
             Α
                                                                         SPACEA(1)
1 0 0
             Α
                              R PT2
2 0 0
             Α
3 0 0
             Α
4 0 0
             Α
5 0 0
                                                                         SPACEA(1)
             Α
                                                                      10'SUBTOTAL: '
5 0 1
             Α
6 0 0
                                 T T O T
                                                                      5 3 E D T C D E ( 1 )
                                                             0
             Α
                              R PE1
7 0 0
             Α
                                                                         SPACEA(1)
8 0 0
             Α
9 0 0
             Α
0 0 0
             Α
                                                                         SPACEA(1)
1 0 0
             Α
1 0 1
                                                                      10'GRANT TOTAL : '
             Α
                                 GTOT
2 0 0
                                                                      5 3 E D T C D E ( 1 )
             Α
                                                             0
                                                                              S O U R C E
                                                           E N D
                                                                      O F
```

5738PW1 V2R2M0 920615

SEU SOURCELISTING

SOURCE MEMBER	FILE RPC	GL I B / QR PG SR C GT ST	
SEQNBR*	· · · + · · · 1 · · · + · · · 2 · ·	•+••• 4 ••	·+··· 5 · · · + · · · 6 · · · · + · · · 7 ·
200	FPODETP IP E	K DI SK	
2 0 1	F POR PT O E	39 PRIN	TER
202	I ORDDTL		
2 0 3	I		PORNBRL 2
2 0 4	I		I TMNBRL 1
3 0 0	C * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *
4 0 0	C *	MAIN ROUTINE	
5 0 0	C * * * * * * * * * * * * * * * * * * *	******	* * * * * * * * * * * * * * * * * * * *
600	C N 1 0	EXSR INIT	
7 0 0	C	ADD QTYORD S	TOT SUBTOTAL
7 0 1	C	ADD QTYORD T	TOT TOTAL
7 0 2	C	ADD QTYORD G	TOT GRANTTOT
7 0 3	C*OVERFLOW		
7 0 4	C * I N 3 9	IFEQ '1'	
7 0 5	C	EXSR HEAD	
7 0 6	C	END	
707	C *		
8 0 0	C	WRITEPD1	
900	CL 1 10	EXSR SUBL 1	
1 0 0 0	CL 2 10	EXSR SUBL 2	
1 1 0 0	CLR	WRITEPE1	END OF REPRT

1101	C * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *
1101	C *	INIT SUBROUTINE
1102	C * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *
1103	C INIT	BEGSR
1104	C	EXSR HEAD
1105	C	SETON 10
1100	C	E N D S R
1107	C * * * * * * * * * * * * * * * * * * *	ENDSK ************************************
1108	C	HEAD SUBROUTINE
11109	C * * * * * * * * * * * * * * * * * * *	ΠΕΑD SUBRUULINE ************************************
1110	C HEAD	B E G S R
1111	C HEAD	WRITEPH1
1112	C	SETOF 3 9
	C	
1114		ENDSR
1115	C * * * * * * * * * * * * * * * * * * *	CUDI 1 CUDDOUTINE
1116		SUBL1 SUBROUTINE
1117	C * * * * * * * * * * * * * * * * * * *	
1200	C SUBL 1	BEGSR
1300	C	WRITEPT1
1400	C	Z-ADD0 STOT
1500	C	ENDSR
1600	C * * * * * * * * * * * * * * * * * * *	
1700	C	SUBL 2 SUBROUTINE
1800	C * * * * * * * * * * * * * * * * * * *	
1900	C SUBL 2	BEGSR
2000	C	WRITEPT2
2100	C	Z-ADDO TTOT
2200	C	E N D S R

* * * E N D O F S O U R C E * * * *

第六章:資料結構及 Array & Table 介紹

單元內容

本單元將介紹資料結構的多種用法。一開始針對資料結構在1卡上的定義及起始值設定,以及基本資料結構的重新定義,結合及分割欄位的規則,建立副程式參數組合等。

單元目標

撰寫程式碼,使用基本資料結構組合或重定義。 修改有呼叫副程式之程式,使用資料結構的方式定義參數組合。 使用資料結構存取資料區的資料。 Array & Table 介紹

陣列型態 (ARRAY TYPE)

執行時才輸入資料之陣列 (Run-time ARRAY) 編譯時即放入資料之陣列 (Compile-time ARRAY)

執行時才輸入資料之陣列 (RUN-TIME ARRAY)

Line	Form Type		ſ	Number of the Chaining File From Filename	To Filename	Table or Array Name	of Entries Per	Number of Entries Per Table or Array	Length of Entry	P/B/L/R Decimal Positions	Sequence(A/D)	Table or Array Name (Alternation Format)	Length of Entry	P/B/L/R	Sequence(A/D)	Commants
1	Е		8	9 10 11 12 13 14 15 16 17 18		27 28 29 30 31 32 A R R	33 34 35									58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
3 4	E E E	l L				表示陣	列元	素	陣	<u></u> 列子	- 元	素				
5 6 7	E E E					— 總個數	-		長	度						
8 9 0	E E E															

編譯時即放入資料之陣列 (COMPILE-TIME ARRAY)

Line	Form Type			nce of the Chaining File ber of the Chaining Field From Filename	To Filename	Α	Table or Array Name	of Entries Per	Number of Entries Per Table or Array	Length of Entry	P/B/L/R	Decimal Positions	Table or Array Name (Alternation Format)	e I	ength of Entry	P/B/L/R	Sequence(A/D)	Commants
3 4 5	6	7 8	9 10	11 18	19 26	27	32	33 35	36 39	40 42	2 43	44 4	5 46	51 52	2 53 54	55 5	56 57	58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
1	Е					A	R C	6	1 2	3								
2	Е																	
3	Е						□表示	程式	尾之資	料								
4	Е									. T I								
5	Е						╣ 毎行	數6個	固									
6	Е								(ELEM									
7	Е						一件列	儿系	(CLEMI	cni)								
8	Е						_											
9	Е																	
0	Е																	

** ▼ 程式最後面第一、二欄位打上 '**' 第三欄留空 111222333444555666 777888999AAABBBCCC

上述之陣列如下:

111	222	333	444	555	666	777	888	999	AAA	BBB	CCC
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

執行時才輸入資料之陣列

(RUN-TIME ARRAY)

E	1	Recor	d Seque	ence of the Chaining File			Number	Number		Suc	(Table or		, unc) ((
	vpe		Nun	ber of the Chaining Field	To Filename	Table or	of Entries	of Entries		ᆜᆫ	11 22 1	Array Name (Alternation	Length of		nce(A/I	Commants
Line	Form T			From Filename		Array Name	Per Record	Per Table or Array	Entry	P/B/ Decimal	Sequer	Format)	Entry	P/B/L/I	Seque	
3 4	5 6	7 8	9 10	11 18	19 26	27 32	33 35	36 39	40 42	43 44	4 45	46 51				58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
1	Е					ARRX		1 2	1 1	2	Γ	•				
2	Е															

C		Control Level (L0-L9,																			ıs			rithmat	ic
		vel (L0-L AN/OR)	5		I	ndi	cator	s										Result	Fiel	ld	Decimal Positions	Half Adjust (H)	Plus	Minus	Zero
	e c	evel A N									,										Pos	ljus	(Compar	re
Line	Ty_1	ol Le SR	4		And	d	A	١nd			Factor 1		Operation	1		Factor 2		Name		Length	mal	fΑ	1>2	1<2	1=2
	orm	ntro I.R	Not			Not		Not)eci	Hal	Look U	Jp(Fact	or 2) is
																							High		Equal
4 5	-	_	9	10	11 1	12 1	13 14	4 15	16	17	18 2	27 28	3	32	33	42	43		48	49 5	1 52	53	54	56	58
1		*										_													
2	C	*	陣	7	列	並	<u> </u>	用		殳	陣 列 加 總	4									_				
3	C	*	_		_	4	_	+			W E W	1	N TT A T	> T	C 4 I E	D					+		4 0		
4	C					+	-				K E Y				S A L E	K					+		4 0		
5 6	C		+		-	+	+	-			* I N 4 0		FEQ		S A L E	1	۸	R R X, 1			+				
7	C C	+	+		+	+	+	+				1/2	- A D	고 다	S A L E	2		R R X, 1			+				
8	C		+		-	+	+	+				+	A D		• · ·		А	K K A, 2			╁	H			
9	C		+			$^{+}$	+					+			•						+	H			
0	С					1	+					17	A D	D	S A L E	1 2	Α	R R X, 1	2						
$\begin{vmatrix} 1 \\ 1 \end{vmatrix}$	C					1	\top						ENDI		<u> </u>			11 11 12, 1	_		1	H			
2	С	*	年	仓	消	售	恕	悤	額	_	- 12 個 月 累 計														
3	С			Πĺ	Ī	Ī		Ĭ			74 27	Х	K F O O	Т	A R R X		S	A L A M	Τ	1 3	2				
4	С																								
5	С																								
6	C																								
7	C																								
8	C		L	Щ						Ш		\perp						_				Ш			
9	C	\perp	\perp	\sqcup		\perp						\perp									\perp	Ш			
0	C																								

編譯時即放入資料之陣列的運用

(COMPILE-TIME ARRAY)

Line Line		Number of the Chaining Field From Filename	To Filename	Table or Array Name	of Entries Per	Number of Entries Per Table or Array	Length of Entry	P/B/L/R Decimal Positions	Sequence(A/D)	Table or Array Name (Alternation Format)	Length of Entry	P/B/L/R	Sequence(A/D)	Commants
3 4 5 6	7 8 9	10 11 18	19 26	27 32	33 35	36 39	40 42	43 44	45	46 51	52 53 54	55 5	6 57	58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
1 E	3			M S G	1	3	2 0							
2 E	E													

C		-L9,																				SI		A	rithmat	ic
) [C				Indi	cato	ors										Result	Fiel	ld		Positions	djust (H)	Plus	Minus	Zero
	ьe	evel AN																				Pos	djus	(Compar	e
Line		ol Lo SR.			Aı	nd		An	d			Factor 1		Operation	Factor	2		Name		Len	gth	<u>a</u>	If A	1>2	1<2	1=2
	Form	Control L LR. SR	Not			Not			Not													Dec	Half		Jp(Fact	
																								High		Equal
4 5	6	7 8	9	10	11	12	13	14 1	15 1	16	17	18 2	27	28 32	33	42	43		48	49	51	52	53	54	56	58
1	C	*																								
2	C	*	檔	案〕	資制	斗不	存	在	,將	多評	息	【陣列中之資料送到螢幕】	畫	面訊息欄	(SCRM SG)											
3	C	*																								
4	C											K E Y		C H A I N	F I L E									4 0		
5	C											* I N 4 0		I F E Q	' 1 '											
6	C													M O V E	M S G , 1		S	C R M S	G							
7	С													E N D I F												
8	C																									
9	C																									
0	C																									

**

資料不存在 資料KEY值重覆 資料輸入錯誤

對照表(TABLE)的運用

Line 3 4 5	Form Type	7 8	Nur	mber		e Ch	ainin	ng Fie	ld 18 1		Го	Filen	ame			le or Name	Numb of Entri Per Reco	ies r I	or A	f ries Table array	Leng of Ent	ry §	43 4	A Sequence(A/D)	46	Table or Array Name (Alternation Format)	F			Sequence(A/D)		60 6	51 62 (nıma		70 71	72 73 74
C		(L0-L9,	(ATA)		I	ndi	cato	rs																						Res	ult F	ield			itions	t (H)		rithma M inus	tic Zero
Line	Form Type	Control Level (L0-L9,	7		And	d		And						Fact	or 1			Op	erati	on				I	Fac	ctor 2			N	lame	e		Leng	th	Decimal Positions	Half Adjust (H)	1>2	Compa 1<2	re 1=2
			Z			Not		Not																												l	High	Low	tor 2) is Equal
4 5	6		9	10	11 1	12 1	13 1	4 15	16	5 17	18						27 28			32	2 33						42	43				48 4	.9	51	52	53	54	56	58
	C		4.1	Щ	2 =			-brite \																								_							
$\begin{bmatrix} 2 \\ 3 \end{bmatrix}$	C C		找	容」	2 他	引月 「	的	英 5	て 間	1 舄	ı -										T											+							
4	C							-	+		М	0	N	T F	I		T	Ω	K	U P	Т	Δ	R	Δ				Т	A I	R		+							2 5
5	С			$\vdash \vdash$	\dashv	+	+		+	+		I							E		1	1	<u>, , , , , , , , , , , , , , , , , , , </u>	. 1				1	4 1 1	, Б		+				1			2 3
6	С			H	\dashv	T	\dagger		t										V	•	Т	A]	В	В				M	O 1	I A	M	Е		4		7			
7	С																Е	N	D																				
8	С																																						
9	С			Щ	\downarrow		\perp		\perp								\perp															\perp							
0	C							- 1	1																			1										I	

01JAN.02FEB.03MAR.04APR.05MAY.06JUN.

07JUL.08AUG.09SEP.10OCT.11NOV.12DEC.

對 照 表 TABLE

對照表特性

1. 定義:TABLE名稱前三碼必須是'TAB'

2. 可運用的型態:編譯時即放入資料

(Compile-Time)

3. 操作指令:LOKUP

資料結構概念和定義 (DATA STRUCTURE CONCEPTS AND DEFINITION)

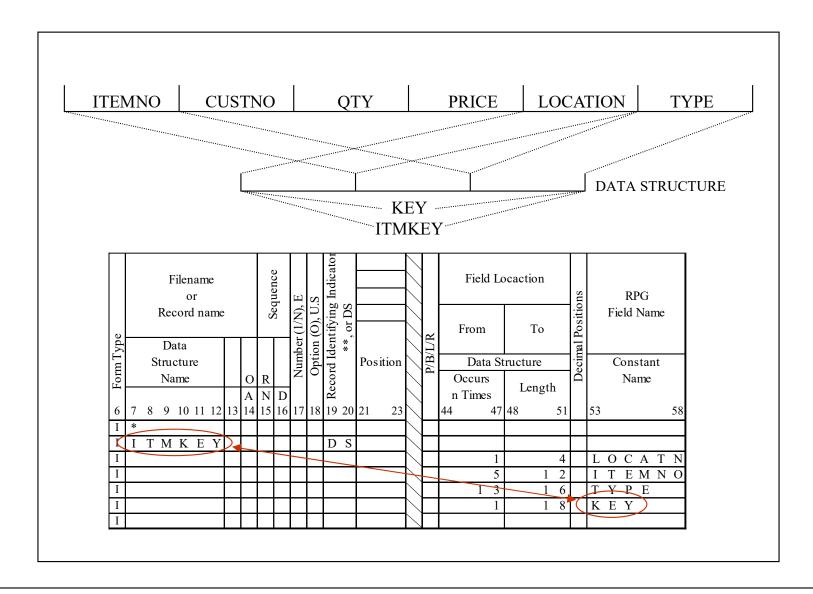
資料結構的特性

儲存區(STORAGE AREA) 程式建立 重新定義欄位空間 程式內部使用欄位之處理 文字字串處理 空白起始設定

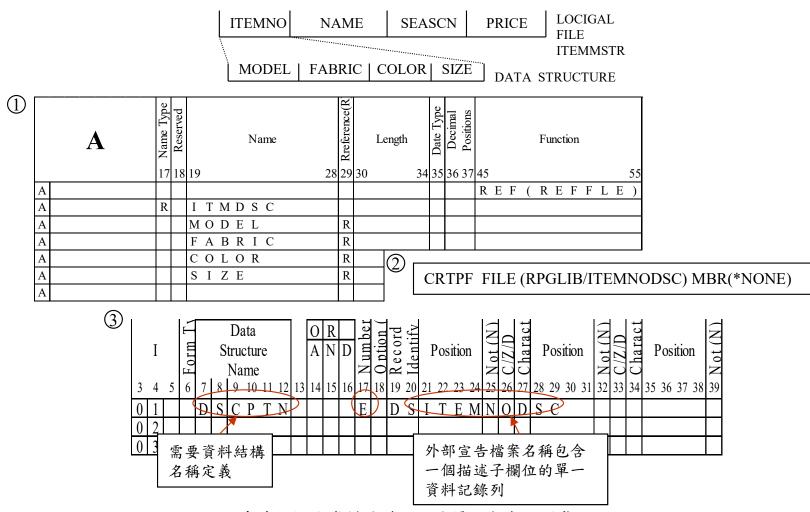
資料結構型態

基本 多重處理 資料區 程式執行狀態 檔案執行訊息

程式內描述資料結構的一般撰寫法則



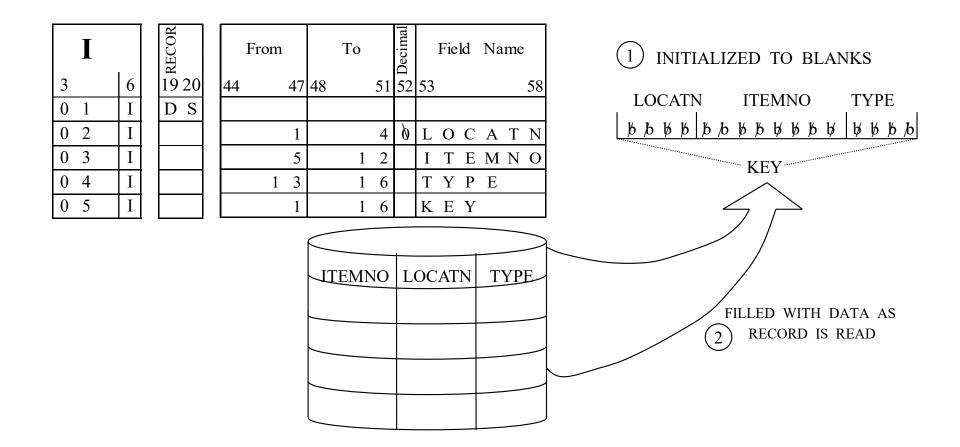
程式外部描述資料結構的一般撰寫法則



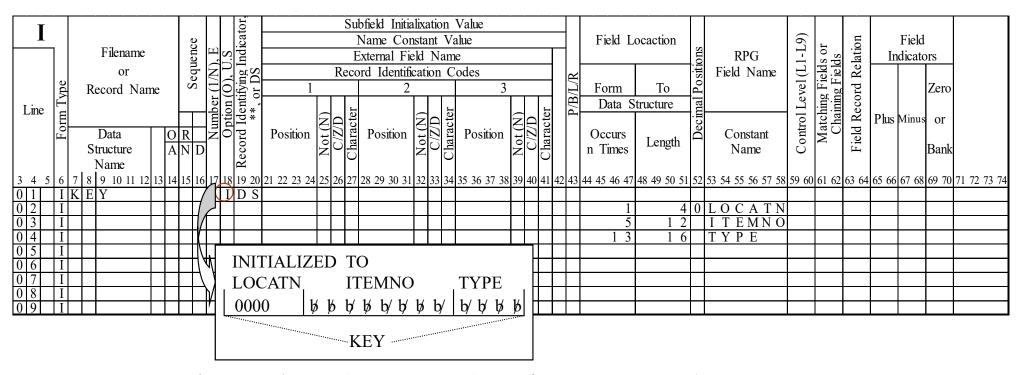
程式外部描述資料結構的一些優點包含下列幾點:

- 資料定義的整合維護
- 降低撰寫需求

程式使用資料結構執行情況

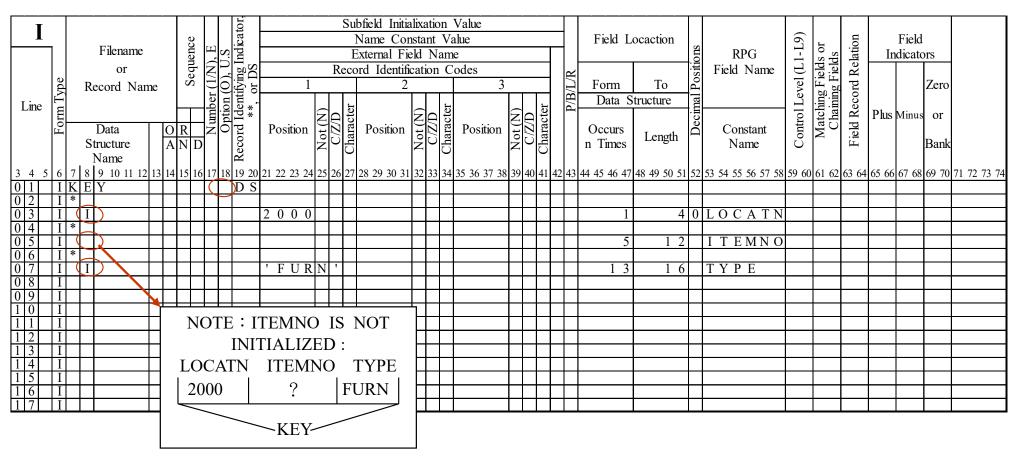


資料結構欄位總體初值設定



當你執行資料結構欄位初值總體設定時,文數字欄位會清成空白,數字欄位則會清成零。(第十八欄打上 'I')

設定資料結構子欄位初值



當你設定資料結構子欄位初值時,其他子欄位所在行的第八欄沒打上 'I'的,皆不會被設定初值。

使用固定常數值欄位(NAMED CONSTANTS) 設定子欄位初值

I				0			Record Identifying Indicator, **, or DS			Sı	ubfield Initia Name Cor								Field I	ocaction			<u> </u>		u		Field		
	7	Filename		Sequence	Щ	$^{\circ}$	1910				External Fig						Т	-	I TERE L	ocaction	ns	RPG	Control Level (L1-L9)	Matching Fields or Chaining Fields	Field Record Relation	In	ndicate		
		or		l anb	Number $(1/N)$,	ارا ا	N S				ord Identifi						+				Positions	Field Name]	lds	 e	- 11	laican	13	
	e		20	Se	17	<u>(</u>	Ę Ć	1		1100	2	outio.	11 C	3					Form	То	Sos	Tield Tvalle	el (Fie Fi	d F			Zero	
	Tvne	Record Ivan	IC .		er () u	ntit o			Т	1 -							\mathbb{R}		tructure	lal I		Į į	ng i	100			2010	
Line	Form				lip H	£ .	* G		$\overline{\mathbf{x}}$	− ŧ	3		ter			ر پار	5	B/L		tractare	-ill		1 70	chi	Re.	Plus	Minus	or	
	F ₀ 1	Data	Ю	R	Ī	<u>0</u>	- -	Position	Not (N)	C/Z/D Character	Position	<u>t [</u>	Character	Position			naraciei	P/E	Occurs		Dec	Constant	lt.	Z C I	덜	1 10.0			
		Structure	Ā	ΝI	7		00	1 00111011	9	<u>ع</u> اد	1 00,000	Not (1 00111011	Not	٤إن	Ħ.		n Times	Length		Name	၂		Fie			Bank	
		Name				١	Re									١	7					2 /	_						
3 4 5	6	7 8 9 10 11 12	13 14	15 10	5 17	18	19 20	21 22 23 24	4 25	26 27	28 29 30 31	32 3	3 34	35 36 37 38	39	40 4	1 42	43	44 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	63 64	65 66	67 68	69 70	71 72 73 74
0 1	Ι				T	П		2 0 0 0)						Ħ	T		С				LOCNBR							
0 2	I							' FUR	N	'								С				TYPEC							
0 3	I	*																											
0 4	I	KEY		Ш			D S				1				Ш														
0 5	I	*				Н		I 0 0 1	1 5						Ш	_			1	4		LOGATN							
0 6	I T	*			+			LOCN	IB	K			_		H	+			1	4	U	LOCATN	-						
0 /	Ŧ	T			Ħ	Ħ			\blacksquare	\mp	1 		_			+	╁		5	1 2		ITEMNO	-						
0 9	T	*		 	+	Н			+	+			+		H	+			<u> </u>	1 2	\vdash	TIEMINO							
1 0	Ħ	11		1	T	H		TYPE	C	\top					H	\dashv	\top		1 3	1 6		ТҮРЕ							
1 1	Ī			1	T	H									H	1	\top			- 1 0	T	1112							
1 2	I			1			٦,	OTE.	тт	יז ער	NIO INII'	тт л	T 1	IZED															
1 3	I] =		_] ''				NO INI																		
1 4	I			Ь		пÆ	1	TO I	DEI	FAI	ULT (BL	A	١K	S .															
1 5	Į			$\sqcup \!\!\!\! \perp$		'	_	FOR	CI	ĪΔ	RACTE	R 1	D^{Δ}	TA).		_													
1 6	I			\vdash			٠,							L		_	+												
1 /	I				1		⊢ ا	OCATN	1	ľ	TEMNO		1 Y	PE .	Ш														
								2000		b/b/	βββββ Ι	/	Fι	JRN															
							'		_	, ,	, , , , ,																		
										_	KEY-																		

本例中LOCATN和TYPE初值將被設定成與它串連的固定常數值欄位的值。因為ITEMNO 第8欄有打上 'I'但沒有串連的固定常數值欄位,所以它的初值就被設定成空白。

外部宣告資料結構欄位初值設定

Ι							Option (O), U.S ecord Identifying Indicator.			S	ubfield Initia Name Con				ie					Field L	ocaction							Field		
	7		Filename		4)		dic				External Fi							\dashv		ricia L	ocaction		RPG	(6T-		덛	I.	dicate		
			or		Sequence	ш	ω <u>H</u>			Da	cord Identif				~				H			us		🗄	Matching Fields or	Field Record Relation	<u> </u>	luicau	J18	
					ne	(1/N), E	ng SO		1	Rec	ord Identil	catioi	ıı C	odes						E	т.	Positions	rieid Name	Level (L1	ields Field	ela			7	
	l e	3	Record Name	e	§	` ₹			1				_		3		-		F	Form	То	osi		<u>6</u>	E :E	1 2 1			Zero	
Line	Fyne	3				<u> </u>	# nti												L	Data S	tructure			્રે	fatching Fi	3 3	D1			
	٦١٤	<u> </u>			L	Number (* de [E.	- · · ·	9	∄ _[.	<u></u>		ter	_		Ξ_{α}	ter		2	_		na	a		lid :	8	Plus	Minus	or	
		3	Data	0	R	<u> </u>		Position	1 5	#3 L	Position	135	rac	Po	sition	Not (N)	lac	7	3	Occurs	Length	cir	Constant	tro	atc]	4 K			n ,	
	Į.	•	Structure	A	N I) <u> </u>	000		Z	C/Z/D	Character Position	Not ON	haracte			ZZ Z	Character	70/	À	n Times	6	Decimal	Name	Control	Σ̈́	1 💆			Bank	
			Name				Re)	1 1	7)				\circ	Q	Ÿ				53 54 55 56 57 58	\sim		ĬΞ				
3 4 5				13 14	15 1	6 17	18 19 20	21 22 23 2	24 25	26 2	27 28 29 30 31	32 33	3 34	35 3	6 37 38	39 40	41	42 4	3 4	4 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	2 63 64	65 66	67 68	69 70	71 72 73 74
0 1	I I	ΠĎ	SCPTN	_	\sqcup	E	DD 8	ITEI	MΝ	O J	DIS C	\vdash					Н		4							1				
0 2	I I	*	T	+	-	\square		I D E	<u> </u>	₩							Н		+				$C \cap I \cap D$	-		-	-			
0 3	I	*	1	+	\vdash	+		' R E	<u> </u>	++		++	-				Н	-	+			H	COLOR			<u> </u>				
0 5	<u>1</u>	÷	*	+	\vdash	+		0 8	+	++		++	+			-	Н	+	+				SIZE			1				
0 6	T	1		+	H	+		0 0		++		H				-	H	-	+				SILL			 				
0 7	I	+		+		+								l	1		H	+	+							1				
0 8	Ť	+	 	+	H	\top	NO		\sim T	\TT	4.3.ID		,	10		+	H	+	t							1				
0 9	Ī	1				\top	NO	IE:M	ΟI)EI	L AND	FA Ł	3K	IC			Ħ		T											
1 0	I					11	IN	ITIAL	7 F	ED	TO DE	FAI	$\prod_{i=1}^{n} f_i$	Т			П													
1 1	I						1							-																
1 2	I							`			BLANI						П													
1 3	I] MO	DEL 1	FAE	3RI	C COLO	R	SIZ	ĽΕ																
1 4	I						1,000	00 + b	اداد	hh	bb REI	١.	0	Q .					I											
1 5	I							ρ_{i}	υργ	ψΨ	yy KEL	<u></u>	U																	
1 6	I	1_			Ш	Ш	<u> </u>			$\overline{}$	+						Ш		1			Ш								
1 7	I																													

這個例子顯示如何置換一個已被總體初值設定的資料結構,另外再設定特殊初值給適當的子欄位。

基本資料結構 (BASIC DATA STRUCTURES)

基本資料結構的使用

組合欄位

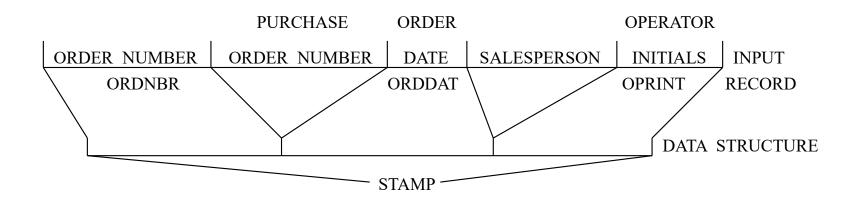
切割欄位

陣列處理

重新定義欄位

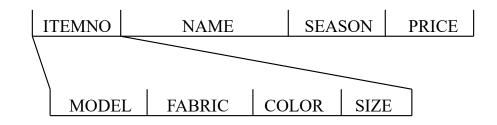
參數組合 (PARAMETER LISTS)

使用資料結構組合欄位



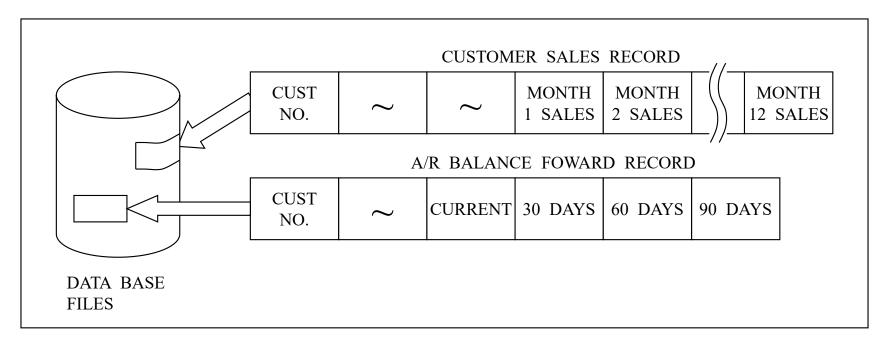
I								<u>s</u>	N)E		cator,				S		field Initia Iame Con									Field L	ocaction			(6)		uc		Fie	eld			
				Filena			3	sednence	Z)E	S.U	Indi				Re		ternal Fi										1	itions	RPG Field Name	vel (L1-L	Field or Fields	Relation	<u> </u>	Indica	ators	S		
	Type		Re	ecord		ne	ΰ	N O	er(1/]	<u>(</u>);	tifying or DS		-	1	110	Ţ	2			Ť	3			1		Form	То	l Posit		O	hing Fid	' I			Z	Zero		
Line	Form 7								\umb	Optio.	Idení **			$\widehat{\mathbb{Z}}$	Q	cter		$\widehat{\mathbf{Z}}$	Cter D	3		\mathbb{Z}^{ϵ}	1 2	33	\mathbb{L}/\mathbb{R}		Structure	ecimal		trolL	Matching Chaining	ld Rec	Ph	as Min	ius	or		
	H		St	Data ructur	e		OR AN				Record	Pos	sition	Not	C/Z	haracte	Position	Not (N)	C/Z/D	71141	Position	Not (Character	71101	P/B/L	Occurs n Times	Length	De	Constant Name	Control	Σ	Fiel			F	Bank		
3 4	5 6	1		Name		13 1	4 15	16	17			21 22	23.0	4 25	26/2	27/2	98 29 30 31	32 3	13 34	4 3	5 36 37 38	39 4				44 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 6	0 61 62	2 63 6	64 65	66 67	68 6	9 70	71 72 73 7	14
0 1	I	*	*	7 10	11 12	15 1	1 15	10	1,	10	1, 20	21 22		21 23	2012	7	20 27 30 31	32 3	,5 5		2 20 27 20	3) .	Ť	1 12	.5	11 15 10 17	10 19 30 31	32	23 31 22 20 37 20	, 5, 0	0 01 02	105 0	71103	30 07	00 0.	7 70	71 72 73 7	i
0 2	I										D S												T															1
0 3	I																									1	5		ORDNBR									
0 4	I																									6	1 1	0	ORDDAT	`								
0 5	I																				·					1 2	1 4		OPRINT	1							·	╝
0 6	I																				·					1	1 4		STAMP								-	
0 7	I																																					

使用資料結構定義子欄位



I						4)			cator,			S		ield Initia ame Cor								Field L	ocaction			(6	L	uc		Field		
			Filename			Sequence	II	S	Indica					ternal Fie										ons	RPG	1.L	s or ds	Relation	Ir	ndicate	ors	
			or			mba	Z	<u> </u>	Sign			Re	core	d Identifi	cation	ı C	odes					_	_	ositi	Field Name	el (L1	ield Fiel	28				
	ype]	Record Nar	me		Š	r (1	10	tify or]		1		_	2		1	3		\dashv			Form	То	<u>I</u> P		eve	ig F	ecord			Zero	
Line	rm T				F	T	1) h	tion	Record Identifying I **, or DS		\subseteq		ter			ter			ter	Q	4	Data S	tructure	ima		olL	Matching Fields Chaining Fields	Rec	Phis	Minus	or	
	For		Data	П	O]	R	Į	O	rd I	Positio	n E	C/Z/D	harac	Position	ot ()		Position	Vot (N)	Character			Occurs	T 41	Dec	Constant	ontrol	Mat	ield	1 Ius	IVI III G	, 01	
			Structure		Αl)		eco		Z		Cps		$\frac{2}{2}$	Cha		$\frac{N}{C}$	Cha	D/D/I	Γ/1	n Times	Length		Name	ŭ		표			Bank	
			Name			ا ا			~ ~	21 22 22	24/25				20 20		25 26 25 20	20 40					40 40 50 51		50 54 55 56 55 50	5 0.60					60.70	51 50 50 54
3 4 5	6		8 9 10 11 12	2 13	14 1	5 10	6 17	18	19 20	21 22 23	24 25	26 2	27 28	8 29 30 31	32 33	34	35 36 37 38	39 40) 41 4	12 4.	3 4	14 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	63 64	65 66	6/68	69 70	/1 /2 /3 /4
0 1	1	*																	Ш													
0 2	I								D S																							
0 3	Ι																					1	4		MODEL							
0 4	Ι																					5	1 0		FABRIC							
0 5	I																					1 1	1 3		COLOR							
0 6	I																					1 4	1 6	0	SIZE							
0 7	Ī																					1	1 6		ITEMNO							

使用資料結構定義外部宣告陣列



資料庫定義的欄位被使用成陣列(ARRAY)元素的決定因素如下:

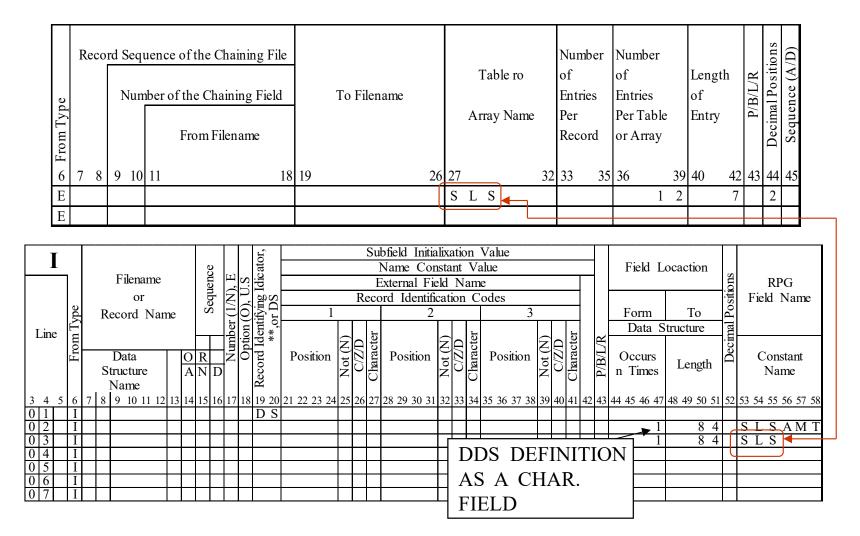
這些欄位可以定義成一個陣列嗎?

使用於程式內的欄位型態為何?

- 像陣列?
- 或是像獨立的欄位?

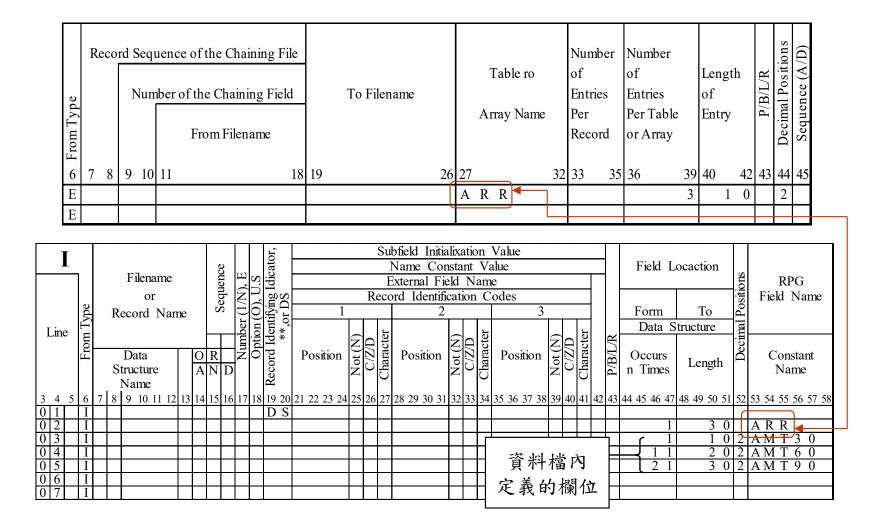
這些欄位可否被QUERY使用?

將資料庫檔案中的一個欄位資料定義成陣列資料

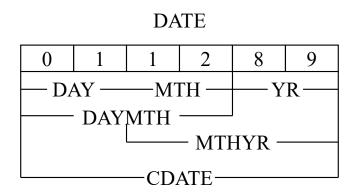


SLSAMT是外部宣告資料檔內的一個欄位,欄位內容包含12個月的銷售資料。

將資料檔多個欄位組合成單欄位



重新定義資料結構內的欄位



I						, e		cator,	-			Sı	ubfield Initia Name Con									Field L	ocaction			(6T	١	uc		Field		
			Filename			edneuce) F	U.S Indica					External Fi											ions			ls o	Relation	In	dicate	ors	
	e		or		1	Sedi		ing I	<u>S</u> -	1		Rec	ord Identifi	cati	on (<u>Co</u>	des			-	K	F	т.	osit	Field Name	el (L1	Field Field	1 Re			7	
1.	Type	j	Record Nai	me	`	'	er (ntify	o.	<u> </u>	П		2			+	3	1	Т		/B/I	Form Data S	To tructure	al P		eve	Matching Fields or Chaining Fields	ecord			Zero	
Line	rm					\prod'		ptio Ide	* *		$\widehat{\mathbf{Z}}$	C/Z/D Character		$\widehat{\mathbf{z}}$	D	2		$\widehat{\mathbf{z}}$	C/Z/D	3	Ĺ	Dum 5	The court of	cimal		rol]	tch hair	Re	Plus	Minus	or	
	Fo		Data) <u>R</u>	إ	Ź۱	ord		Position	ot ($\frac{1}{2}$	Position	ot ($\frac{C/Z}{2}$	1919	Position	ot (N)	7/7	ומומו		Occurs n Times	Length	Dec		Control	M_{a}	Field R			D 1	
		i	Structure Name	$ ^{F}$	N	שו		Option (O), U Record Identifying I			Z	ح اح	5	Z)	5		Z)	1	5		n Times			Name	0					Bank	
3 4 5	6	7 8		13 1	4 15	16	17 1	18 19 2	20 2	21 22 23 24	25	26 2	28 29 30 31	32	33 3	4 3:	5 36 37 38	39	0 4	1 42	43	44 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	63 64	65 66	67 68	69 70	71 72 73 74
0 1	Ι	*																														
0 2	I							D	S																							
0 3	I																					1			DATE							
0 4	I						┙		\perp													1			D A Y							
0 5	I																					3			МТН							
0 6	I																					5			Y R							
0 7	I																					1			DAYMTH							
0 8	I																					3			MTHYR							
0 9	I																					1	6	0	CDATE							

利用資料結構定義參數欄位組

]	-								Record Identifying Indicator.	ŀ							d In											Field	Loc	caction				(6		u u		Fi	ield		
			File	name	;		-	, V	Indi						E	Exte	mal]	Field	l N	lam	e										Decimal Positions	RPG		Control Level (L1.L9)	Matching Fields or Chaining Fields	Field Record Relation		Indic	cators	S	
	0			or			É	< -	1 20 2	3_				R	ecc	rd	Iden		tion	ı C	ode	es						_		_	ositi	Field Na	me	1)[[Aatching Fields of Chaining Fields	28					
	rom Type	F	Record	l Na	ime		٦	<u> </u>		or –			1					2	1	1			3	-	\blacksquare		_	Form		То	-[] []			eve	Ig F	or b			Z	ero	
Line	. Lu						\dashv		der **	•			6	-	ter					ter			6		ter	Ę	┵	Data	Str	ructure	-ims			olL	chir	Se Se	Ph	ıs Mi	inus	or	
	Fro		Data) R	H		교		Po	sitio	$n = \frac{6}{3}$	C/Z/D	ırac	Po	ositio	n E		rac	P	ositio	n S	Not (F C/Z/I	aracte	1	3/L	Occurs	S	T41	Dec	Consta	nt	ontr	Qat	밀	1 10	.5 .111	mas	01	
			structu			A N	D		eco				7		Character			Ž		Character				zľo	Cha	7,47	Γ/Ι	n Times		Length		Name	:	ŭ		臣			В	ank	
2 4			Nam			1 15		. 7 1.			11 2	2 22	24 2	5 20			10. 20	21 2	2 22			26.27	20	, ,		42	42	14 45 46	47 4	0 40 50 5		53 54 55 56	57.50	50.00	(1.6		1 (5)		7 (0) (1	20.7	1 72 72
0 1	3 6 1	D S	N A	M	Z 13 1 E	.4 13	16	Ε	D 3	20 Z S I	21 Z P /	2 23 1 R	24 Z	.5 26 L I	S	28 Z	29 30	31 3.	2 33	5 34	<i>3</i> 3 .	30 3/	38 .	39 40	741	42 4	13 4	14 45 46 4	4/ 4	8 49 50 5.	1 32	53 54 55 56	3/ 38	39 60	0 61 62	2 63 6	+ 65 (56 67	08 6	9 /0 /	1 /2 /3
0 2	Ī		1 (2)		1	$\overline{}$							111 1			_																									
0 3	I	Н					ightharpoons	+	lacksquare	-								-					\dashv	\perp	Н	_			\perp		-						-				
0 4	1		<u> </u>		_	!		_!_		_	_	_	ļ_	_ ļ					-	ļ				ļ	ш	_					<u>ļ</u>				ļ	!	ļ		ļ_	ļ	
			F)	Τ							T																									S		Aı	rithm	atic	
	(C	•	Control Level (L0-L9	or, AIN/UR)		In	dica	tors								<u></u>																Resu	lt Fie	eld		Decimal Positions	E P	lus	M inu	s Ze	ro
		\neg	/el (}		T					-								\	\downarrow											\vdash	11000		T		osii			Compa		
	Lir	Form Type		Υ, '		l And		A	nd					F	acto	r 1					Oı	perat	ion					Facto	or 2			Name		Le	ength	nal F		>2	1<2		2
		li.	itro	•		T _	: [_													,			\rightarrow	_										U	ecin	E Lo		p(Fa		
		FOT	Cor	Not		Not	:		Not																		\										H		Low		
	4	5 6	7	8 9	10 1	1 12	2 13	14	15 1	6	17	18							2	7 28	3			32 3	3				\	4:	2 43	3	48	3 49	51	52 5	3 54		56	58	
	1	C																				L			' S	S U	J	3 P G	M	1											
	2	C			$\perp \perp$															P	A	R	M	_							D	S N A	M E								
	3	C		-	++	_			4											-				_							-			_		 				-	
	5	C		-	++	+	-		-	+	4									-				+							+			+		+	-			+	
	$\frac{1}{6}$	0			++	-																									-			+		+					
	7	C			++	+														+				+							+			+		t				+-	
	8	C																																		t					
	9	C																																							
	0	C																																							
	1	C			$\sqcup \bot$	_				4	4									_											\perp										
	2	C																																							

特殊資料結構

特殊資料結構

資料區資料輸入

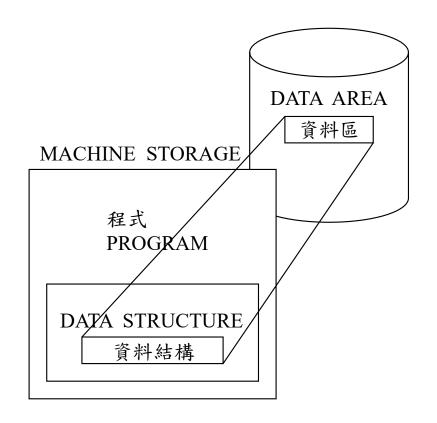
多重處理 (MULTIPLE OCCURRENCE)

檔案執行狀態訊息

程式執行狀態

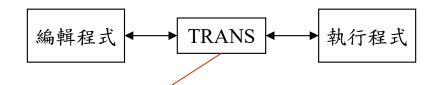
資料區之資料結構

RPG程式內部直接經由資料結構存取資料區資料。



資料區之資料結構





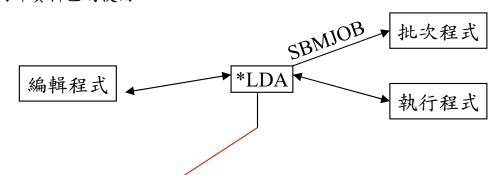
I		0		ator,		Š	Subfield Init Name Co							Field I	ocaction			9)		u		Field		
	Filename	Sequence	E C	Record Identifying Indicator **, or DS			External F	ield N	Jam	e			1	T KKG L	ocaction	ons	RPG	1.L	s or ds	elation		dicate		
	or	edı		OS S		Re	cord Identi	fication	n C	odes				_	_	Siti	Field Name	el (L	ield Fiel	Re				
V	Record Name	S		or Eff				<u>?</u>		3	_	+		Form	То	P		eve	F Fi	ord			Zero	
Line		\vdash	Number Option (**			ter		cter			ţţ	R	Data S	Structure	ima		olL	atching Fields Chaining Fields	Rec	Plus	Minus	or	
10H	Data	R			Position	Vot (N) C/Z/D	Position	T (N	3 (4)	Position	Not (N)	Character		Occurs	T41-	$\frac{3}{2}$	Constant	ontro]	Matching Chaining	ield	l las	· · · · · · · · · · · · · · · · · · ·		
	Structure A	ND		1 00			Cha	Not	$\overline{\mathrm{Ch}}$				P/B/I	n Times	Length		Name	ŭ		ΞĒ			Bank	
2 4 5 6	Name		1 1	1	21 22 22 24	25 26	27 20 20 20 2	1 22 2		25 26 25 20	20 46			44 45 46 47	40 40 50 51		52 54 55 56 55 50	5 0. 60	(1. (2	(2) (4	65.66	<i>(</i> 7, <i>(</i> 0)	60.70	71 72 72 74
3 4 5 6	7 8 9 10 11 12 13 1	15 16	0 17 13	3 19 20	21 22 23 24	25 26	27 28 29 30 3	1 32 33	3 34	35 36 37 38	39 40) 41 42	43	44 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	63 64	65 66	6/ 68	69 70	/1 /2 /3 /4
0 1 1	*	\bot	\perp													_								
0 2 1	TRANS		J	J D S																				
0 3 I														1	5		ВАТСН							
0 4 I														6	6		EDTFLG							
0 5 I														7	9		OPRNBR							
0 6 I														1 0	1 5		STATUS							
$0 \overline{7} I$																								

資料區資料結構使用DEFN/IN/OUT(定義/輸入/輸出)

	(L0-L9	\overline{a}																							US		A	rithmat	ic
	(T)	(0R)			I	Indi	cat	ors													Resi	ılt Fie	ld	:	Decimal Positions	Adjust (H)	Plus	Minus	Zero
n e	Level	AN																							Pos	ljus	(Compar	e
Form Type		SR,	L.		An	d		Aı	nd			0	Factor 1		(Operation		Factor 2			Name		Leng	th	mal	fΑα	1>2	1<2	1=2
nra	Control	LR,	Not		ı.	Not			Not																eci	Half,			or 2) is
																											High		Equal
6	7	8	9	10	11	12	13	14	15	16	17	18		27	28	32	2 3	3	42	43		48	49	51	52 :	53	54	56	58
C	*																												
C												* N A	M V A I	R	D	E F N				T R	A N	S	1	5					
C												* L O	C K		I	N	Г	ΓRANS											
C															M	O V E	'	'DETAIL'		S T	A T	U S							
C															0	U T	Γ	ΓRANS											
C																													
C																													
C																													
C																													

資料區資料結構

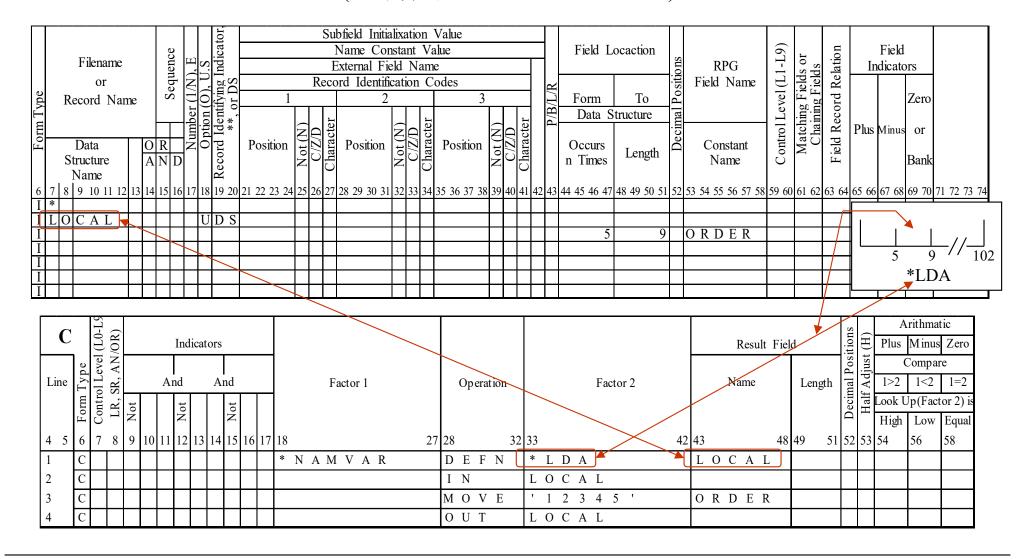




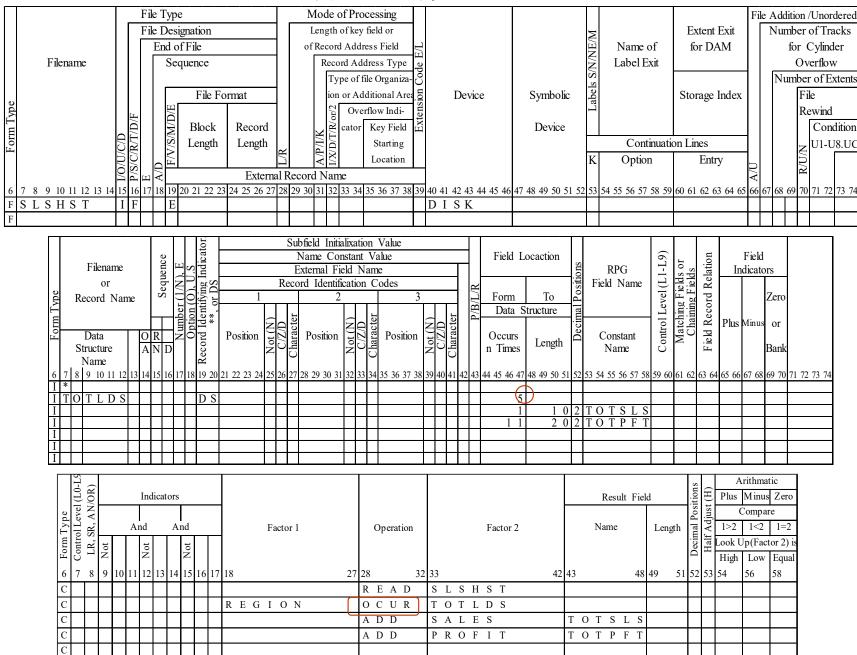
							ator.	Ì				ıbfield Initia																		
		77.11		٥	3		ica	L				Name Cor								Field L	ocaction			(6T-	<u></u>	on		Field		
		Filename		P		1 1	Indica					External Fig										ons	RPG	_	s or ds	lati	In	dicate	ors	
		or		Segmence	5 5	z	기일	DS			Reco	ord Identifi	cation	ı C	odes				R			Positi	Field Name	(T	Fields Fields	Relation				
9	2	Record Name	9	V	j .	$\exists \in$		i.	1		_	2			3				Γ	Form		Po		vel	F. F.	cord			Zero	
F	-				Ц,	5 G		*.			<u>_</u>	,		1.			ä		P/B	Data S	tructure	imal		Le	hingiri	(1)				
1	1 0.1					Ell s	Record Identifyi	*			C/Z/D Tharacter	- T	Not (N)	Character	ъ	Not (N)	Character			0		Deci		Control	Matching F Chaining	Field Ro	Plus	Minus	or	
ĹŦ	4	Data	0	R	ᆗ	z			Position	o t		Position	ot	lar	Position	ot //	ar			Occurs	Length	Ω	Constant	on	$\mathbb{Z}_{\mathcal{A}}$	iel			D 1	
		Structure Name	A	N	ש						<u>ت</u> اک			C[Z	CI			n Times			Name	0		<u> </u>			Bank	
6	7		3 1/1	15						25	26 27	28 20 30 31	32 33	3/1	35 36 37 38	30 40	141	12	13	11 15 16 17	48 40 50 51	52	53 54 55 56 57 58	50 60	61 62	63 64	65 66	67.68	60.70	71 72 73 74
li	*	0 7 10 11 12 1	3 17	1,1	10	1 / 10	0 17	20	<u> </u>	23	20 27	20 27 30 31	32 3.	, 54	33 30 37 30	37 40	7 71	72	73	TT TJ TU T/	70 77 30 31	32	33 34 33 30 37 30	37 00	01 02	05 04	05 00	07 00	07 70	/1 /2 /3 /4
li					1	J	J D	S		Ħ	十			t																
																				1	5	0	ВАТСН							
																				6	6		EDTFLG							
L										Ш	丄		Ш							7	9		OPRNBR			igsquare	igsqcup			
Ц					_	_				Н	+						Ш	Ц									igsquare		igsquare	
Ш											止																			

資料區資料結構

(內部資料區使用 DEFN/IN/OUT)



資料結構多重處理



檔案執行訊息的資料結構

1 1		File 7	Гуре				Mode of	Proc	essing										File	Addit	ion /U1	nordered
		File I	Desig	nation			Length of	key f	ield or					M		Ex	tent E	Exit		Num	per of	Tracks
		Er	nd of	File			of Record A	Addre	ss Field	7/T				(E/	Name of	for	r DAl	M		f	or Cy	linder
	Filename		Seq	ience			Record	Addı	ress Type	le E				N	Label Exit						Overf	low
			•				Туре	of file	ress Type e Organiza-	Cod				, S/					1	Nun	nber o	f Extents
				File F	ormat		ion o	r Add	itional Are	ou (Devi	e	Symbolic	Labels		Stora	age Ir	ndex			File	
be			ΞL		1				low Indi-	nsi		-	- 3	La			6-				Rew	ind
$T_{\mathbf{y}}$		O/F	/M/D/E	Block	Record			_	Key Field	Extensi			Device									ondition
Form Typ			/S/IV	Length	Length		\cong	1101	Starting				Device	\vdash	Continuati	on I in	25		1			
FC			<u>></u>	Lengui	Lengui	\approx	/P/L X/D/							17				_	1		\leq	1-U8.UC
		1/0/L P/S/C E A/D	ഥ			<u> </u>	γ I		Location	Ц				K	Option		Entry	′	Ω		R/U	
							rd Name												A			
6 7	8 9 10 11 12 13 14	15 16 17 18	19 2	0 21 22 2	3 24 25 26 27	28 29 3	30 31 32 33	3 34 3	5 36 37 38	39 40 4	1 42 43	44 45 46	47 48 49 50 51	52 53	54 55 56 57 58 59	60 61	62 63	64 65	66 67	/ 68 69	70 71	72 73 74
F F	ILEA	I F	Б				K			D	I S K			I/	INEDC	T. I	T: A	D.C		++	++	
ГГ	ILEA	1 1	Е			-	K			υ.	1 3 K		T	K	INFDS	F L	ΕA	υз	╀	++	++	
Г		+++	\vdash		1	+				\vdash				-					\vdash	++	++	
Г												/										
	T			tor,			field Initia															
J	<u>l</u> 51	g	[7]	ica			lame Coi					F	Field Locaction					┰		Field		
	Filename		Э									-		ro.		\sim	Ä	.⊇				
		ΙĐ	(ternal Fi					1 📖		ions	RPG	1-L9	ls or lds	latio		dicato	rs	
	or or	eque	[N]	ing Inc DS			ternal Fi					\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		ositions	RPG Field Name	il (L1-L9	relds or Fields	l Relatio		dicato		
	or Record Na	sed neuce	r (1/N),	tifying Inc or DS	1					3		J_/R_ F	form To	I Positions	RPG Field Name	evel (L1-L9	ng Fields or ing Fields	ord Relatio		dicato	rs Zero	
Line	Record Na	ume Sedin	nber (1/N),	tion (O), U.S dentifying Inc **, or DS	1	Recoi				3	ter	J_/R_ F	form To Data Structure	imal Positions	RPG Field Name	ol Level (L1-L9	ching Fields or aining Fields	Record Relation	Inc	dicato	Zero	
Line	e E		Vumber (1/N),	Option (O), U.S d Identifying Inc **, or DS	1 Position	Recoi	rd Identifi 2	cation	n Codes	<u>,</u>	Z/D	P/B/L/R	Data Structure	Decimal Positions	RPG Field Name	ntrol Level (L1-L9	1atching Fields or Chaining Fields	ld Record Relation	Inc	dicato	Zero	
Line	Record Na		Ol Number (1/N),	Option (O), U.S cord Identifying Inc **, or DS	Position 5	Recoi				- Z	C/Z/D Tharacter	O P/B/L/R	Data Structure	Decimal Positions	RPG Field Name Constant Name	Control Level (L1-L9)	Matching Fields or Chaining Fields	Field Record Relation	Inc	dicato Minus	Zero	
Line	Record Na		O	Option (O), U.S Record Identifying Indicator. **, or DS	Position 2	Recoi	rd Identifi 2	otioi	n Codes	<u>,</u>	C/Z/D Character	O P/B/L/R	Data Structure	Decimal Positions		Control Level (L1-L9	Matching Fields or Chaining Fields	Field Record Relatio	Inc	dicato Minus	Zero	
	Record Na B Data Structure Name 5 6 7 8 9 10 11 1	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		P/B/L/R O	Data Structure ccurs Times Lengtl	Decimal Positions	Name				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
	Record Na B Data Structure Name	O R A N 1				Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		W/I/B/ F F F F F F F F F F F F F F F F F F	Data Structure ccurs Times Length 5 46 47 48 49 50	Decimal Positions	Name 53 54 55 56 57 58				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
	Record Na B Data Structure Name 5 6 7 8 9 10 11 1 I F L E A D S	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		W F F F F F F F F F F F F F F F F F F F	Data Structure ccurs Times Lengtl 5 46 47 48 49 50 F I L E	Decimal Positions	Name 53 54 55 56 57 58 F N A M E				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
	Record Na B Data Structure Name 5 6 7 8 9 10 11 1	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		M/L/W/A O n * I * I * I	Data Structure ccurs Times Lengtl 5 46 47 48 49 50 F I L E R E C O R D	Decimal Positions	Name 53 54 55 56 57 58 F N A M E R E C F M T				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
	Record Na B Data Structure Name 5 6 7 8 9 10 11 1 I F L E A D S	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		W/I/B/A On n	Data Structure ccurs Times Lengtl 5 46 47 48 49 50 F I L E R E C O R D O P C D D E S T A T U S	Decimal Positions	Name 53 54 55 56 57 58 F N A M E R E C F M T O P C O D E E R R O R				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
	Record Na B Data Structure Name 5 6 7 8 9 10 11 1 I F L E A D S I I I I I I I I I I I I I I I I I I	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		W/I/B/A On n	Data Structure ccurs Times Lengtl 5 46 47 48 49 50 F I L E R E C O R D D P C D D E	Decimal Positions	Name 53 54 55 56 57 58 F N A M E R E C F M T O P C O D E				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
3 4 0 1 0 2 0 3 0 4 0 5	Record Na B Data Structure Name 5 6 7 8 9 10 11 1 I F L E A D S I I I I I I I I I I I I I I I I I I I	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		W/I/B/A On n	Data Structure ccurs Times Lengtl 5 46 47 48 49 50 F I L E R E C O R D O P C D D E S T A T U S	Decimal Positions	Name 53 54 55 56 57 58 F N A M E R E C F M T O P C O D E E R R O R				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74
3 4 0 1 0 2 0 3 0 4 0 5	Record Na B Data Structure Name 5 6 7 8 9 10 11 1 I F L E A D S I I I I I I I I I I I I I I I I I I	O R A N 1		18 19 20		Character Character	Position	Not (N)	n Codes Lacter Pos	tion Z		W/I/B/A On n	Data Structure ccurs Times Lengtl 5 46 47 48 49 50 F I L E R E C O R D O P C D D E S T A T U S	Decimal Positions	Name 53 54 55 56 57 58 F N A M E R E C F M T O P C O D E E R R O R				Ind Plus	dicato Minus	Zero or Bank	1 72 73 74

程式狀態的資料結構 PROGRAM STATUS DATA STRUCTURE

I	1		Filename		Sequence), E	J.S ndicator,				Name Con External Fig	nstan eld 1	t V Van	alue ne					Field L	ocaction	ons	RPG	1-L9)	s or ds	Relation	Iı	Field		
Line	Form Type]	or Record Nam	e	Seq	er (1/N)	on (O), U entifying I * or DS		1		ord Identifi 2		T.	3				/B/L/R	Form	To tructure	nal Positic		Level (L1	Matching Fields of Chaining Fields	cord Re			Zero	
Line	Form		Data Structure Name	_	R N I	Num	Option (O), U.S Record Identifying Indicator, ** or DS	Position	Not (N)	C/Z/D Character	Position	Not (N)	Character	Position	Not (N)	C/Z/D	Character	ď	Occurs n Times	Length	Decin	Constant Name	Control	Match Chai	Field Record	Plus	Minus	or Bank	
3 4 5	6	7 8	9 10 11 12	13 14	15 1				24 25	26 27	28 29 30 31	32 3	3 34	35 36 37 3	39	40	41 42	2 43	44 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	63 64	65 66	67 68	69 70	71 72 73 74
0 1	I	*																											
0 2	I					10	S) D S	5				Ш																	
0 3	I																		* ROU	TINE		RTN							
0 4	I																		* S T A	TUS		ERROR							
0 5	I											Ш							* PAR			PARMCT							
0 6	I																		* P R O	GRAM	[PGMNAM							
0 7	I																												
0 8	I																												•
0 9	I																												

第七章:次檔案(SUBFILE)查詢 (Subfiles Used for Inquiry)

單元內容

本課程一開始將先回顧DDS如何定義一個SUBFILE,其中包含與此 SUBFILE相關的RPG程式中接續行(F SPEC.)、燈號指示器、和操作指令 (OPERATION CODE)。我們將會以兩支簡單的SUBFILE程式來說明。第一支程式主要運作方式是在SUBFILE顯示在螢幕之前先填滿所要查詢的資料。第二支程式則是一次只讀一頁SUBFILE資料顯示在螢幕。最後我們再討論兩個控制SUBFILE輸出行數和列數的KEYWORDS。

單元目標

能修改螢幕檔(DSP. FILE)將SUBFILE有關的FORMAT資料輸入或更正。

列示SUBFILE查詢程式可用的操作指令(O.P. CODE)。

針對每一個操作指令解釋其在檔案記錄格式中之用途。

在F卡接續行DSPF下輸入所使用到的SUBFILE。

寫一支SUBFILE查詢程式。

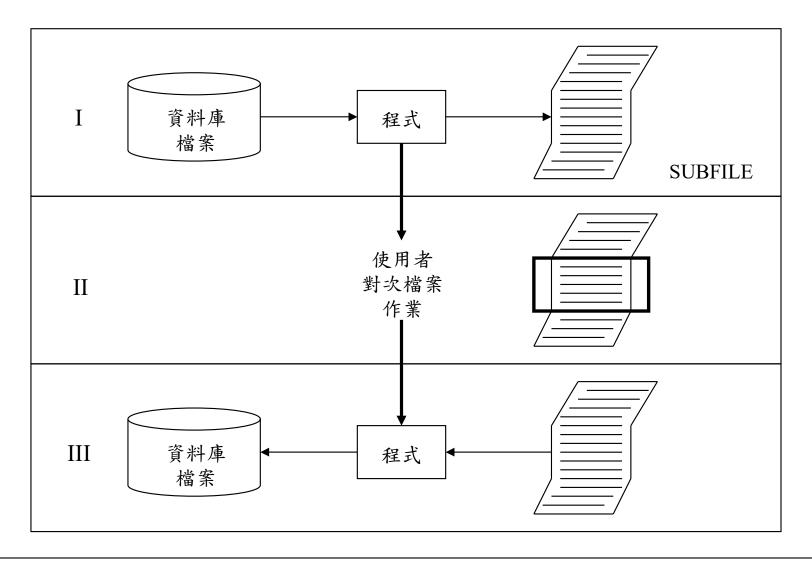
修改DDS讓SUBFILE一次只讀一頁資料進去。

修改程式中的C卡,或一次只填一頁查詢資料於SUBFILE。

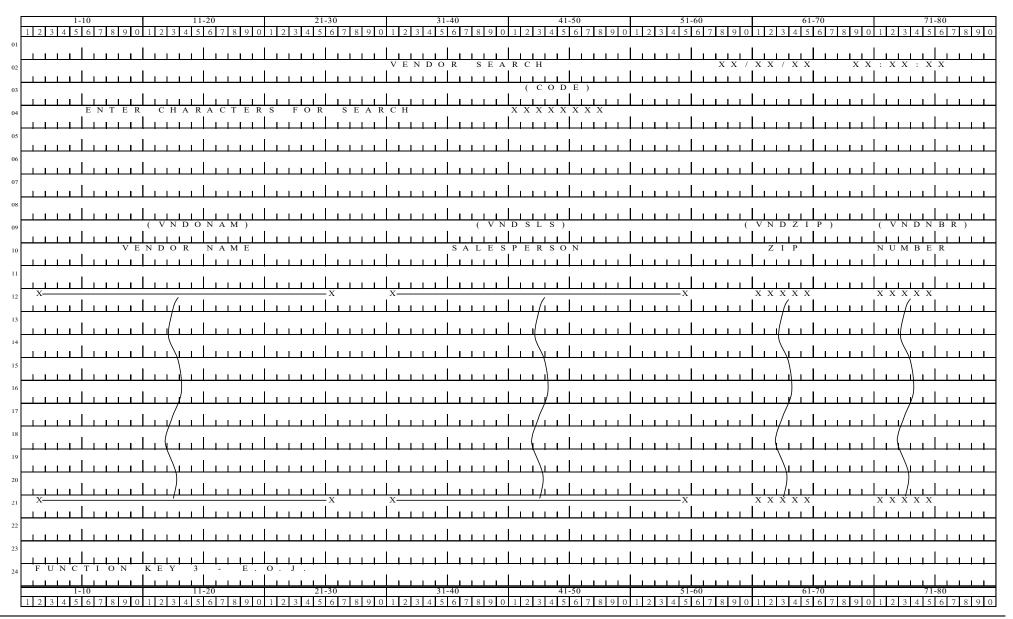
解釋使用SFLDROP和SFLLIN來修改SUBFILE的顯示方式。

次檔案的程式設計 (SUBFILE PROGRAMMING)

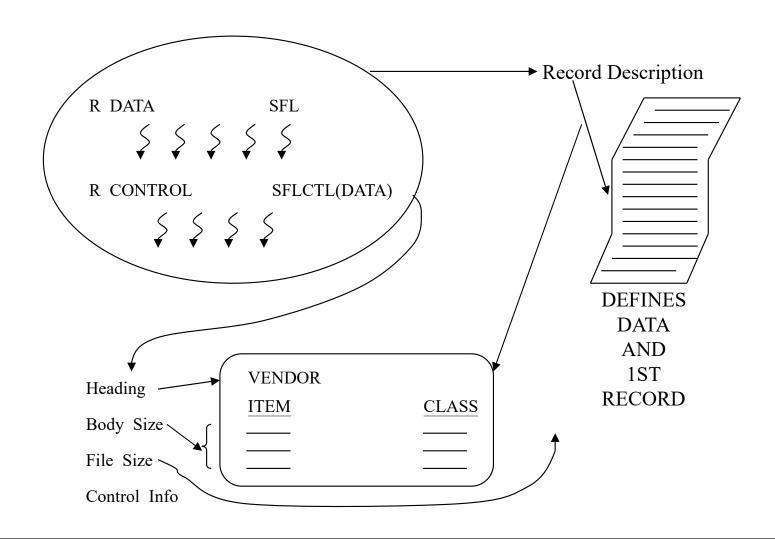
次檔案的使用 (SUBFILE USE)



螢幕列示圖:運用次檔案查詢、修改資料



次檔案記錄 (SUBFILE RECORDS)



次檔案主要的DDS關鍵字元(KEYWORDS)

	1/0/*)				ionin ition		me	(R/K/S/O) ed				Τ			e (R)		I	41.	F A/S/X/Y/N/I/W		B/H/M/P)	I	oca	ation		Formation
Form Type	And/Or/Comment(A/O/*)	Not (N)		Not(N)	Indicator	Not (N)	Indicator	Name Type (b/Ř/K/S/Ó) Reserved			Ŋ	Vame	;		Reference (R)		Leng	gtn	Date Type (b/A/P/S/B/F A/S/X/Y/N/I/W	Decimal Positions	Usage (b/O/I/B/H/M/P)	Lin	e	Pos		Function
6	7	8	9 10	11	12 13	14	15 16	17 18	19 20	0 21	22.2	23 24	25.26	5 27 28	29	30 3	31 32	33 34		36 37	38	39 40	41	42 43 44	45 4	46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
A	+	0	7 10	11	12 13	1	13 10	R	D A			.5 21	23 20	7 2 7 20	, 2)	50 .	J1 J2	33 3 1	33	30 31	30	37 10	11	12 13 11		F L
A	T	1		П		T				Ī									Ħ		Ħ					
A				П															П							
Α	T			П																						
Α	T							R	СС	N	T	R O	L												SI	FLCTL(DATA)
A	*																									
A	T																								SI	F L S I Z (2 5)
Α	*																									, , ,
Α																									SI	F L P A G (1 0)
Α	*																									
A A			8 5																						SI	F L D S P C T L
A	*																									
Α		9	9 5	Ш																	Ш				SI	FLDSP
A A	*			Ш															Ш		Ш					
A		Ľ	7 5	Ш		Ш													Ш		Ш				SI	FLCLR
A	*			Ш		Ш													Ш		Ш					
A	\perp	4	4 0	Ш		Ш			ļ										Ш		Ш				SI	F L E N D
A	\perp	_		Ш		Ш		Ш											Ш		Ш					
A	_			Щ		Ш													Ш		\sqcup					
A																										

使用控制記錄格式(CONTROL RECORD) 來顯示SUBFILE或執行控制功能

WRITE EXFMT

利用燈號指示器指定做什麼動作

實體螢幕輸入/輸出-EXFMT操作指令

	-T-(ລ	`																												18		A	rithma	tic
	[-0T]	(OR)				In	dica	tors]	Resul	t Fie	ld		Decimal Positions	(H)	Plus	Minus	Zero
٥	Level	AN																													Pos	djust		Compa	re
Tvne		SR.	`		A	nd		A	nd					Facto	or 1		O	perati	ion			F	actor 2			Na	ame		Lei	ngth	mal	fΑċ	1>2	1<2	
Form	Control	LR.				Not			Not																						ecii	Half			tor 2) is
Ä	ျၓ																																High	Low	Equal
6	7	8	9	10	11	12	2 13	14	15	16	17	7 1	18			27 2			32	33				42	43			48	49	51	52	53		56	58
C	1																S E	E T	O N														8 5	9 5	
C	*																																		
C	1																E X	F	M T	C O	N 7	T R	O L												
C	*																				$\overline{}$														
C	1																S E	ΕT	O F	Z	1	_											8 5	9 5	
C	1													_																					

名稱定義:於DDS中

(SUBFILE 控制格式名稱)

操作者必須按'執行鍵'才會繼續執行

用WRITE操作指令執行控制功能

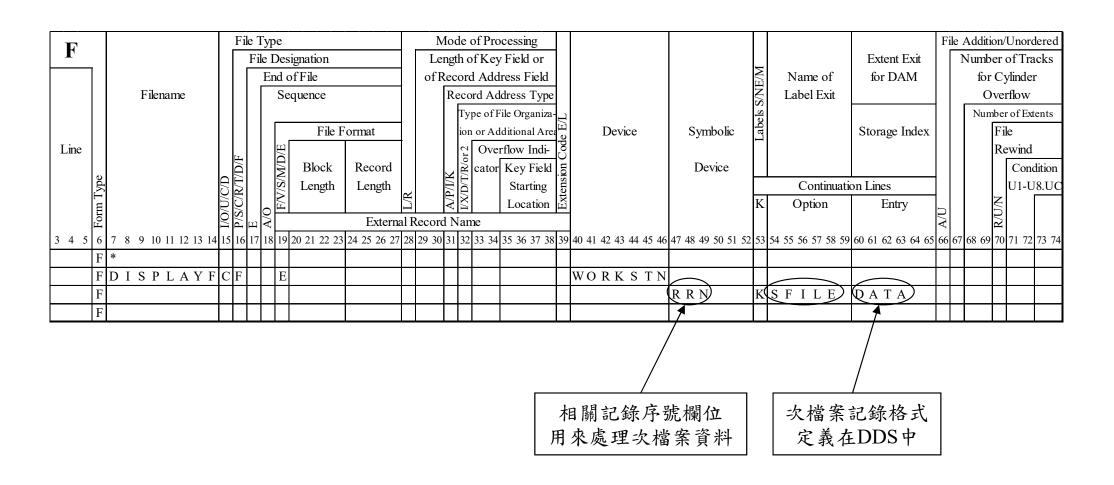
C		Control Level (L0-L9,	7																						JS		A	rithmat	tic
		(L0	AIN/OR)			Ind	icat	ors														Resul	lt Fie	ld	Decimal Positions	(H)	Plus	Minus	Zero re 1=2 tor 2) is
	e e	vel										•													Soci	just	(Compar	re
Line	Form Type	Le	J.Y.		A	ı nd		Aı	nd			Fac	tor 1			Or	eratio	n	Factor 2			Name		Length	lal]	Ad	1>2	1<2	1=2
	m T	trol	· —	1	1	_					П	' ac	101 1				Ciatio		1 deter 2			TVAITIO		Length	ecin	lalf	I ook I	In (Fact	or 2) is
	For	Con	Z Z			Not			Not																Ď		High	Low	Equal
4 5					11		13				17	18			27	28		32	22	42	43		18	49 5	52				58
1		*	, , ,	10	11	12	13	17	13	10	1 /	10			21	20		32		72	73		70	79 3.	1 32	55	J -	30	56
$\frac{1}{2}$	C	*	+	+																					+			\vdash	
$\frac{1}{3}$	C	*	+	+																					+			\vdash	
4	C		+	+												S E	ТО	N			1				+		7 5		
5	C	*	+	+			-									5 1	1 0	- 1 1							+		, 5		
6	C		+	+												W R	ΙT	R	CONTROL	$\overline{}$					+				
7	С	*																							\dagger				
8	С															S E	ТО	F									7 5		
9	С	*																											
0	С																												
1	С													4	ヨポ	不命	暫停	(笙)	 待操作者]									
2	C] 按						會直接往下執										
3	С													て も	N(1) 3	贬妆			胃且按仁下扒										
4	С																行]									
5	С																												
6	С	Ш		1							Щ														1				Ш
17	C	\sqcup		+																					\bot	Ш			
8	C	\sqcup		1		Щ					Щ														1			igsqcurve	
9	C	\sqcup	+	+		Щ					Н														+	\square		\longmapsto	\square
0	C																												

使用次檔案記錄格式(SUBFILE RECORDS), 將資料放入次檔案中

WRITE

相關記錄序號(RRN)將決定 記錄資料跑到何處

螢幕檔案(DISPLAY FILE)次檔案的定義

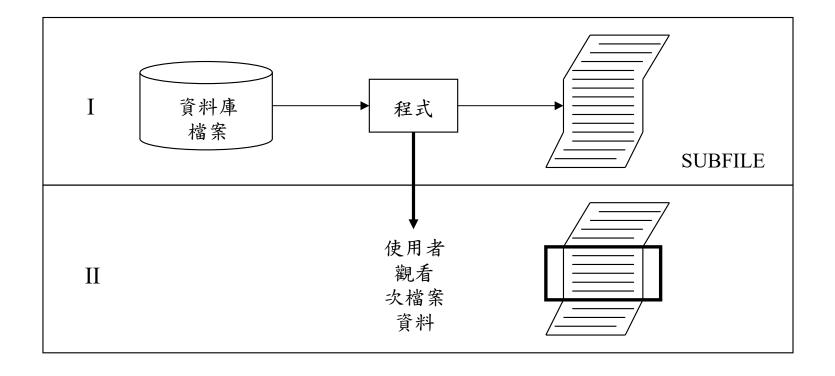


WRITE操作指令將資料放入次檔案中

		Control Level (L0-L9,																						x	A	Arithmat	tic
•		vel (L0-I	5			Indi	cato	ors												Result	t Fiel	d		Half Adjust (H)	Plus	M inus Compar 1<2 Up(Fact	Zero
	o o	vel (ust		Compar	re
Line	Form Type	1Le			An	nd		An	d				Factor 1		Operat	ion	Facto	or 2		Name		Lengt	h -	Ad Ad	1>2	1<2	1=2
	m.	itrol	2	П			Т	_	-				1 40101 1		Ореги	ion	1 4000	01 2		1 (41110		Delige	· ·	falf	Look I	In (Fact	or 2) is
	For	Conti	Not			Not			Not														٦	ᆌᇳ	High	Low	Equal
4 5	5 6			10	11	12	13			16	17	18		27	28	32	33	42	43		48	49	51 5	52 53	_		58
1	C	*	Ť					+	+						1				1				+	+			
2	С	*	1				1	1	┪															+			
3	С	*																	1					\top			
4	С	*																						T			
5	С														A D D		1		R I	R N			2 ()			
6	С														W R I	T E	(DATA)										$\begin{pmatrix} 4 & 0 \end{pmatrix}$
7	C																A							丄			
8	С																							丄		<u> </u>	
9	C		_				4	4	4										-	100		~		<u>ب</u>	1	┸	igsquare
0	C		-	Н		_			_											40 (JN :	= SUI	3F J	.LE	FUL	<u>,L</u>	
	C		+	H		-		_	+					NAME	DEEL	IED	IN DDS		-				+	+	1	 	
$\begin{vmatrix} 2 \\ 3 \end{vmatrix}$	C	╁	+	H		-	-	+	\dashv														+	+	1	\vdash	\vdash
4	C	\vdash	+					+	┪				(SUBFILI	E RECU	JKD	FORMAT)							+			\vdash
5	C	\vdash	+				1		┪									-						+			\vdash
6	C	ff		Н		7	\dashv	\dashv	\dashv														+	+			\vdash
7	C		+			\dashv	\top	\dashv	寸														+	+			
8	С		1	П		寸	1		┪															\top			
9	С																										
0	С																										

次檔案的查詢程式 (SUBFILE FOR INQUIRY)

使用次檔案來做查詢



程式設計者的次檔案作業

啟動 (ACTIVATING)

資料輸入 (LOADING)

螢幕顯示 (DISPLAYING)

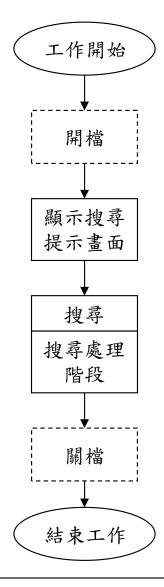
執行處理 (PROCESSING)

啟動

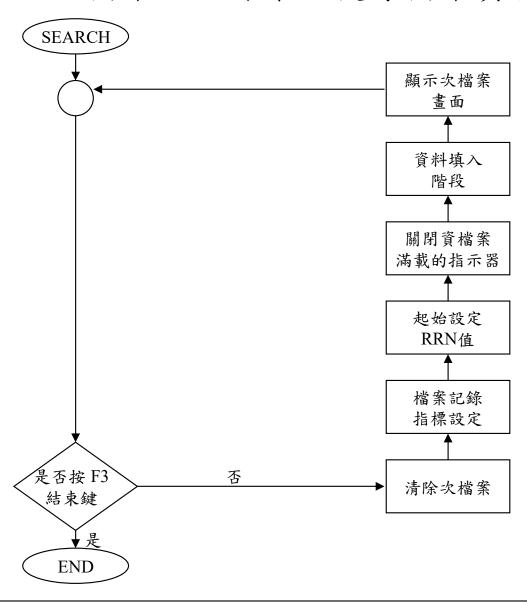
將資料寫入 次檔案記錄中

單筆啟動記錄資料

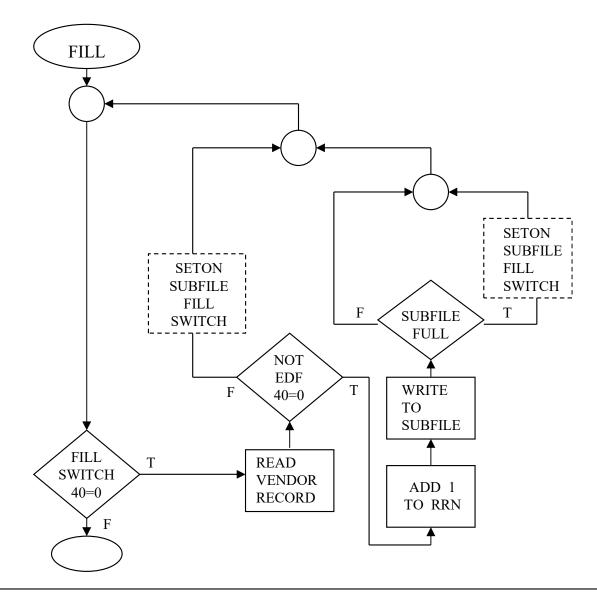
次檔案查詢作業:結構化流程圖



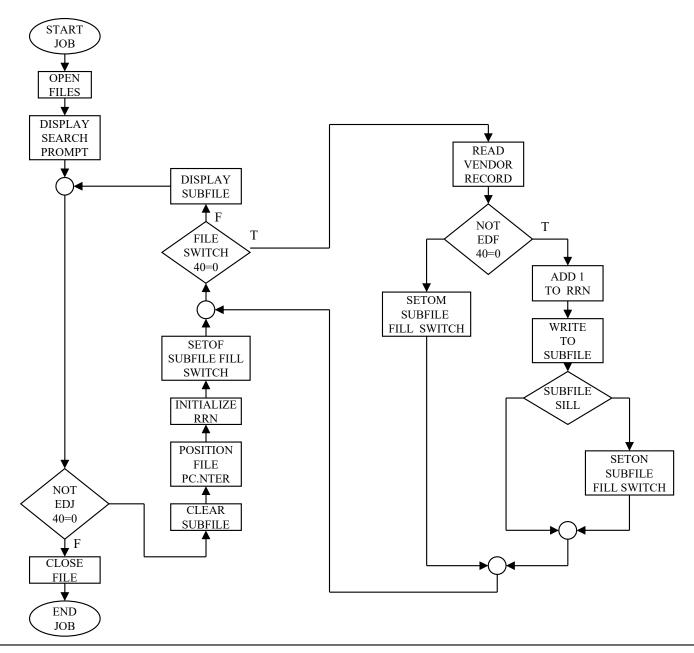
次檔案查詢作業:搜尋檔案資料階段



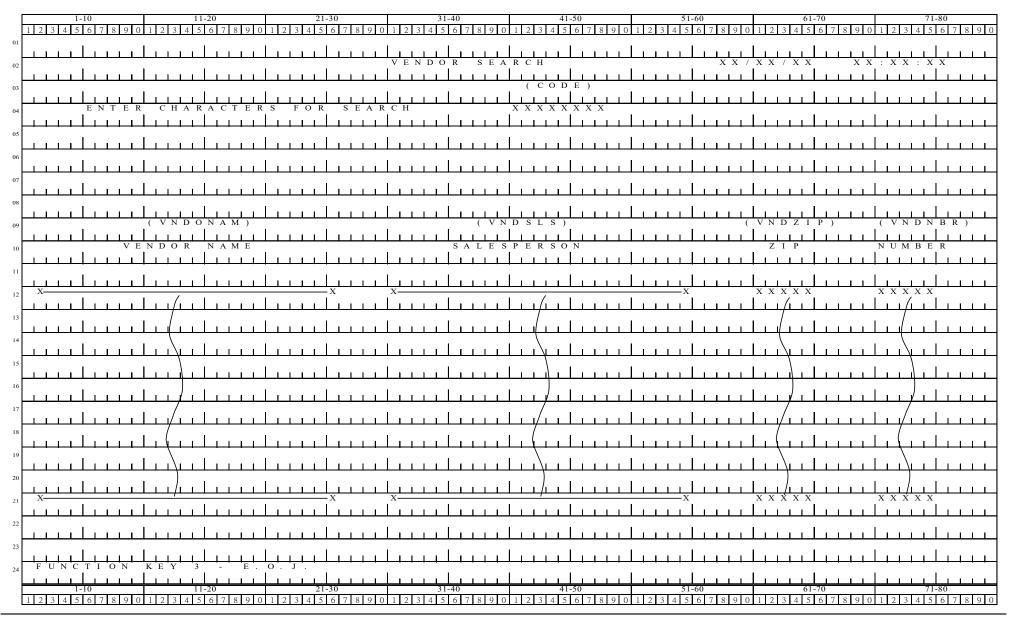
次檔案查詢作業:資料填入次檔案階段



使用次檔案查詢資料-彙總式流程圖



螢幕列示圖:運用次檔案查詢、修改資料



資料描述表格(DDS)

(*/0,				ioning		ne	R/K/S/O)	q							(R)		(W)N/N/X/S/		(H/M/b)	/H/M/P)	Loc	ation	
And/Or/Comment(A/O/*)	Not (N)		Not (N)	Indicator	Not (N)	Indicator	Name Type (b/R/K/S/O)	Reserved			ľ	Name	ė		Reference (R)	Length	Date Tvine (A/A/D/S/B/F A/S/X/V/N/I/M)	Decimal	Positions (A/O/I/B/II/M/B)	Usage (b/U/I/B	Line	Pos	Function
7	8	9 10	11	12 13	14	15 16	17	18	19 2	20 21	22	23 24	1 25 26	27 28	29	30 31 32 33	34 3	5 36	37 3	38	39 40 41	42 43 44	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
																							REF (APFLDREF)
							R		D A	A T	A												S F L
									V N	N D	N.	A M	[R						1 2	2	
										N D					R						1 2	3 1	
									V N	N D	Z	I P			R						1 2	6 1	
									V N	N D	N	B R			R						1 2	7 1	
									R F	R N							3		0 I	Н			
							R		CC	O N	T	R O	L										S F L C T L (D A T A)
		8 5																					S F L D S P C T L
		9 5																					S F L D S P
		7 5																					S F L C L P
		4 0																					S F L E N D
																							S F L S I Z (2 5)
																							S F L P A G (1 0)
																							C A 0 3 (0 3 ' E N D O F J O B ')
							Ī																O V E R L A Y

資料描述表格(DDS)

Form Type	And/Or/Comment(A/O/*) Not (N)		Co		Indicator uoin		Indicator	Name Type (b/R/K/S/O) Reserved	Name	Reference (R)	Length	Date Type (b/A/P/S/B/F A/S/X/Y/N/I/W	Decimal Positions	Usage (b/O/I/B/H/M/P)	Line	Pos	Function
			10	11	12 13	14	15 16	17 18	2 19 20 21 22 23 24 25 26 27 2	8 29		171				42 43 44	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
A	1	<u> </u>	10	11	12 13		15 10	7 17 10	17 20 21 22 23 21 23 20 27 2	0 27	30 31 32 33 31	33	30 37	50	2	3 1	' V E N D O R
A	+			+		T						Н			2		DATE
A	\top					T						Н			2		T I M E
A				\top								П			4	6	
A				\top					CODE		1 0			1	4	4 1	
A				T											1 0	9	'VENDOR NAME'
A												П			1 0	3 6	'SALESPERSON'
A															1 0	6 2	' Z I P '
A				Ī								П			1 0	7 1	'NUMBER'
A								R	FCNKEY								
A															2 4	2	'FUNCTION KEY 3-E.OJ.'
A																	
A																	
A																	
A	_			_								Ш					
A				4													
A	_	-		4						_							
A	_	1	_	\downarrow		\perp				-		Ц		Щ			
A	\perp	-	_	\dashv		\sqcup		\vdash		_		Н					
A																	

次檔案查詢程式(四之一)

F								T	Fil																	sing																					File		lditio			
1.	.								Ι.	_				tion							_			•		eld (Į						xtent				Nι	ımbe			ks
										١.			fFi							of l	_					s Fi												S/NE/M		Nam			fo	or D	AM	[for (•		
				File	nan	ne						Se	quei	nce													ype											N/S	Ι	abel	Exit								Ov	erflo	ow	
											_											Ty	pe o	ofF	ile (Orga	niza-	Ţ										els											Numb	er o	f Exte	nts
I														File	e Fo	orm	at					ion	or	Ad	ditio	onal	Are	e E		Ι	Devic	e			Syn	nbolio	;	Labels					Sto	rage	Ind	lex			I	File		
Line												Œ										r 2	О	ver	flo	w Iı	niza- Area	Cod																					I	Rew	ind	
									D/F			ΔŽ	В	lock	:	Re	core	ı			Ι.	/R/o	cat	tor	Κe	ey F	ield	on (De	vice														(Cond	tio
	ype							5	VT/			F/V/S/M/D/F	Le	engtl	1	Le	engtl	ı			/P/I/K	X/D/T			S	tarti	ield ing ion	ensi												Co	ntinu	atio	n Li	nes			1			U	1-U	J.L
	ш.							M	C/F			E/		Ū			Ü	1	\ \ 		A/P	/X/			Lo	ocat	ion	Ext										K		Opt	ion			Ent	ry		1_		2	Z.	ſ	_
	Form '							I/O/U/C/D	P/S/C/R/T/D/F	H	A/O						Exte	rna	Re	cor	d N	Jan	ne					_												•					•		A/C		10,17,0	2		
3 4 5	6	7	8	9 10	11	12	13 1					19	20 2	1 22	23	24 2	5 26	27	28 2	9 30	31	32	33	34	35 :	36 3	7 38	39	40 4	1 42	2 43	44 45	46 4	47 4	18 49	50 5	1 52	53	54 5	5 56 :	57 58	59	60 61	62	63 6	4 65	66 6	67 68	- 1		1 72	13 1
				N D					F		-	Е									K	_							D I				\top														\forall					_
				S P								Е						7	1									-				S T	N														TT					_
	F							╁	H						1			7	+															R I	R N	-		K	SF	7 I	LΕ	-	D A	Т	A		TT					_
												-																																								_
	ζ,																																												١,,			A	rithn	natio	С	
,	Control Level (L0-L9,	AN/OK)				Ind	licat	Orc														ı																	,	D1	lt Fi	-1.1			Decimal Positions	H	D1 ₁	116	M in	110 '	7 or o	1
		žŀ				IIIC	iicai	015				4										ı															_		J	Kesu.	ll F10	eia			sit	Half Adjust (H)	110					4
ype	ěve.	, A																				ı																							1 <u>P</u> (lib.			omp			1
$T_{\mathbf{y}}$	01 L	SK,			Aı	nd		A	nd						I	act	or 1					ı	(Op	era	tior	1					Fact	or 2	2					Na	ame			Leng	gth	ima	If A	1>	-2	1<2	2	1=2	
Form	it e	LK,	ot			ot			ot			7										ı)ec	На	Loo	k U	p(Fa	icto	r 2)	S
F	රි ්	_,	Not			Not			Not													ı																							Γ		Hi	gh	Lov	v I	Equa	L
6	7	8	9	10	11	12	13	14	15	16	5 1	7	18								2	7 2	28				32	33	3							42	43				4	8 4	9	51	52	53	54		56	5	8	
С	*																					T																				\top			T		\vdash			+		1
С	*		W	RIT	Е		FU	NC	TIC	N	-	k	KEY	7	P/	١N	EL		ΑN	ID		-																									†			T		1
С	*						ON				FC					CH						Т																				+					\vdash			+		1
С	*	1					<u> </u>				T	Ť										†																				\top			H	l	T			1		1
С	1	7									t	1										+	W	R	Ι	Т	Е	F	С	N	K	E Y	7																			1
C	十	┪									t	\dagger												Е			N															\dagger					8	5		\dashv		1
С	\dagger	7								H	t	\dagger										_				M		С	0	N	Т	R C) J	L								\top			H	l	\vdash			\top		1
C	1	7									+	\top										_				0																			T		8	5		\top		1
	*	+								H	\dagger	+										\dagger	-	_	_		_										1					+			Н		Ť			+		1

次檔案查詢程式(四之二)

		L9,																		s		A	rithmat	tic
C		Control Level (L0-L9, LR, SR, AN/OR)			Inc	dicat	ors									Result	Fiel	d		Decimal Positions	(H)	Plus	Minus	Zero re 1=2 tor 2) is
	٦۵	/el (\}N/			T					1										osi	ust	(Compar	·e
Line	Form Type	ol Lev SR, 7			I And		An	d			Factor 1		Operation	Factor 2		Name		Lar	ngth	al F	Adj	1>2	1<2	1=2
Line	m T	trol 3. S	Н	1	_	1				4	ractor r		Operation	1 actor 2		rume		LCI	igin	Scin	alf	I ools I	In (Foot	or 2) is
	For	Contr LR	Not		Not			Not												Ď	$^{\Xi}$	LOOK	р(гасі	Of Z) is
4 5				10 1					16 1	٦	19 2	27	28 32	22 //2	43		48	40	51	52				Equal 58
1	C	*	7	10 1	1 12	. 13	14	13	10 1	-	10 2	<u> </u>	26 32	33 42	43		40	47	<i>J</i> 1	32	55	J 4	30	36
$\frac{1}{2}$	C	*	WI	IILE		EO.	I I	IS		N	OT SELECTED	-								₩	\vdash			\vdash
$\frac{1}{3}$	C	*	VV 1		Т	I	, I	13		11	OI SELECTED									$\vdash \vdash$	\vdash			
4	C		H		1			\dashv		+	* I N 0 3	-	D O W E Q	' 0 '						H	H			
5	C	*	H		+		H	+		1	1 1, 0 0		2 0 11 2 2	•						Н	Н			
6	С	*	CLI	EAR		SU	BFII	E		1										H	П			
7	С	*	П					T		7										Н				
8	С							T		T			S E T O N							П		7 5		
9	С												WRITE	C O N T R O L						П	П			
0	С												S E T O F									7 5		
1	C	*																						
2	C	*	RE	SET		RF	LA	ΓIV	Е		RECORD NUMBER	A	AND FILE	POINTER						Ш				
3	С	*	Ш		_		Ш			_										Ш	Ш			
4	С		Ш				Ш			4			Z - A D D		R	R N			3	0	Ш			
5	C		Ш		_		Ш	_		4	C O D E		S E T L L	V E N D O R L						\sqcup	Ш	4 0		
$\frac{6}{7}$	C		Ш					_		4										Щ	Ш			
/ /	C		\vdash			1		+		+					-					$\vdash \vdash$	Н			
8 9	C		$\vdash \vdash$		+	-	$\vdash \vdash$	+		+										$\vdash \vdash$	${oldsymbol{arphi}}$			\blacksquare
1.	\vdash		\vdash	+	+	+	$\vdash \vdash$	\dashv		+		_			-					$\vdash\vdash$	$\vdash \vdash$			\vdash
0	C																							

次檔案查詢程式(四之三)

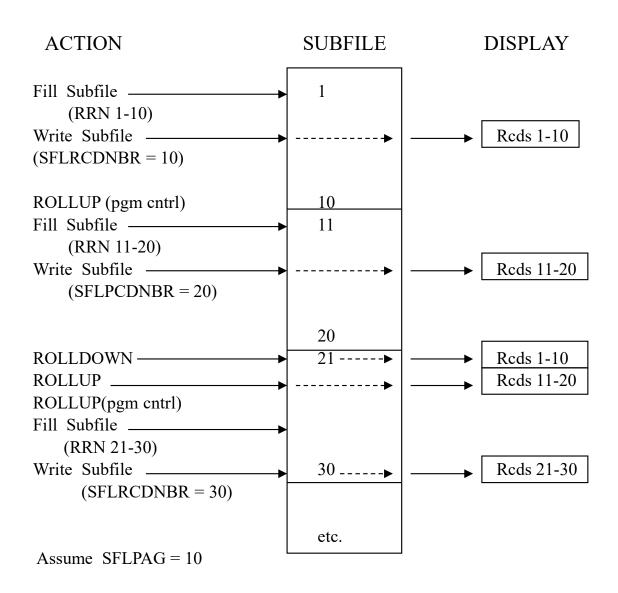
C		Control Level (L0-L9, LR, SR, AN/OR)	,									T										S		Arithma	atic
		evel (L0-L) AN/OR)				Ind	icat	ors										Result	Fiel	d		Decimal Fositions	E) PI	Compa 2 1<2 k Up(Fac	s Zero
	e e	vel (AN										1									_ ر	SOL		Compa	are
Line	Form Type	SR.			Aı	nd		A	ı nd				Factor 1		Operation	Factor 2		Name		Lengt	h -	nal ,	12	2 1<2	1=2
	rm	ontro LR, §	_			+						1									ŀ	ech	E Loc	k Up(Fac	etor 2) is
	Fo	Cor L	Not			Not			Not												۲	٦[-	Hi	gh Low	Equal
4 5	6		9	10	11	12	13	14	15	16	17	7 1	18	27	28 32	33	42	43	48	49	51 5	2 5	3 54		58
1	С	*										t										T		+	
2	С	*	FI	LL		SU	BF	ILF	3			T										T			
3	С	*										T													
4	С											Ï	* I N 4 0		D O W E Q										
5	C														R E A D	V E N D O R L									4 0
6	C												* I N 4 0		I F E Q	' 0 '									
7	C														A D D	1		RRN							
8	C														W R I T E	D A T A									4 0
9	C											1			E N D										
0	C											ļ			E N D										
1	С											ļ										_			
2	C											╀										4		$+\!-\!$	
3	C											ļ										4			_
4	C											╀									-	-		$+\!\!-\!\!\!-$	
5	C	-										╀										+		$+\!-\!\!-$	+
$\begin{vmatrix} 6 \\ 7 \end{vmatrix}$	C	$\vdash\vdash$		H							-	╀									-	+	+	+-	+
8	C			\vdash							+	╀										+	+	$+\!\!-\!\!\!-$	++
9	C	\vdash									1	+									+	+	+	+-	+
$\begin{bmatrix} 9 \\ 0 \end{bmatrix}$	C	\vdash	\vdash	\vdash		\dashv					+	+									+	+	+	+-	+
U	C																								

次檔案查詢程式(四之四)

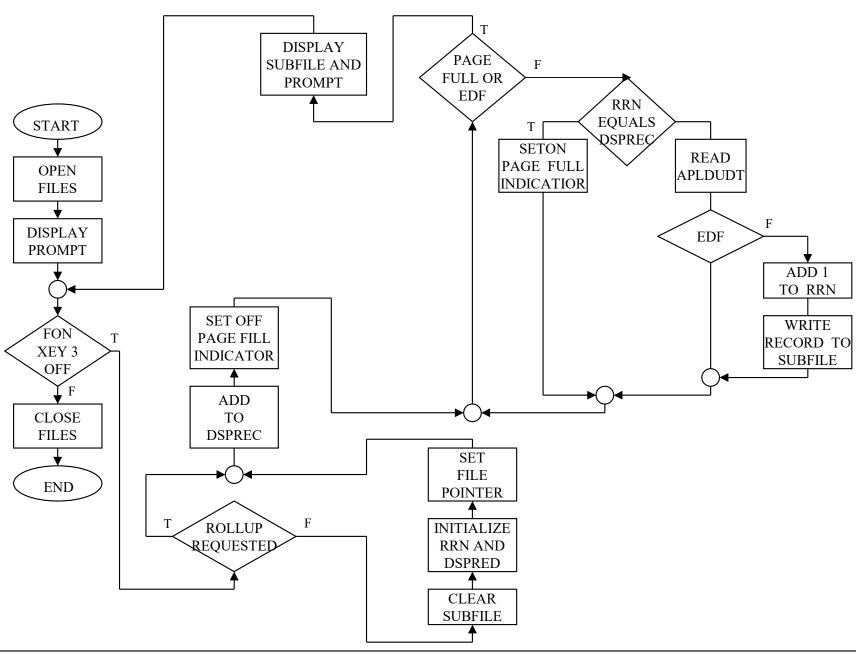
		L9,																														s	П	F	Arithma	ıtic
C		Control Level (L0-L9, LR. SR. AN/OR)				Indi	cato	ors																			R	esult	Fiel	ld		tion	(H)	Plus	M inus	s Zero are 1=2 etor 2) is
	o o	/el (T																								osi	ust		<u>1 </u>	re
Line	Form Type	ol Lev SR. /			Ar	nd		An	ıd				Fact	tor 1			On	eratio	nn .				Factor	r 2			Na	me		Ιρ	ngth	ıal F	Adj	1>2	1<2	1=2
	m T	trol			_	-	-				<u> </u>		raci	.01 1			Op	Clatic	/II				racioi	1 2			Iva	iiic		LC	ngun	cin	alf	I oals l	In (For	1 2 ton 2) is
	For	Contro	Not			Not			Not																							Ď	田田	LOOK	лр(гас Ттак	Equal
4 5			9								17	10				27 2	Q		32	33					42	43			18	49	51	52		nıgıı	Low	58
1 ,	C		7	10	11	12	13	14	13	10	1 /	10				21 2	.0		32	33					42	43			40	47	<i>J</i> 1	32	55	J 4	130	36
2	C		DI	SPI	٨٦	7		UB	EII	E						+																╁	\vdash		+-	+1
$\frac{2}{3}$	C	*	וטו	SFL	_A 1	Ī	<u>د</u> 1	П	1111	ناد																						╁	Н		+	+
4	C	*	-		_		+									+																+	$\vdash \vdash$		+	+
5	C	\vdash	-				+									٠,	S E	T () N													+	\vdash	8 5	9 5	+
$\frac{1}{6}$	C	\vdash					+	\dashv	┪												O N	Т 1	R O	L								+	H		1	+
7	C	H	-				1											T (- 11											T	Н	8 5	9 5	+
8	C	*					1	\dashv	7																							\top	Н		 	+ 1
9	С	H]	E N	D														T	П		†	\Box
0	С	*					T																										П		1	
1	С	*	EN	ND		OF		J(OВ																							\top	П			
2	С	*																														\top	П			
3	С															;	S E	Т () N													\Box	П	L R	1	
4	С																																П			
5	С																																			
6	С																																			
7	C																																			
8	С																																			
9	С																															$oldsymbol{\perp}$	Ш			$oxed{oxed}$
0	C																																	<u></u>		

單頁次檔案資料輸入

單頁次檔案資料輸入



單頁次檔案資料輸入



SFLRCDNBR

	(*/0/*)				tionin		me	(b/R/K/S/O)	pa pa							(R)				F A/S/X/Y/N/I/W		8/H/M/P)	Lo	cat	tion	
Form Type	And/Or/Comment(A/O/*)	NOT (N)		Not (N)	Indicator	Not (N)	Indicator	Name Type (b/	Rese			N	Vame			Reference (R)	I	engt	:h	Date Type (b/A/P/S/B/F	Decimal Positions	Usage (b/O/I/B/H/M/P)	Line		Pos	Function
6	7	8 9	9 10	11	12 13	3 14	15 16	5 17	7 18	19 2	0 21	22 2	23 24	25 26	5 27 28	29	30 31	1 32 3	33 34		36 37	38	39 40 4	1 14	12 43 44	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
A	_																									
A								R		C C) N	T]	R O	L												SFLCTL (DATA)
A																										S F L P A C (1 0)
A																										S F L S I Z (2 5)
A		8	3 5																							SFLDSPCTL
A		٥	9 5																							SFLDSP
A		Ţ.	7 5																							SFLCLR
A			1 0																							SFLEND
A	*																									
A	\perp			Ц						R F	R N								2	S	O	Н				S F L R C D N B R
A	\perp			Ц					ot													Ш		\perp		
A																										

DDS - 單頁次檔案資料輸入之一

Form Type	And/Or/Comment(A/O/*) Not (N)			Indicator		Indicator	Name Type (b/R/K/S/O) Reserved		N	ame	Reference (R)	Length	Date Type (b/A/P/S/B/F A/S/X/Y/N/I/W	Decimal Positions	Usage (b/O/I/B/H/M/P)	Loca	Pos	Function
6	7 8	9 1	0 11	12 13	3 14	15 16	17 18	19 20 21	22 23	3 24 25 26 27 28	3 29	30 31 32 33 34	1111	36 37	38	39 40 41	42 43 44	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
A	+	, , , 1	0 11	12 1,	7 17	13 10	, 17, 10	17 20 21	<i>LL L</i> .	7 24 23 20 27 20	, 2)	30 31 32 33 34	33	30 37	50	37 40 41		R E F (A P F L D R E F)
A	\dashv				+		R	DAT	Α		R		H					S F L
A	<u> </u>							VND		M	R		H			1 2	2	
A	1						tt	VND			R					1 2	3 1	
A								VND			R					1 2	6 1	
A	1							VND			R					1 2	7 1	
A	*						tt	1 2		. 11	1		Ħ				, 1	
A							R	CON	ΤR	OL			П					SFLCTL(DATA)
A		8 5	5															SFLDSPCTL
A		9 5																SFLDSP
A		7 5																S F L C L R
A		4 ()															SFLEND
A																		S F L S I Z (2 5)
A																		SFLPAG(10)
A																		CAO3(O3 'END OF SEARCH')
A																		O V E R L A Y
A																		
A																		

DDS - 單頁次檔案資料輸入之二

Form Type	And/Or/Comment(A/O/*)	Not (N)			Indicator			Name Type (b/R/K/S/O) Reserved		Nan	ne	Reference (R)	Lengt	th	Date Type (b/A/P/S/B/F A/S/X/Y/N/I/W	Positions	Usage (b/O/I/B/H/M/P)	Loca	Pos	Function
6	7	8	9 10	11	12 13	3 14	15 16	5 17 18	19 20 21	22 23 2	4 25 26 27 2	8 29	30 31 32 3	33 34	_	6 37	38	39 40 41	42 43 44	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
A	*			Ħ				, , , , ,												
A		N	4 0																	ROLLUP(30)
A		1		П					RRN					2		0	Н			S F L R C D N B R
A	П			П					P A G	SIZ	<u>Z</u>			2		0	_	1	3	DSPATR(ND PR)
A	П																			DFT('10')
A	7			П		+						+			+					, , , , , , , , , , , , , , , , , , ,
A																		2	3 1	'VENDOR SEARCH'
A																		2	5 8	DATE
A																		4	6 9	TIME
A																		4	6	'ENTER CHARACTERS FOR SERACH'
A									C O D	Е				1 0				4	4 1	
A	*																			
A	*																			
A																		1 0	9	'VENDOR NAME'
A																		1 0	3 6	'SALESPERSON'
A																		1 0	6 2	' Z I P '
A																		1 0	7 1	'NUMBER'
A	*																			
A				Ш				R										2 4	2	'FUNCTION KEY 3 - E.O.J. '
A																				

單頁次檔案資料輸入之一

				Desi	gnation f File			L	ength	of key	ocessing / field or ress Field						IE/M	Name of	Extent Exit for DAM	_	Num	ber of	Jnordered f Tracks ylinder
Гуре	Filename	Æ		m	quence File Fo				or/2	ype of n or Ao	ldress Type file Organiza- dditional Area erflow Indi-	Ι_		Device			Labels S/N/N	Label Exit	Storage Index	-	Nur	File Rev	of Extents
Form		O/U/C/D /S/C/R/T/D/F	, Q	F/V/S/M/D/I	Block Length	Record Length Externs	L/R	a ord	A/P/I/K	Gu ter	Key Field Starting Location	E				Device	K	Continuation Option	on Lines Entry	- -			Condition J1-U8.UC
6	7 8 9 10 11 12 13 14	∑			20 21 22 23						35 36 37 38	39	40 41	42 43 44 45 46	6 4	17 48 49 50 51 52	53	54 55 56 57 58 59	60 61 62 63 64 65	66 6	7 68 6	9 70 7	1 72 73 74
F	VENDOR	I F		Е					K				DI	S K		<u> </u>					$oxed{oxed}$		
F	DISPLAYF	CF		Е									WΟ	RKSTE	I					Ш	Ш	Ш	
F]	RRN	K	SFILE	DATA		丄丄	$\bot \bot$	

	Control Level(L0-	AN/OR				1.															ъ	1. 17.			Decimal Positions	\exists)		rithmat	
	el(Ż			Inc	1108	itors	3													R	esult Fie	ld		: <u>∓</u> [딮			Zero
be	્રે	Ϋ́																							Pos	djust(H)	(Compar	re e
Ly	ΙIc	,SR,		1	And		A	nd					Factor	r 1			Operation		Factor 2		Naı	me	Len	gth	[al]	Αď	1>2	1<2	1=2
Β	ıtı	K	t	T	\neg	Т		_	1	Τ	1						1							6	ii.	Half	Look U	p (Fact	or 2) is
Form Type	Col	L9,LR,	Not		Not			Not																	Dec	Ξŀ	High		
6	7			10 1	$1 \begin{vmatrix} 1 \\ 12 \end{vmatrix}$		111	1		. 1,	7 1,	0			27	20	22	2 33	2 42	2 4.	2	10	49	51					58
	/	Ť	9	10 1	1 12	1.3	14	13	, 10) 1	/ 10	0			21	20	32	. 3.	3 42	4,)	40	49	31	32	33	J 4	30	36
C	*																					_							
С	*		WR	ITE	3	F	UN(CT.	ION	1		KEY	PANI	EL .	AND		炮动处台	}	及搜尋提示畫面寫入	丛	苣 L								
С	*			I	PRO	MP	Т		FO)R		SEAR	CH				村 切肥斯)廷	及投守极小鱼山高八	虫	<u> </u>								
C	*			Ŧ		T	Ī	Π	Ī	Ť								1		1									
					+	-	1	┢		+						337	DITE	Т	EHNKEV										\vdash
С					_	_					_								FUNKEY	4									
С																S	E T O N										8 5		
С																Е	X F M T	C	CONTROL										
С																S	E T O F										8 5		
С	*																												
С										T																			

單頁次檔案資料輸入之二

C		L9,																													SI		A	rithmat	tic
		Control Level (L0-L9, LR, SR, AN/OR)				Indi	cato	ors																		F	Result	Fiel	d		Decimal Positions	Half Adjust (H)	Plus	Minus	Zero
] e	yel AN																													Pos	ljust	(Compar	re
Line		SR	,		Aı	nd		And	d				Fa	ictor 1				Оре	eratio	on		F	Factor 2			Na	me		Len	gth	mal	fΑc	1>2	1<2	1=2
	Form '	ontro I.R.	Not			Not		,	Not)eci	Hal	Look U	Jp(Fact	tor 2) is
	F(Low	Equal
4 5		7 8	9	10	11	12	13	14 1	5	16	17	18					27	28		32	33			4	2 43			48	49	51	52	53	54	56	58
1	С	*	-	***		\perp	Ц	- I		Ц	101	<u> </u>	GET E	- TED		绀	<u></u>	内功角	上台	▶土.	协性														
$\begin{vmatrix} 2 \\ 3 \end{vmatrix}$	C C	*	+	W.	HIL	E T	<u>_</u> 	EOJ		1	Ol	Ι΄	SELEC	JED		而	不 日	17 岁 月	上政	E/\.	按吋				-										
$\frac{1}{4}$	C	+	╁			\dashv	\dashv	+		+		*	I N 0	3				D O	W	ЕО	' 0 '														
5	С	*				_	+																		+						\vdash				
6	С	*		IF		RO	LL	Љ		W	ΆS	S	NOT	SEI	ECT	ΓED,	C	CLEAR		SUB	FILE	向	下翻	頁未選	時:	清陽	全次:	檔算	 套	料					
7	C	*)													
8	C										Ц	*	I N 3	0				I F	Е (Q	' 0 '														
9	C	*	-			_	4		-	4	\dashv							C E	т /	0 N													7 5		
$\begin{bmatrix} 0 \\ 1 \end{bmatrix}$	C C		+			\dashv	+	+	+	-								S E W R			C O N	TR	2 O I										/ 3		
2	C		+			_	+	+	t	1								S E			0 11	1 1	C O L										7 5		
3	С		1			T		1										~ 2																	
4	С																																		
5	C																																		
6	С					\downarrow	\downarrow			4																									
'/	C C	-				\dashv	\dashv		4	\dashv															-						Н				
8 9	C	+	╁			\dashv	\dashv	+	+	\dashv							_								-						H				
	C	+	+			\dashv	\dashv		+	\dashv							+								1						H				
U	\sim								L																										

單頁次檔案資料輸入之三

		,6,																									A	rithmat	tic
C		Control Level (L0-L9, LR, SR, AN/OR)	Indicators VV											Result Field						H	Dluc	Minus	Zero						
	ا ٦)/N 1) [c				muic	alui	<u>ъ</u>											ŀ		Re	suit Fie	IG		sit	Half Adjust (H)			
	b e	eve.																							1 P	dju		Compar	
Line	Ty	ol L SR			An	d	A	And			Factor	1		Op	eratio	on		Factor 2			Nam	e	Lei	ngth	ima	lf A	1>2	1<2	1=2
	Form Type	ontr LR.	Not			Not		Not																	Decimal Positions	На	Look U	Jp(Fact	or 2) is
	F	CC	Z			Z		Z																	_		High	Low	Equal
4 5	6	7 8	9	10	11	12 1	3 14	4 15	16	17	18		27	28		32	33		42	43		48	49	51	52	53	54	56	58
1	С	*																- A A A A	\			١	7.						
2	С	*	RE	ESET			DIS	SPLA	Υ		COUNTER,	RRN		AND	F	ILE	POINTER	重新設定	定顯	示列	リ數	,相屬	自記	錄月	予號	記和	1檔第	<u> </u> 指根	
3	С	*																											
4	C													Z -	A l	D D	0			D S	P R	E C		2	0				
5	C	*																											
6	C													Z -							R R	l N							
7	C										C O D E			S E	T :	L L	V E N D	O R L									4 0		
8	C	*																											
9	С													E N	D														
0	C	*																											\Box
1	С	*	SE	Т		DIS	SPL	ΑY		C	COUNTER	AND	E	ND	OF		PAGE INI	DICATOR	設	定暴	頁示言	計數和	口單	頁紙	吉尾	上燈	医號扌	旨示習	
2	С	*						\perp					_										$\overline{}$						
3	С							↓						A D			P A G S	I Z		D S	P R	E C	Ш						
4	С													S E	Τ (O F											4 1		
5	С																												
6	С			Ш																					Щ				
7	С			Ш	_			\bot																	Щ				
8	С			Ш	_			\bot																	Щ				
9	С			Ш	4	4	_	\bot		Щ															Щ			<u> </u>	
0	C																												

單頁次檔案資料輸入之四

			a			Ind	licat	tors	,								Result	Fiel	ld		n s			rithma	
	_	Control Level(L0-	$\frac{AN/OR}{I}$																		Decimal Positions	st (H)	Plus	M inus	Zero re 1=2 ror 2) is
Line	l e	Lev			T	ınd	ı	A	nd	1	1	Factor 1		Operation	Factor 2		Name		Lanati	.	al P	adju	1>2	Compai	re 1-2
Line	Form tyne	trol	L9,LR,SR	10 N		Not			Not			ractor r		Operation	Pactor 2		Name		Lengtl	1	ecim	Half	Look U	Jp(Fact	for 2) is
	Forn	Con	1.6.I						Z															Low	
4 5			8	9 10	0 11	12	13	14	15	16	17	18	27	28 32	2 33 42	2 4	3	48	49	51	52	53	54	56	58
1	С	*																			\exists	\exists			
2	С		Ι	F	N	TOI		I	ENE)	(OF FILE OR PAG	Е,	BULID	NEXT PAGE				1			_			
3	C		_	_		-														_	\dashv	\dashv			
4	C	_		+	+	-						* I N 4 0		D O W E Q	' 0 '	_				4	4	4			
5	C		_	+	+	<u> </u>						Ψ T N 4 1	\dashv	ANDEO		+				\mp	\mp	#			
6	C			+	+	-						* I N 4 1		A N D E Q		-				+	\dashv	ᆛ			
/ 0	C			+	+	+						RRN		,	D S P R E C	+				+	\dashv	\dashv	4 1		
$\begin{bmatrix} 8 \\ 9 \end{bmatrix}$	C		_	+	+	1			-					S E T O N E L S E		-				+	\dashv	\dashv	4 1		
0	C			+	+								_	ELSE		+				+	\dashv	╡			
1	C		+	+	+	+							+	READ	V E N D O R	+				+	+	\dashv			4 0
$\frac{1}{2}$	C			+	+	╁						* I N 4 0		I F E Q	' 0 '	+				\dashv	+	\dashv			7 0
$\frac{1}{3}$	C		+	+	$^{+}$	+						1 1 4 0		A D D	1	F	RRN			+	+	ᅥ			
4	C			\dagger	t	╁								W R I T E	DATA	╁	10 10			\dagger	+	\dashv			
5	C		1	+	$^{+}$	 								E N D		+				+	+	\dashv			
6	С			\dagger	t											\dagger				\dagger	\top	十			
7	C	_		\dagger	t	T					T		一	E N D		\dagger				\dashv	\dagger	\dashv			
8	С			\dagger	T	T							+			1				T	寸	寸			
9	С	*		1	T								7			1				1	\dashv	寸			
0	С			Ī	İ									E N D		1					J	╛			

單頁次檔案資料輸入之五

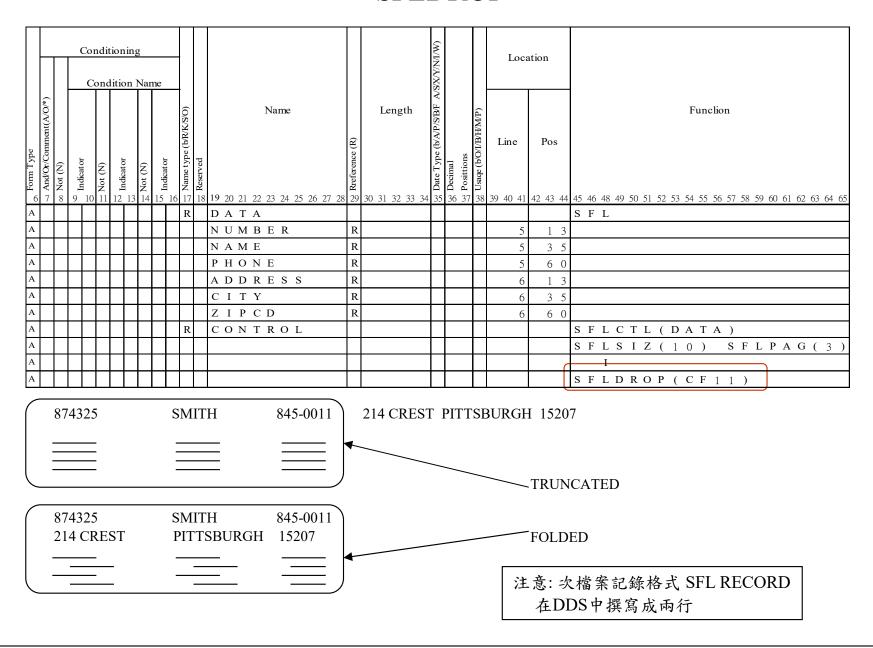
C		L9,											T								SI		A	rithmat	tic
		Control Level (L0-L9, LR. SR. AN/OR)]	Indio	cato	rs								Result Field					Decimal Positions	E	Plus	Minus	Zero
	e	vel (7										Posi	just	(Compar	re
Line	Typ	SR.			An	d		ı And				Factor 1		Operation	Factor 2		Name		Ler	ngth	nal	f Ad		1<2	
	Form Type	ontro LR.	-			Ħ			:	T	1			•)eci	Hal	Look U	Jp(Fact	tor 2) is
	Fc	ကို	Not			Not		Ż																Low	
4 5	6	7 8	9	10	11	12 1	13 1	4 1:	5 1	6 1	7	18 27	7 2	28 32	33 42	43		48	49	51	52	53	54	56	58
1	С	*																							
2	C	*	D)	ISPI	ΑY			SU	JBF	ILI	3		1								Ш	Ш			
3	C	*							1	_			4								Ш	Ш			Ш
4	C	*							1	_	4		4	G E E O N		_					Ш	Ш	0 5	0.5	Ш
5	C					_	_		╀	+	+			S E T O N	CONTROL	┝					Ш	Н	8 5	9 5	
$\begin{vmatrix} 6 \\ 7 \end{vmatrix}$	C		-	H	-	+	+	-	+	+	+			S E T O F	CONTROL						Н	$\vdash\vdash$	0 5	9 5	\vdash
8	C					_	+		╀	+	+			E N D		┢					Н	Н	8 3	9 3	\vdash
9	C	*			-	-	+		╁	+	+		+	END							Н	Н		$\vdash \vdash$	\vdash
0	C	*		H	+	\dashv	+	+	+	+	+		$^{+}$			┢					${f H}$	Н		\vdash	
1	C	*	EN	ID		O.	F			OB	\dagger		\dagger								H	H		\vdash	
2	C	*							Τ	Т	\dagger		\dagger			H					Н	П			\vdash
3	С								T				†	S E T O N							П	П	L R		
4	С								T				T								П				
5	С												T									П			
6	С																								
7	C																								
8	С								I		I		I												
9	С		$oxed{oxed}$	Ш		\perp	\perp		┸	\perp	\downarrow		1								Ш	Ш		<u> </u>	\bigsqcup
0	C																					Ш			

次檔案(SUBFILE)顯示方式控制

次檔案(SUBFILE)顯示方式控制

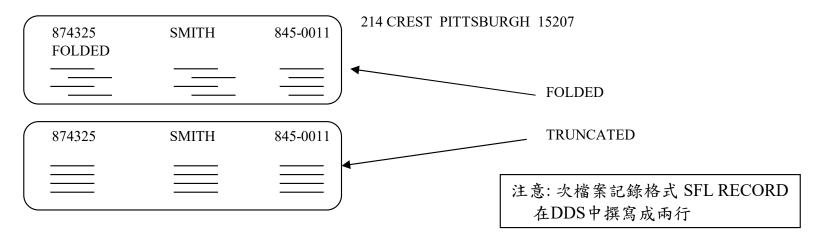
SFLDROP SFLFOLD SFLLIN

SFLDROP

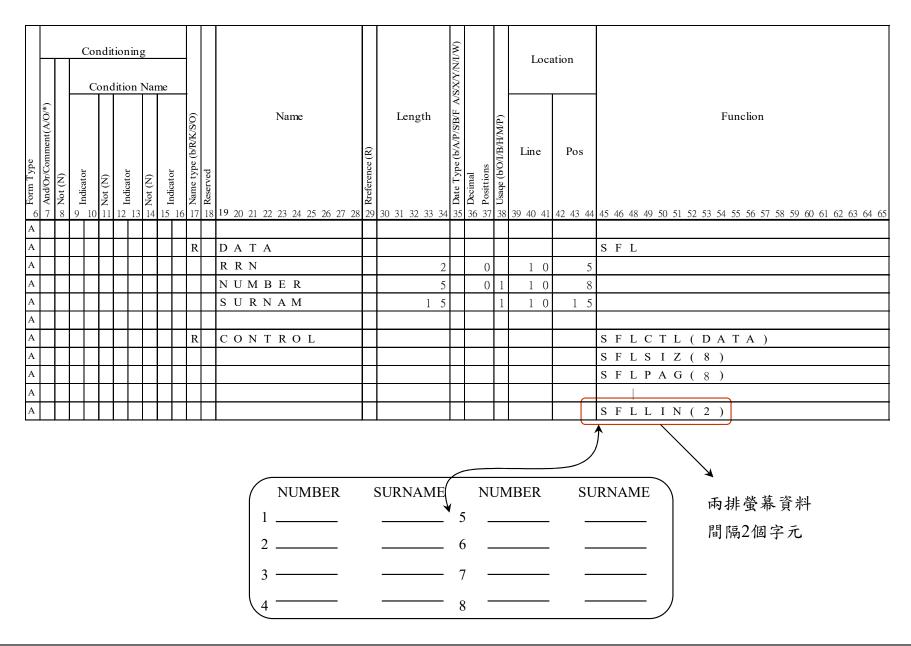


SFLFOLD

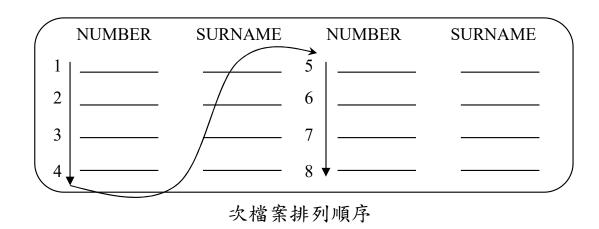
					ioni		ıme	e														A/SXY/N/I/W)				Loc	cati	ion		
Form Type		8 Not (N)	Indicator	[Not (N)	To Indicator	(X) yot (Y)		Indicator	Name type (b/R/K/S/O)	Reserved	10 20	. 21		Namo		26, 27	S Rreference (R)	20		engt		Date Type (b/A/P/S/B/F	Decimal	Posittions	Usaqe (b/O/I/B/H/M/P)	Line	1. 41	Pos	44	Funclion 15 46 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
A	/	8 9	10	11	12	13 14	1 1	2 16	R		D A			23 24	25	26 27	28 29	30	31	32 .	33 3	4 33	36	3/	38	39 40 4	1 42	2 43 4	-	S F L
Α		+	╁			+	t	+	10	-	N U			E R			R					+			1	5	5	1 :	-	
A		1		П		\top	t			-	N A						R	_				1					5	3 :	_	
A						T	T			-	РН			E			R										5	6 (+	
Α		T		П		T	T				ΑГ	D	R	E S	S		R									6	5	1 :	3	
A											C I	T	Y				R									ϵ	5	3 :	5	
Α											Z I	P	С	D			R									6	5	6	0	
Α									R		СС	N	T	R O	L														:	SFLCTL (DATA)
A																													:	S F L S I Z (1 0) S F L P A G (3)
A																•										•				I
Α																													\prod	SFLFOLD (CF11)



SFLLIN



SFLLIN REMINDER (SFLLIN 提示)



螢幕游標移動順序

第八章:運用次檔案查詢修改資料檔

單元內容

本單元延續上一單元,更進一討論利用次檔案輸入及修改資料,再回存資料庫檔案的一些觀念,它包含 RPG/400 所須使用到的操作指令。另外一個相關主題描述兩個特別的考量:即是關於任何有關檔案維護程式中螢幕檔所使用的 DDS 關鍵字。本單元將用一支實例程式來說明。

單元目標

解釋 CHAIN 操作指令如何運作在次檔案裡。

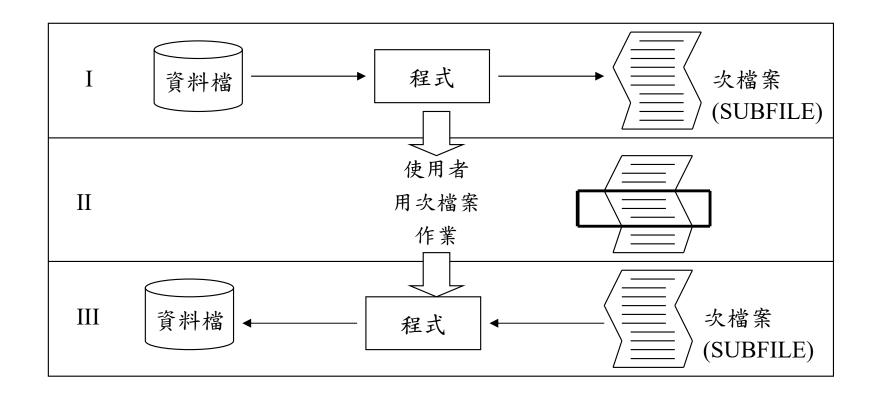
解釋 READC 操作指令。

討論 RTNDTA DDS 關鍵字的意思。

解釋 CA 鍵和 CF 鍵的不同。

使用上述技巧去修改程式,以達成運用次檔案查詢修改功能來更動資料庫檔案資料。

使用次檔案修改資料檔資料



程式設計者次檔案作業步驟

啟動

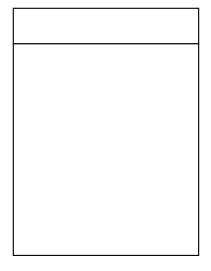
資料讀入

螢幕顯示

執行處理

啟動

將資料寫入次檔案記錄中



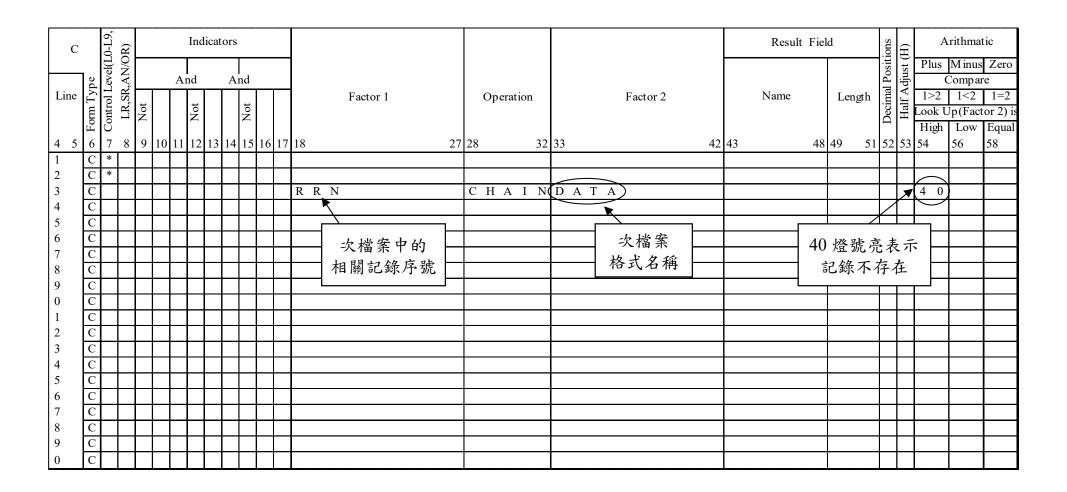
單筆啟動記錄資料

從次檔案中接受記錄

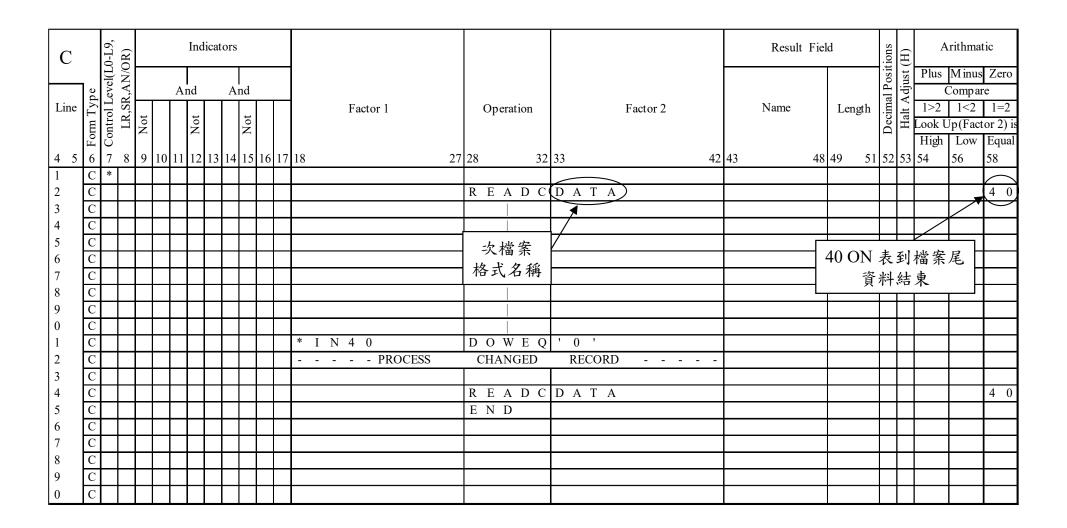
CHAIN (BY RRN)

READC

CHAIN 操作指令

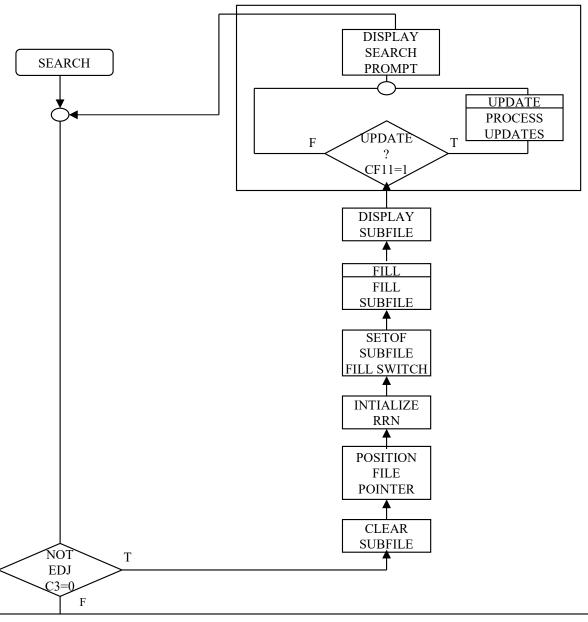


READC 操作指令

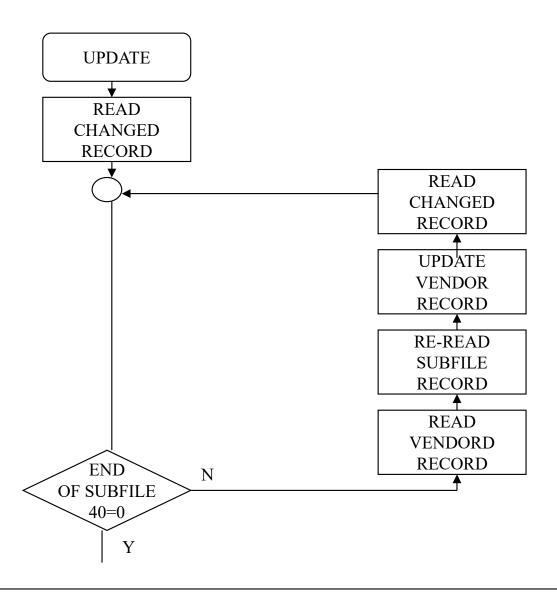


使用次檔案查詢修改資料檔案撰寫技巧

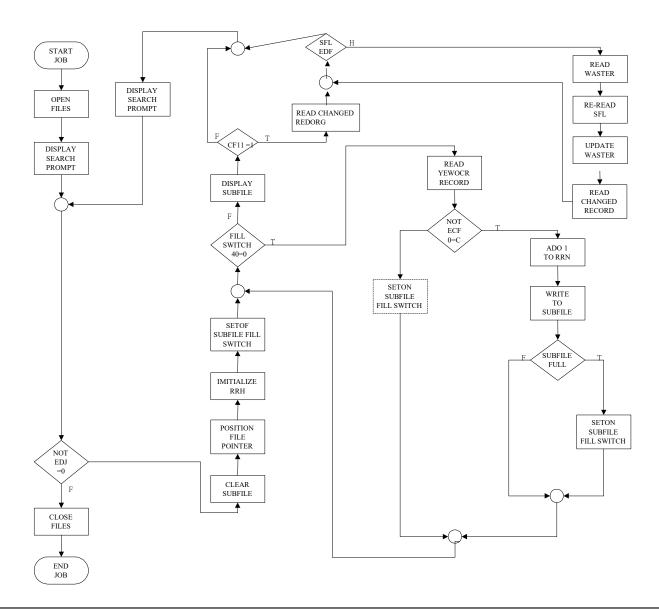
增加修改功能於次檔案查詢程式中



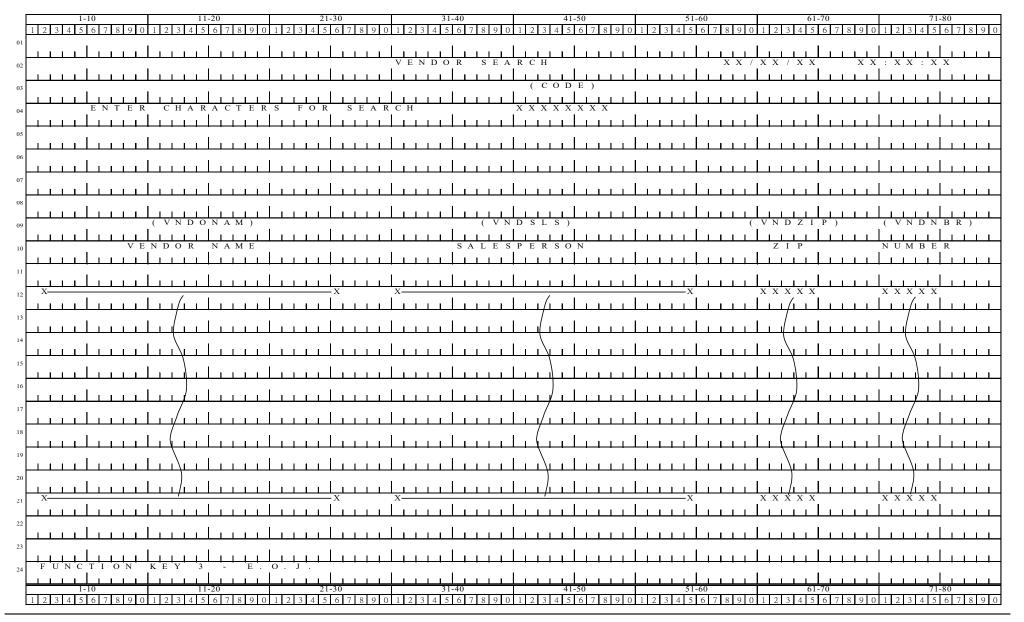
執行更新(修改)處理



運用次檔案修改-彙總流程圖



螢幕列示圖:運用次檔案查詢、修改資料



DATA DESCRIPTION SPECIFICATIONS

					tion in lition		me												A/SX/Y/NI/W)				Loca	ation	
o Form Type	And/Or/Comment(A/O/*)	∞ Not (N)	dicator	ot (N)	dicator	ot (N)	dicator		Name type (b/R/K/S/O) Reserved	DO 100					ame	Rreference (R)		Length	(b/#\P/S/B/F	ecimal	Positions	saqe (b/O/I/B/H/M/P)	Line	Pos	Function 45 46 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
6	∀ 7	8	9 10	Z 11	12 13	2 14	15	16	Z 2 17 1	4 8 1	19 2	20 2	1 2:	2 23	3 24 25 26 27 2	8 29	30	31 32 33	34 35	36	37	⊃ 38	39 40 41	42 43 44	45 46 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
Α										T						Ì								Ì	REF (APFLDREF)
Α									R		D A	A T	Α	1											S F L
A											V 1	N D) N	I A	M	R							1 2	2	
A											V 1	N D) S	S L	S	R						В	1 2	3 1	D S P A T R (P C)
A											V 1	N D) Z	Z I	P	R							1 2	6 1	
A											V 1	N D	N	l B	R	R							1 2	7 1	
A	*																								
A									R	-	C	O N	ΙT	R	O L										S F L C T L (D A T A)
A			8 5																						S F L D S P C T L
A			9 5																						S F L D S P
A			7 5																						S F L C L R
A			4 0																						S F L E N D
Α																									S F L S I Z (2 5)
A	_			7																					S F L P A G (1 0)
A		N	9 5																						C A 0 3 (0 3 ' E N D O F J O B ')
A																									O V E R L A Y
A			9 5																						C F 1 1 (1 1 'U P D A T E ')
Α																									
A																									
A																									

DATA DESCRIPTION SPECIFICATIONS

				itionin		ne													A/S/X/Y/N/W)			Loc	ation	
Form Type	/Or/Comment(A/O/*) (N)	Indicator	\widehat{z}	Indicator	$\widehat{\mathbb{Z}}$	Indicator	ar or	Name type (b/R/K/S/O) Received			N	lame			Rreference (R)	Le	ength		Date Type (b/A/P/S/B/F A	Decimal Positions	Usaqe (b/O/I/B/H/M/P)	Line	Pos	Function
	Not (N)	Indi	Not (N)	12 1	Not (N)	12		Nam	10.00	21	22. 2	2 24 /	25 26	27. 20		20. 21	22 2			Decimal Position	Usa	20 40 41	10 10 11	15 46 40 40 50 51 50 50 51 55 56 57 50 50 60 61 60 60 61
6 A	7 8	9 .	.0 11	. 12 1	3 14	15	16	17/1	8 19 20	21	22 2.	3 24 2	<u> 25 26 </u>	27 28	29	30 31	32 33	3 34	35	36 37	38	39 40 41		45 46 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 'VENDOR SEARCH'
A																						2		D A T E
A																						2	6 9	ТІМЕ
A																						4	6	'ENTER CHARACTERS FOR SEARCH'
A									СО	D	Е						1	1 0			1	4	4 1	
A																						1 0	9	'VERDOR NAME'
A																						1 0	3 6	'SALESPERSON'
A																						1 0	6 2	'ZIP'
A																						1 0	7 1	'NUMBER'
A								R	F C	N	ΚE	Y												
A	N	9	5																			2 4	2	'FUNCTION KEY 3 - E.O.J.'
A	*		-		\bot			_													Ш			
A		9	5																			2 4	4 0	'FUNCTION KEY 11 - UPDATE'
A																								
A																								
A				1			Ш		1												Ц			
A																								
A	_	_	_				Ш	_													Ц			
A	_	_			1		Ш	_													Ц			
A																								

SUBFIL FOR UPDATE 之一

	Form Type		File	enam	ne		I/O/U/C/D B/S/C/R/T/D/E	Fi	End	esign d o	gnation fFile quence File For Block Length	Record Length	l of	Record Typ ion o	Addr d Add e of f or Ad Ove	field or ress Field dress Type file Organiza- ditional Area rflow Indi- Key Field Starting Location		Device	Symbolic Device	ス Labels S/N/NE/M	Name of Label Exit Continuati Option	Stor	rage Index Entry	_	N	for C Ove Number Fil Re	Unorder of Track Cylinder erflow of Extere e wind Condition	nts
	6	7 8	2 0 1	O 11	12 1					10 ′	20 21 22 23					35 36 37 38	30 /	10 41 42 43 44 45 46	47 48 49 50 51 5°	53	54 55 56 57 58 50	60 61	62 63 64 65	5 66	67 6	8 69 70	71 72 73	74
	F	V F	ENI	0 0	R I	, 17	UI	F F		E	20 21 22 23	24 23 20 21	20 27 30	K S2 S	J JT	33 30 31 30		D I S K	77 70 77 30 31 32	33	54 55 50 51 50 57	00 01	02 03 04 03	00	0/10	0) 70	/1 /2 /3	/-
			I S I							Е								WORKSTH		П				Ħ				
	F																		RRN	K	SFILE	D A	ΤA	Ш				
	6																							\ s		1	Arithmat	ic
a	I-0,				Ind	icato	rs														Result	Field	1	ion	(H)	Plus	Minus	Zero
уp	T) [3	治																		f				sit	ıst		Compar	e
Form Type	Control Level (L0-L9,	AN/OK)		Aı	l nd		I An	d				Factor 1				Operation		F.	actor 2		Name		Length	Decimal Positions	Half Adjust (H)	1>2	1<2	1=2
OL		` L		7 11	IIG	-	7 111	<u></u>				1 actor 1				Operation		1 6	actor 2		rame		Length	Į.į	IIf /			
"	ontr	X.	Not		Not			Not																Dec	На		Up(Fact	· ·
	ŭ :	ξ,	Z		Z			z																l .		High	Low	Equal
6	7	8	9 10	11	12	13	14	15	16	17	18			27	28		32	33		42	43	48	49 51	52	53	54	56	58
С	*																											
С	*		WRI	TE		FU	NC	TIC	Ν		KEY	PANEL		AND	Ι_													
С	*			PI	ROM	1PT		ŀ	FOR	}	SEAR	СН			Ħ.	將功能	鍵	及查詢提示	畫面送到螢	支幕								
С	*														T-				·	Ť								
С															W	R I T	Е	F C N K E	Y									
С															S	Е Т О										8 5		
С															Е	X F M	T	C O N T R	O L									
С															S	Е Т О	F									8 5		
С	*																											
С												·				<u>-</u>							-					
С					\bigsqcup															\Box								
С		\perp					_													_								
С																												

SUBFILE FOR UPDATE 之二

		L9,																								S		A	rithmat	tic
C		Control Level (L0-L9, LR, SR, AN/OR)			Indi	cators	,															Re	sult Fi	eld		Decimal Positions	Half Adjust (H)	Plus	M inus	Zero
	e	vel (AN,																								Posi	just	(Comp ar	re
Line	Type	ILe SR,		A	ı nd	A	ı .nd			Facto	· 1		0	pera	tion			F	actor 2			Nam	ie	Lei	ngth	nal 1	Ad	1>2		1=2
	m.	ontrol LR, S	<u> </u>		т	\top	_			1 4000	. 1			Poru					uctor 2						15.11	ecin	Half		Jp(Fact	
	Form	Cor	Not		Not		Not																			D	ı''' [High		Equal
4 5		7 8	9 1	$0 _{11}$	12	3 14	15	16	17	18		27	28		32	2 33				42	43		4	8 49	51	52	53	•		58
1	С	*			H											†					1					H	П			
2	С	*		W	HILE		EOJ		IS	NOT SI	LECT	ED	7	台科	计台	士事	クな	生治力	安時份	·							П			
3	С	*											E	日 1/3	E 1/ //	ロ <u>ハ</u>			文明的								П			
4	С									* I N 0 3			D C) W	ΕÇ) '	0 '										П			
5	C	*										,																		
6	C	*		CI	EAR		SUE	BFIL	Е	清除次檔	案																			
7	C	*								177 117 112	711	J																		
8	С														0 N												Ш	7 5		
9	C																O N	T R	0 L								Ш			
0	С												S E	T	O F	'											Ш	7 5		
1	С	*					L_				_	111111															Ш		<u> </u>	
2	C	*			RESE	T	K	REL	ATI	IVE RECO	ED	NUMB	EK	Α	AND		FILE	P	OINTER	重	新言	没定框	關記	上錄月	序號	及	檔	案指	標 _	
$\frac{3}{4}$	C	*	\vdash										7		D D						D	D 11								
4	C			-											D D		r M	D 0	, D. T		K	RN				3	-	1 0		
5	C								-				SE	1 2	L L	, V	E N	υс	RL					+			Н	4 0		
$\begin{vmatrix} 6 \\ 7 \end{vmatrix}$	C	-	\vdash	+	$\vdash \vdash$	+		\vdash	-							+					-			+		Н	$\vdash \vdash$			
8	C				\vdash	+			\dashv							+					1			+		Н	${oldsymbol{arphi}}$			
9	C		\vdash	+	\vdash	+			\dashv							+								+		Н	${oldsymbol{arphi}}$			
	C				\vdash	+			\dashv							+					+			+		Н	Н			
U																											ш			

SUBFILE FOR UPDATE之三

C																														A	rithma	tic
		Control Level (L0-L9, LR, SR, AN/OR)				Indi	cato	ors																Res	sult Fi	ield		ition	Half Adjust (H)	Plus	M inus	Zero
	o l	vel (Posi	just		Compa	
Line	Form Type	SR,			Ar	ıd		An	d				Fac	tor 1		Ope	ration			Fact	tor 2			Nam	e	L	ength	nal	Ad	1>2		
	rm,	ontro LR,	Ţ.			±	T		ĔΙ							•											Ü	eci	Hali	Look I		tor 2) is
	Fo	ο̈́	Not			Not			10N																				' ' !	High		Equal
4 5	6	7 8	9	10	11	12	13	14	5	16	17	18	8		27 2	28	3	2 33	3			42	43		4	8 49	5	1 52	53	54	56	58
1	С	*																														
2	C	*	F	ILL	,	SU	BF	ILE	ì																							
3	\sim	*																										┶	<u> </u>			
4	C											*	I N 4	0		D O V			0 '									╄	L.			
5	C						_		4							R E			EN	D O I	R L							丄	L			4 0
6	С						_		4			*	I N 4	0		I F	E Q '		0 '									┺	₩			
7	C						4	_	4							A D]		1					R R	l N				╄	Ш			
8	C						4	_	4							W R		$\exists D$	A T	A								╄	Ш			4 0
9	C					_	_	_	4		4					E N												╄	<u> </u>			
0	C						_		4							E N	D											┷	₩			
	C	_					_		4						_													_	<u> </u>			
2	C					_	4	4	4		_							-										+	₩'			
3	C						_		4		_																	+	₩			
4	C						-		4																			+	₩			
5	C					+	+	+	4		\dashv							-										+	₩'			
6						4	+	+	+		4				_			+										+	┾			
7 8	C			Н		\dashv	+	+	+	_	\dashv				+													+	+			
9	C	-	\vdash	H		+	+		\dashv		_				_			-										+	₩			
	C	+	\vdash			\dashv	+	+	+	\dashv	\dashv				\dashv			+								+		+	+			
0	C																												ٰللــــــــــــــــــــــــــــــــــــ			

SUBFILE FOR UPDATE之四

C		Control Level (L0-L9, LR, SR, AN/OR)									T											IS		A	Arithma	ıtic
		vel (L0-L AN/OR)			I	ndic	ato	rs										Result	Fiel	ld		itior	Half Adjust (H)	Plus	M inus	SZero
	ပ	vel AN									1											Pos	just	(Compa	re
Line	Form Type	ol Le SR,			An	d		ı And	l			Factor 1		Operat	ion	Factor 2		Name		Len	gth	mal	f Ad	1>2		_
	rm	ontro LR,	— T	T	1	Ť			<u>.</u> T		1			•							_	eci	Hal	Look U	Jp(Fac	tor 2) is
	Fc	င် I	Not		;	Not		Ž															ıİ			Equal
4 5	6	7 8	9	10	1 1	12 1	3 1	4 1	5 1	6 1	7 1	18 27	2	28	32	2 33 42	43		48	49	51	52	53	54	56	58
1	\vdash	*																								
2	\sim	*	Dl	SPI	A١	Y		SU	BFI	ILE	_											Ш	Ш		<u> </u>	
3	\sim	*			4				_		4											Ш	Ш		<u> </u>	
4	C				4			_	+		1			S E T								Ш	Ш	8 5	9 5	
5	C	4			4		_		+		4					F C N K E Y						Ш	Ш		<u> </u>	
$\begin{vmatrix} 6 \\ 7 \end{vmatrix}$	C		Н	_	4	_	_	+	+	_	4					CONTROL						Ш	Н	0 5	0.5	
7	C			_	_	_		+	+	_	+		+	S E T	O F							Н	Н	8 5	9 5	
8	C	+	Н	-	+	+	+	+	+	+	+					-						Н	\vdash		├─	
9	C C			+	+	+	+	+	+	+	+											$\vdash\vdash$	\vdash			
$\begin{vmatrix} 0 \\ 1 \end{vmatrix}$	C		Н		+		+		+		+		-									H	\vdash		 	
$\frac{1}{2}$	C	+	H	+	+	+	+	+	+	+	+		╁									$\vdash\vdash$	\vdash		_	
$\frac{1}{3}$	C	+	Н	+	+	+	+	+	+	+	+											Н	Н			
4	C	+	H	+	+	+		+	+	+	+											Н	\vdash		╁	
5	C				+				$^{+}$		+											H	Н		\vdash	
6	C		Н		+	Ť	+		$^{+}$		t		l									Н	Н		 	
7	C	+			+		1		†		t		H									Н	\sqcap			
8	C		\Box	1	\dagger	T			\top	+	1		T									H	П			
9	С				1	1	1		T		T		T									П	П		†	
0	С		П		1	T			T		T		T									П	П			

SUBFILE FOR UPDATE 之五

C		Control Level (L0-L9, LR, SR, AN/OR)				r. 1'.	. 4											D. I.	D' 1	. 1	Decimal Positions	H)	A	Minus Compar 1<2 Jp(Fact	ic	
	- 1	1) (L				Indic	atoi	rs										Result	Fiel	ld	Siti	st (Pius	IVI inus	Zero	ı
	рe	eve,																			1Pc	dju	(Compar	e	ı
Line	Form Type	ol L SR,			An	d	1	And			Factor 1	Op	eration		Facto	or 2		Name		Length	ima	If A	1>2	1<2	1=2	ı
	ırm	ontro LR,	Ħ			Ę.		ξ			1										ec.	Ha	Look U	Jp(Fact	or 2) is	ı
	Fα	Co Co	Not			Not		Not													I^{-}		High	Low	Equal	ı
4 5	6	7 8	9	10	11	12 1	3 1	4 15	16	17	18 27	7 28		32	33	42	43		48	49 5	1 52	53	54	56	58	ı
1	С	*		П																		П				ı
2	C	*	P	ROC	CES	S	U.	PDA	TE													П				ı
3	С	*																								ı
4	С			П						17	* I N 1 1	I F	ΕQ		' 1 '							П			4 0	\
5	С									П		R E	A D	С	D A T A							П				.)
6	C										* I N 4 0	D O	W E	Q	' 0 '							П				.
7	С										VNDNBR	СН	A I	N	V E N D R E	С						П	4 1			ıl
8	С										RRN				D A T A							П	4 1			.
9	C														V E N D R E	С										.
0	C													С	D A T A										4 0	.
1	C											E N														ij
2	C											E N	D													/
3	C																									l
4	C																									ı
5	C			Ш																						ı
6	C			Ш																						ı
7	C			Ш																			<u> </u>			l
8	C			Ш																		$oxed{oxed}$	<u> </u>			ı
9	C			Ш											·											l
0	C																									ı

SUBFILE FOR UPDATE 之 六

C		.L9,																										SI		A	rithmat	tic
		Control Level (L0-L9, LR, SR, AN/OR)		I	ndica	tors																	Resi	ult F	ield			Decimal Positions	t (H)	Plus	M inus	Zero
	be.	evel , AN							1																			Pos	djus	(Compar	
Line	ı Ty	ol Le , SR,		An	d	An	d				Facto	r 1		Op	eration	ì		F	actor 2			-	Name	:		Leng	ţth	imal	ılf A	1>2	1<2	
	Form Type	ontr	Not	Ш,	Not		Not																					Dec	На	Look U		tor 2) is
4 5			9 10					6 17	10				27	28		32	22				42 43			,	48 4	10	51			High		Equal 58
1		*	RE-D					CTIO		KEY		AND	21	20		32	33			•	12 43				+0 +	17	31	32	33	J 4	30	36
$\frac{1}{2}$		*	KL-D		OMP			NEL		KLI		מאה															\dashv	\vdash	\vdash			
$\begin{vmatrix} 2 \\ 3 \end{vmatrix}$	$\overline{}$	*		I IX	OWII	1	1 /	IIIL	<u> </u>												+				-		\dashv	\vdash	\dashv			-
4	C			H		Н	+							S E	ТО	N											\dashv	Н	\dashv	8 5		
5	C			H		H	+										F C N	KF	Y								\dashv	Н		0 3		+1
6	C			H			+										C O N										\dashv	Н	\dashv			\vdash
7	C			H			1							S E													\dashv	П		8 5		
8		*																									\dashv	П				
9	С			Ħ			1							ΕN	D												\dashv	П				
0	С	*																									\neg	П				
1	С	*	END		OF	JO	Β																				\neg	П				
2	С	*																									\Box	П				
3	С													S E	ТО	N											\neg	П		L R		
4	C																															
5	C																															
6	С																															
7	С					Ш																						Ш	Ш			
8	С			Ш			\perp																					Ш	Щ			Щ
9	С			Ш		Ш	\perp																					Ш	ightharpoonup			Щ
0	C																											Ш	ı			

LAB1 結構化程式設計 (一)

請寫一支RPGS1程式設計算所得稅 程式要求如下:

- 1. 利用DSPLY指令將所得總額由螢幕輸入。
- 2. 再利用SELEC指令判別所得級距,並且計算出應付所得稅。
- 3. 再次利用DSPLY指令將所得稅顯示於PGMMSG畫面上。
- 4. 稅率級距假設如下:

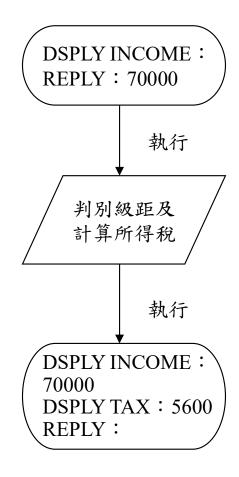
60,000 以下	0%
$60,001 \sim 100,000$	8%
$100,001 \sim 200,000$	12%
$200,\!001 \sim 400,\!000$	20%
$400,001 \sim 600,000$	30%
600,000 以上	40%

5. 流程圖:

變數:

所得總額:IC(6,0)

所得稅 IX(6,0)



LAB2 結構化程式設計 (二)

請將 RPGS1 COPY 另一支程式 RPGS2 接續 LAB1,程式需求修改如下:

1. 利用 DO 迴圈讓程式可以一直做,直到所得總額 = 999999,直接結束程式 (LEAVE)。

LAB3 結構化程式設計 (三)

請將 RPGS2 COPY 成另一支程式 RPGS3 延續 LAB2 需求如下:

- 1.利用 ITER 跳過所得總額輸入小於40,000並且繼續下一迴圈。
- 2.試將稅額計算之程式區段放入一個子程序(SUBROUTINE)中,重組 RPGS3 之程式。

INTRODUCTION

THIS WORKBOOK IS DESIGNED FOR LAB EXERCISES FOR THE AS/400 INTERACTIVE RPG PROGRAMMING WORKSHOP. THESE EXERCISES ARE BASED ON AN ACCOUNTS PAYABLE/PURCHASE ORDERING APPLICATION WHICH COUNTAINS REALISTIC REQUIREMENTS THAT HAVE SEEN SIMPLIFIED TO MAKE THEM PRACTICAL, YET WORKABLE WITHIN THE TIME LIMITS OF THE CLASS. OPTIONAL EXERCISES ARE ALSO INCLUDED TO GIVE YOU ADDITIONAL PRACTIES IF TIME IS AVAILABLE.

YOUR LIBRARY WILL CONTAIN THE FOLLOWING OBJECTS:

APFLDREF - ACCOUNTS PAYABLE/PURCHASE ORDER FILED REFERENCE FILE

DEUDATEL - LOGICAL OPEN VENDOR INVOICE FILE (KEY IS INVOICE NUMBER WITHIN DUE MONTH/DAY WITHIN YEAR)

ITEML - LOGICAL ITEM MASTER FILE(KEY IS ITEM NUMBER)

ITEMP - ITEM MASTER FILE(ARRIVAL SEQUENCE)

OPNINVP - OPEN VENDOR INVOICE FILE (ARRIVAL SEQUENCE)

PODETP - PURCHASE ORDER DETAIL FILE (ARRINAL SEQUENCE)

PONSRL - LOGICAL PURCHASE ORDER FILE - BUILT OVER THE TWO PHYSICAL FILES POSUMP AND PODETP. THE FILE HAS AN ACCESS PATH KEYED ON PURCHASE ORDER NUMBER.

- LOGICAL PURCHASE ORDER FILE - BUILT OVER THE TWO PHYSICAL FILES POSUMP AND PODETP. THE SUMMARY RECORDS (FROM POSUMP) ARE KEYED ON PURCHASE ORDER MUMBER AND THE DETAIL RECORDS (FROM PODETP)ARE KEYED ON ITEM NUMBER WITHIN PURCHASE ORDER NMBER.

POSUMP - PURCHASE ORDER SUMMARY FILE (ARRIVAL SEQUENCE)

VENODRL - LOGICAL VENDOR MASTER (KEY IS VENDOR NUMBER)

VENODRP - VENDOR MASTER FILE (ARRIVAL SEQUENCE)

QDDSSRC - SOURCE FILE CONTAINING ALL OF YOUR DDS SOURCE MEMBERS FOR FILES REATED IN THIS WEEK'S LAB EXERCISES

ORPGSRC - SOURCE FILE CONTAINING ALL OF YOUR RPG SOURCE MEMBERS FOR FILES CREATED IN THIS WEEK'S LAB EXERCISES

PLASE NOTE:

THE LIBRARY YOU WILL BE WORKING WITH IS PRGXX, WHERE XX IS YOUR ASSIGNED TEAM NUMBER, ALL FILED DEFINITIONS, UNLESS OTHERWISE NOTED, ARE TO BE REFERENCED FORM THE FILED REFERENCE FILE APFLDREF, DDS FOR IN QDDSSRC IN YOUR LIBRARY.

ALL OBJECTS ARE TO BE CREATED IN YOUR LIBRARY.

ALL SOURCE MEMBERS FOR FILES ARE TO BE CREATED IN QDDSSRC.

ALL SOURCE MEMBERS FOR PROGRAMS ARE TO BE CREATED IN QRPGSRC.

ALL REFERENCE TO THE SUFFIX "XX" IN THIS WORKBOOK REFER TO YOUR ASSIGNED TEAM NUMBER.

SIGN ON BY ENTERING YOUR USERID (RPGXX) AND PASSWORD (RPGXX). ALL EXERCISES WILL BE DONE USING WRKMBRPDM.

LAB EXERCISE 1

THE PURPOSE OF THIS EXERCISE IS FOR YOU TO USE STRUCTURED PROGRAMMING TECHINQUES IN DEVEOPLING YOUR PROGRAM LOGIC.

THIS EXERCISE IS A FILE UPDATE PROGRAM OF AN OPEN PURCHASE ORDER FILE. THE SYSTEM HAS AN OPEN PURCHASE ORDER FILE CONTAINING OUTSTANDING PURCHASE ORDERS. THE OPEN PURCHASE ORDER FILE IS A LOGICAL FILE, PORDERL, WHICH IS BUILT OVER TWO PHYSICAL FILES: A PURCHASE ORDER SUMMARY FILE, POSUMP, AND A PURCHASE ORDER DETAILRECORDS FOR EACH PURCHASE ORDER IN THE OPEN URCHASE ORDER FILE. A SUMMARY RECORD ALWAYS HAS AT LEASTONE DETAIL FILE PODETP. THERE IS ONE SUMMARY RECORD AND POSSIBLY MULTIPLE DETAIL RECORD. AS THE MERCHANDISE ARRIVES IN THE RECEIVING DEPARTMENT, A CLERK USES THE PURCHASE ORDER UPDATE PROGRAM TO ENTER THE QUANTITY RECEIVED.

GIVEN THE FOLLOWING EQUIREMENTS, DEVELOP YOUR PROGRAM USING STRUCTURED PROGRAMMING TECHNIQUES.

- 1. THE PROGRAM INITIALLY DISPLAYS A PROMPT SCREEN WHICH ALLOWS THE OPERATOR TO ENTER PURCHASE ORDER NUMBER, THE ITEM NUMBER, AND THE QUANTITY DELIVERED OR TO END THE JOB, THE LAYOUT FOR THIS SCREEN IS ON PAGE5.
- 2. THE OPEN PURCHASE ORDER FILE PORDERL IS A LOGICAL FILE BASED ON THE TWO PHYSICAL FILES POSUMP (SUMMARY RECORDS), AND PODETP (DETAIL RECORDS). ALL OF THESE FILES ARE IN YOUR LIBRARAY, AND THE DDS ARE IN YOUR SOURCE FILEQUOSSRC.

- 3. THE PROGRAM IS TO VALIDATE THE PURCHASE ORDER NUMBER AND ITEM NUMBER THAT ARE
- A. FIRST ACCESS THE DETAIL RECORD WHICH IS KEYED ON PURCHASE ORDER NUMBER. IF THE PURCHASE ORDER NUMBER AND ITEM NUMBER. IF THE DETAIL RECORD CANNOT BE FOUND, ACCESS THE SUMMARY RECORD WHICH IS KEYED ON PURCHASE ORDER NUMBER.
 - B. IF NEITHER THE DETAIL NOR THE SUMMARY RECORD CAN BE FOUND, DISPLAY THE MESSAGE: "INVALID PURCHASE ORDER NUMBER".
 - C. IF THE SUMMARY RECORD CAN BE FOUND BUT NOT THE DETAIL, DISPLAY THE MESSAGE: "INVALID ITEM NUMBER".
 - D. IF THE DETAIL RECORD IS FOUND, M UPDATE THE QUANTITY RECEIVED FILED (QTYREC) IN THE DETAIL RECORD BY ADDING TO IT THE QUANTITY DELIVERED (QTYDEL) THAT WAS ENTERED BY THE OPERATOR.
- E. IF THE UPDATED QUANTITY RECEIVED (QTYREC) IS EQUAL TO THE QUANTITY ORDERED (QTYORD), UPDATE THE STATUS CODE WITH A "C" AND THE DATE RECEIVED WITH TODAY'S DATE.
 - F. RE-DISPLAY THE PROMPT SCREEN.
- 4. CREATE YOUR DISPLAY FILE DSP001 IN YOUR LIBRARY, THE DDS FOR THIS FILE IS IN YOUR SOURCE FILE QDDSSRC.
- 5. REFRESH THE DATA IN YOUR FILES BY ENTERING THE COMMAND:

CALL REFRESH

6. CODE YOUR PROGRAM, NAMING IT RPG01, AND ENTER IT INTO QRPGSRC.

- 7. CREATE THE PROGRAM RPG01 IN YOUR LIBRARY.
- 8. BEFORD EXECYTUBG YOUR PROGRAM, LIST THE RECORDS IN THE PORDERL FILE BY ENTERING THE COMMAND:

CALL LIST1

YOUR LISTION SHOULD BE THE SAME AS THAT ON PAGE 6.

9. EXECUTE YOUR PROGRAM INTERACTIVELY AND ENTER THE FOLLOWING RECEIPTS:

PURCHASE	ITEM	
ORDER NO	NUMBER	QUANTITY
400005	50	5
400010	75	500
400015	275	2

TEST YOUR PROGRAM'S ERROR LOGIC BY KEYING AN INVALID PURCHASE ORDER NUMBER OF 999999, AND AN INVALID ITEM NUMBER OF 99999 WHILE ENTERING ONE OF THE ABOVE LINES.

10. RE-ENTER THE COMMAND:

CALL LIST1

AND COMPARE YOUR LISTING TO THE ONE ON PAGE 7. THE NEW LISTING SHOULD REFLECT THE RECEIPT THE RECEIPT TRANSACTIONS JUST ENTERED.

11. IF YOU NEED TO REFRESH YOUR FILES, ENTER THE COMMAND:

CALL REFRESH

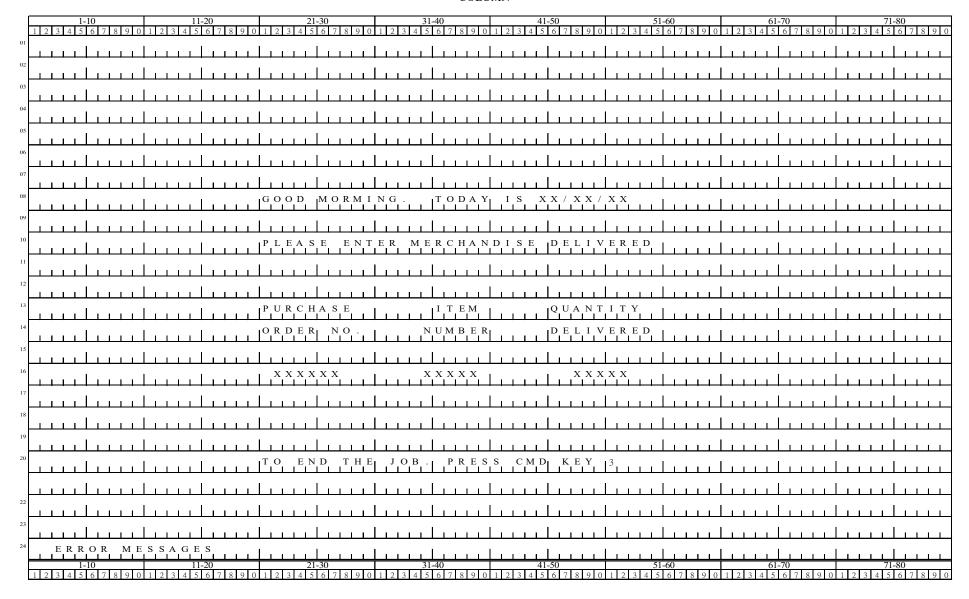
BEFORE EXECUTING

		EXERCI	SE 1 TEA	M J					
PO NUMBER	VENDOR NUMB ER	VENDOR NAME	ORDER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DAT E R EC E I V EI
400001	1.0	JOHN M. SMITH & SONS	500.0	0					
100001	1 0		3000	·	2.5	LINED PAPER	2 5		0/00/00
					150	BEAKERS	100		0/00/0
				C	3 7 5	EDGER S	3 0	3 0	3 / 1 5 / 8
				С	475	RIBBONS	100	100	2/26/8
400005	1 1	FETZNER &FETZNER	110.0	0					
					5 0	SPOOLS	10	5	2/02/8
				C	100	INVITATIONS	1 5	1 5	2/12/8
				C	200	LADDERS	6	6	2/24/8
				С	400	FILES	8	8	2/16/8
400010	16	BRAND X BEER	350.0	0					
					7 5	BOTTLES	500		0/00/0
					4 5 0	CANS	2 5		0 / 0 0 / 0
400015	4 3 1	MARGARET MART INC.	121.0	0					
				C	175	CARPETS	3	3	2/22/8
				C	250	SPINDLES	5	5	2/17/8
					275	MOLDS	2		0 / 0 0 / 0
400020	5075	PETER VAN ROTH CORP.	169.5	0					
				C	300	DISPLAYS	6	6	1/23/8
					4 2 5	CABINETS	9		0 / 0 0 / 0
400025	7374	PHOTO LABS INC.	45.5	0					
				C	500	PICTURES	1 3	1 3	2/05/8

Display Screen Layout Sheet

PROMPT SCREEN - PURCHASE ORDER UPDATE

COLUMN



AFTER EXECUTING

		EXERCI	SE 1 TEA	М Ј					
PO NUMBER	VENDOR NUMB ER	VENDOR NAME	ORDER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DATE RECEIVED
400001	1.0	JOHN M. SMITH & SONS	500.0	0					
100001	10		300 0	·	2.5	LINED PAPER	2 5		0/00/00
					150	BEAKERS	100		0/00/00
				С	3 7 5	EDGER S	3 0	3 0	3 / 1 5 / 8 0
				C	475	RIBBONS	100	100	2 / 2 6 / 8 0
400005	1.1	FETZNER &FETZNER	110.0	0					
100003	1 1		110.0	O	5 0	SPOOLS	1 0	1 0	3 / 0 2 / 8 1
				C	100	INVITATIONS	15	15	2/12/80
				C	200	LADDERS	6	6	2 / 2 4 / 8 0
				C	400	FILES	8	8	2/16/80
400010	16	BRAND X BEER	350.0	0					
+00010	10	BRUND II BEEN	330.0	O	7.5	BOTTLES	5 0 0	5 0 0	3 / 0 2 / 8 1
					450	CANS	2 5	500	0/00/00
400015	131	MARGARET MART INC.	121.0	0					
100013	131		121.0	C	175	CARPETS	3	3	2/22/80
				С	250	SPINDLES	5	5	2/17/80
					275	MOLDS	2	2	3 / 0 2 / 8 1
40000	5055	DETER MAN DOTH CORP	1.60	0					
400020	5075	PETER VAN ROTH CORP.	169.5		2.0.0	DICDIAVO			1 / 2 2 / 2 2
				С	300	DISPLAYS	6	6	1/23/80
					4 2 5	CABINETS	9		0 / 0 0 / 0 0
400025	7 3 7 4	PHOTO LABS INC.	45.5		.	DI CTUDEC			2 / 2 7 / 2 7
				C	500	PICTURES	1 3	1 3	2/05/80

Lab 2

程式目的:請CODING 一支RPG程式,進行採購單明細檔、採購項目的新增、修改、刪除作業。

程式處理要點

1. 請將下列處理方式:

A. 新增一採購項目:

書面輸入欄位: PURCHASE ORDER NUMBER

ITEM

QUANTITY

當畫面資料輸入,按執行鍵時,請檢查該採購項目不可存在於採購單明細檔中(PORDERL中之ORDDTL記錄列);如果存在,請顯示下列錯誤訊息(即是SETON*IN20)(CAN NOT ADD-ITEM ALREADY EXISTS IN PORCHASE ORDER):CHECK O.K. 寫入檔案中。

注意: 一般正常的 MAINRENACE 程式,皆須先檢查採購單是否存在採購主檔中,本練習為簡化CODING,所以省略之。

B. 删除一採購項目:

畫面上只需輸入: PURCHASE ORDER NO. ITEM NUMBER

並且在按執行鍵後,先檢查是否存在;若不存在, SETON *IN10, SHOW ERRMSG,存在則直接刪除。

C.修改採購項目數量,書面輸入欄位:

PURCHASE ORDER NUMBER

ITEM

QUANTITY

按執行鍵後,檢查是否存在檔案中,若不存在,SETON *IN10, SHOW ERRMSG, 存在則直接修改存檔。

- 2. COMPILE DISPLAY FILE: DSP002, 螢幕畫面如後。
- 3. 還原檔案資料: CALL REFRESH。
- 4. 在你的LIB中之QRPGSRC, CODING你的RPG02程式。
- 5. COMPILE RPG02 程式。
- 6. 請於執行前先列印採購單明細報表,備比較執行結果: CALL LIST2
- 7. 請輸入下列資料

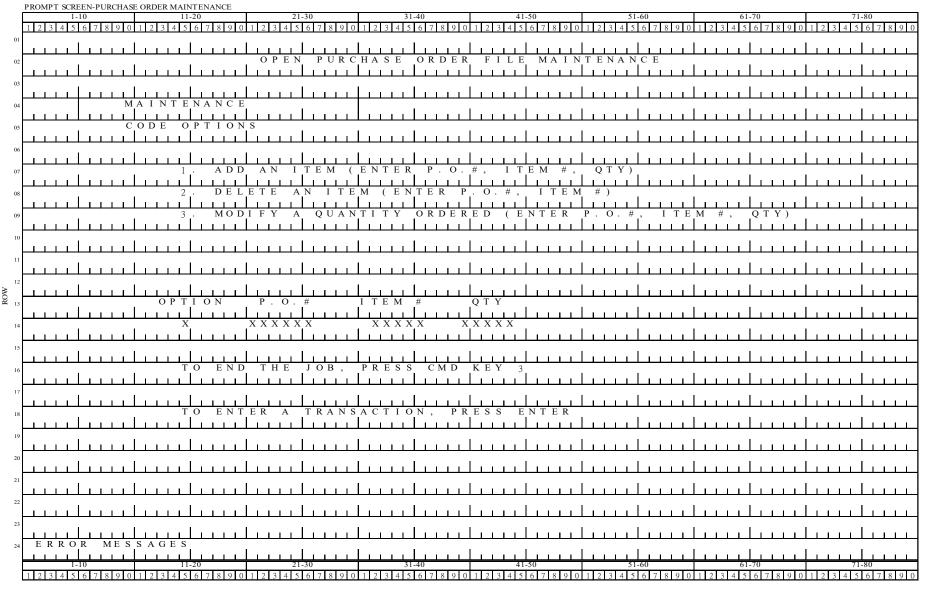
MAINTAIN	PORCHASE	ITEM	QUANTITY	ERRMSG
CODE	ORDER NO.	NO		
1	400001	100	50	
2	400001	25		
3	400001	150	150	
1	400001	375	10	ERR-ALREADY EXIST
2	400001	99999		ERR-NOT FOUND
3	400001	99999	10	ERR-NOT FOUND

注意:請確實依上述資料輸入。

- 8. 列印執行後結果,並比較執行前、後兩份報表。CALL LIST2
- 9. 如果需要還原檔案資料,請重新 CALL REFRESH。

Display Screen Layout Sheet

COLUMN



BEFORE EXECUTING

	EXERCISE 2 TEAM J										
PO NUMBER	VENDOR NUMB ER		OR DER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DATE RECEIVED		
400001	10	JOHN M. SMITH & SONS	500.0	0 C C	25 150 375 475	LINED PAPER BEAKERS EDGERS RIBBONS	2 5 1 0 0 3 0 1 0 0	30100	0 / 0 0 / 0 0 0 / 0 0 / 0 0 3 / 1 5 / 8 0 2 / 2 6 / 8 0		
400005	11	FETZNER &FETZNER	110.0	0 C C C	5 0 1 0 0 2 0 0 4 0 0	SPOOLS INVITATIONS LADDERS FILES	1 0 1 5 6 8	5 1 5 6 8	2 / 0 2 / 8 0 2 / 1 2 / 8 0 2 / 2 4 / 8 0 2 / 1 6 / 8 0		
400010	1 6	BRAND X BEER	350.0	0	7 5 4 5 0	BOTTLES CANS	5 0 0 2 5		0/00/00		
400015	4 3 1	MARGARET MART INC.	121.0	0 C C	1 7 5 2 5 0 2 7 5	CARPETS SPINDLES MOLDS	3 5 2	3 5	2 / 2 2 / 8 0 2 / 1 7 / 8 0 0 / 0 0 / 0 0		
400020	5 0 7 5	PETER VAN ROTH CORP.	169.5	0 C	3 0 0 4 2 5	DISPLAYS CABINETS	6 9	6	1 / 2 3 / 8 0 0 / 0 0 / 0 0		
400025	7374	PHOTO LABS INC.	45.5	0 C	5 0 0	PICTURES	13	1 3	2/05/80		

AFTER EXECUTING

		EXERC I	SE 2 TEA	M J					
PO NUMBER	VENDOR NUMBER	VENDOR NAME	ORDER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DAT E R EC E I V EI
400001	1.0	JOHN M. SMITH & SONS	500.0	0				1	
400001	10	John W. Swiffin & Bons	300.0	U	100		5 0		0/00/00
					150	BEAKERS	150		0/00/0
				C	3 7 5	EDGER S	3 0	3 0	3/15/8
				С	475	RIBBONS	100	100	2/26/8
400005	1 1	FETZNER &FETZNER	110.0	0				•	
T U U U U J	1 1	I I I I I I I I I I I I I I I I I I I	110.0	U	5 0	SPOOLS	1 0	5	2/02/8
				C	100	INVITATIONS	15	15	2/12/8
				C	200	LADDERS	6	6	2/24/8
				C	400	FILES	8	8	2/16/8
400010	1.6	BRAND X BEER	350.0	0					
400010	1 0	DRAND A BEEK	330.0	U	7.5	BOTTLES	5 0 0		0/00/0
					450	CANS	25		0/00/0
					430	CHIA	23		0,00,0
400015	4 3 1	MARGARET MART INC.	121.0						
				C	1 7 5	CARPETS	3	3	2/22/8
				C	250	SPINDLES	5	5	2/17/8
					2 7 5	MOLDS	2		0 / 0 0 / 0
400020	5075	PETER VAN ROTH CORP.	169.5	0					
				C	3 0 0	DISPLAYS	6	6	1/23/8
					4 2 5	CABINETS	9	-	0 / 0 0 / 0
400025	7374	PHOTO LABS INC.	45.5	0					
100023	1317		75.5	C	500	PICTURES	1 3	1 3	2/05/8

LAB 3

本作業主要目的在於運用副程式進行採購單整張刪除作業。

請利用 RPG02 程式,將 RPG02 COPY 成 RPG03,並且修改 RPG03,增加採購單整張刪除之選項,透過選項 CALL 副程式 (RPG03S),進行刪除資料存在的檢查及刪除。

RPG03S 使用另一個邏輯檔: PONBRL, 此檔涵蓋表頭檔 (POSUMP) 及明細檔 (PODETP) KEY值只有採購單號。

- 1. DISPLAY FILE 新的選項功能已為各位加上,請 COMPILE DSP003 即可。
- 2. COPY RPG02 成 RPG03, 並且加上整張採購單刪除的選項處理,請注意畫面檔 名要改成 DSP003,。
- 3. RPG03 程式中,選項4成立時,必須 CALL 副程式 RPG03S,參數傳出為採購單號 (PORNBR),傳入參數為*IN10(檔案資料檢核燈號-檢查採購單存不存在。)請注意,RPG03 其他選項功能同 RPG02。
- 4. 請 COMPILE RPG03 並確認 COMPILE 完成。
- 5. 請撰寫 RPG03S,使用之檔案為 PONBRL。

資料檢查方式如下:

(1) 檢查採購單是否存在。

- (2) 假如存在的話,先刪除採購表頭檔 (SUMMARY FILE) 再刪除採購項目明細檔。
- (3) 假如不存在, 將錯誤狀況傳回主程式。
- 6. COMPLIE RPG035
- 7. 重新設定檔案資料: CALL REFRESH
- 8. 執行前報表列印: CALL LIST3
- 9. 依下列資料執行你(妳)的程式

MAINTAIN	PORCHASE	ITEM	QUANTITY	
CODE	ORDER NO	NO		
1	400001	100	50	
2	400001	25	150	
3	400001	150		
4	400115			
4	400016		ERROR-NOT FOUNI)
4	400010			

- 10. 執行後報表列印: CALL LIST03 (報表同 LAB-4-2) 並且比對執行後之報表。
- 11. 若要重新執行測試,請 CALL REFRESH。

Display Screen Layout Sheet

BEFORE EXECUTING

EXERCISE 3 TEAM J										
PO NUMBER	VENDOR NUMBER	VENDOR NAME	ORDER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DAT E R EC E I V EI	
400001	1.0	JOHN M. SMITH & SONS	500.0	0						
100001	10		3000	·	2.5	LINED PAPER	2 5		0/00/00	
					150	BEAKERS	100		0/00/0	
				C	375	EDGER S	3 0	3 0	3 / 1 5 / 8	
				C	475	RIBBONS	100	100	2/26/8	
400005	1 1	FETZNER &FETZNER	110.0	0						
					5 0	SPOOLS	1 0	5	2/02/8	
				C	100	INVITATIONS	1 5	1 5	2/12/8	
				C	200	LADDERS	6	6	2/24/8	
				С	400	FILES	8	8	2/16/8	
400010	1 6	BRAND X BEER	350.0	0						
					7 5	BOTTLES	500		0/00/0	
					4 5 0	CANS	2 5		0 / 0 0 / 0	
400015	4 3 1	MARGARET MART INC.	121.0	0						
				C	175	CARPETS	3	3	2/22/8	
				C	250	SPINDLES	5	5	2/17/8	
					275	MOLDS	2		0 / 0 0 / 0	
400020	5075	PETER VAN ROTH CORP.	169.5	0						
				C	300	DISPLAYS	6	6	1 / 2 3 / 8	
					4 2 5	CABINETS	9		0 \ 0 0 \ 0	
400025	7374	PHOTO LABS INC.	45.5	0						
			•	C	5 0 0	PICTURES	13	1 3	2/05/8	

AFTER EXECUTING

	EXERCISE 3 TEAM J											
PO NUMB ER	VENDOR NUMBER	VENDOR NAME	ORDER AMOUNT	STATUS	ITEM NUMBER	ITEM DESCRIPTION	QUANT I T Y ORDER ED	QUANT I TY RECEIVED	DATE RECEIVED			
400001	1 0	JOHN M. SMITH & SONS	500.00	C C	100 150 375 475	BEAKERS EDGERS RIBBONS	5 0 1 5 0 3 0 1 0 0	3 0 1 0 0	0 / 0 0 / 0 0 0 / 0 0 / 0 0 3 / 1 5 / 8 0 2 / 2 6 / 8 0			
400005	11	FETZNER &FETZNER	110.00	C C C	5 0 1 0 0 2 0 0 4 0 0	SPOOLS INVITATIONS LADDERS FILES	1 0 1 5 6 8	5 1 5 6 8	2 / 0 2 / 8 0 2 / 1 2 / 8 0 2 / 2 4 / 8 0 2 / 1 6 / 8 0			
400020	5 0 7 5	PETER VAN ROTH CORP.	169.50	C	3 0 0 4 2 5	DI SPLAYS CABINETS	6 9	6	1/23/800/00/00			
400025	7374	PHOTO LABS INC.	45.50	C	5 0 0	PICTURES	13	13	2/05/80			

LAB 4

本練習題目的在於使用IN, OUT, OPERATION-CODE, 來修改資料區 (DATA AREA)之資料。

請用 RPG02 再新增進一步的需求:加總異動次數及異總數量並將上列兩欄位寫入資料區 (DTAARA);資料區包含上列兩欄位,每次執行程式時,都必須修改資料區內資料。

資料區 (DTAARA)已存在你的 LIBRARY 中。請注意:資料區的儲存是以文字的方式,你的程式必須切割資料區的字串成兩個獨立欄位,本資料區為6位長之數字且預設值為0,其中前兩個 BYTE 記錄異動次數,後四個 BYTES 記錄異動總數量。

練習步驟:

- 1. 本練習畫面直接使用 DSP002, 所以不須重新編譯。
- 2. COPY RPG02 成 RPG04,同時並進行修改程式邏輯,用以計算總異動數量成功異動之 次數,並且每次異動完成後,UPDATE 到資料區中。
- 3. 編譯 RPG04 程式。
- 4. 檔案資料重新設定:CALL REFRESH。
- 5. 執行前檔案資料列印: CALL LIST4 (報表同 LAB-4-4)

6. 依下列異動條件執行你(妳)的程式。

MAINTAIN	PORCHASE	ITEM	QUANTITY
CODE	ORDER NO	NO	
1	400001	50	50
1	400001	420	25
2	400001	25	
3	400001	999	ERROR-NOT FOUND
3	400001	150	200

7. 執行後資料列印:CALL LIST4

比較執行後報表之異動次數及異動總數量,並且 DATA AREA 應等於 40275。

8. 如要重新設定資料: CALL REFRESH。

PO NUMBER	VEND NUMB		EXERCISE ORDER AMOUNT	4 STATUS	TEAMXX ITEM NUMBER	ITEM	QUANT I TY ORDERED	QUANT I TY RECE I VED		DAT CE I	TE VED
400001	1 0	JOHN M. SMITH & SONS	500.00	C C C	2 5 1 5 0 3 7 5 4 7 5	LINED PAPER BEAKERS EDGERS RIBEORS	25 100 30 100	25 30 100	9	1 2 2 0 1 9 2 5	8 9 9 0
400005	11	FETENER & FEOETER	110.00	C C C	5 0 1 0 0 2 0 0 4 0 0	SPOOLS INVITATIONS LADDERS FILES	1 0 1 5 6 6	5 1 5 6 6	8	2 7 2 4 2 9 1 5	8 9 9 0
400010	16	BRAND X BEER	350.00		7 5 4 5 0	BOTTLES CANS	5 0 0 2 5			2 3 2 5	
400015	431	MAFGAEET HART INC.	121.00	C C C	175 250 275	CARTETS SPINDLES MOLDS	3 5 2	3 5		19 17	
400020	5075	PETHER VAN ROTH CORP.	159.50	С	3 0 0 4 2 0	DISPLAYS CABTNETS	6	6	4 9	2 2 2 7	8 9 8 9
400025	7374	PHOTO LABS INC.	45.50	C	500	PICTURES	1 3	1 3		0 5	
LIBRAI TYPE LENGTH. TEXT DES	RY SCRIPT		AARA DA E *I 6.	ATAARA RPGXX DEC 0 ATA AREA		RPGXX. DATAA	ARA 09 25	90 10:30 2	0	PĀĞ	SE 1

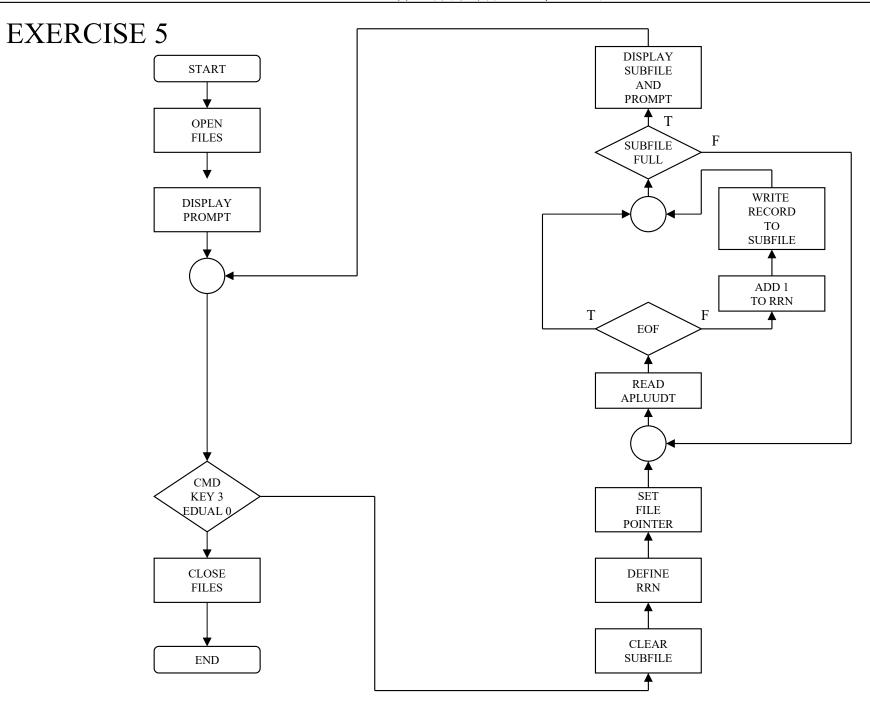
PO NUMBER		VENDOR VENDOR NUMBER NAME		EXERC I S E OR D E R AMOUNT	4 STATUS	TEAMXX I TEM NUMBER	ITEM DESCRIPTION	QUANT I TY ORDERED	QUANT I TY RECE I VED		DAT CE I	TE VED
400001	10	JOHN M. SMIT	ΓΗ & SONS	500.00	C C C	5 0 1 5 0 3 7 5 4 0 0 4 7 5	BEAKERS EDGERS RIBEORS	50 200 30 25 100	3 0 1 0 0	0 (0 0 (0 3 (1 0 (0 4 (2	0 0 1 9 0 0	0 0 9 0 0 0
400005	11	FETENER & FI	EOETER	110.00	C C C	5 0 1 0 0 2 0 0 4 0 0	SPOOLS INVITATIONS LADDERS FILES	1 0 1 5 6 6	5 1 5 6 6	4 2 8 2 6 2 6	29	8 9 9 0
400010	16	BRAND X BEEF	₹	350.00		7 5 4 5 0	BOTTLES CANS	5 0 0 2 5		3 2		
400015	4 3 1	MAFGAEET HAF	RT INC.	121.00	C C C	175 250 275	CARTETS SPINDLES MOLDS	3 5 2	3 5	1 4 0	17	90
400020	5075	PETHER VAN I	ROTH CORP.	159.50	С	3 0 0 4 2 0	DISPLAYS CABTNETS	6 9	6	4 2		
400025	7374	PHOTO LABS	INC.	45.50	С	500	PICTURES	13	13	5 (0 5	8 9
LIBRA TYPE LENGTH.	RY	`ION	: : TYPE : LEN	ARA D2 *1 6	ISPLAY AT ATAARA RPGXX DEC . 0 ATA AREA		RPGXX. DATAA	ARA 09 25	90 10:30 2	0 I	PAC	GE T

LAB 5

程式目的:請寫出一支 SUBFILE 查詢程式,查詢廠商發票資料。

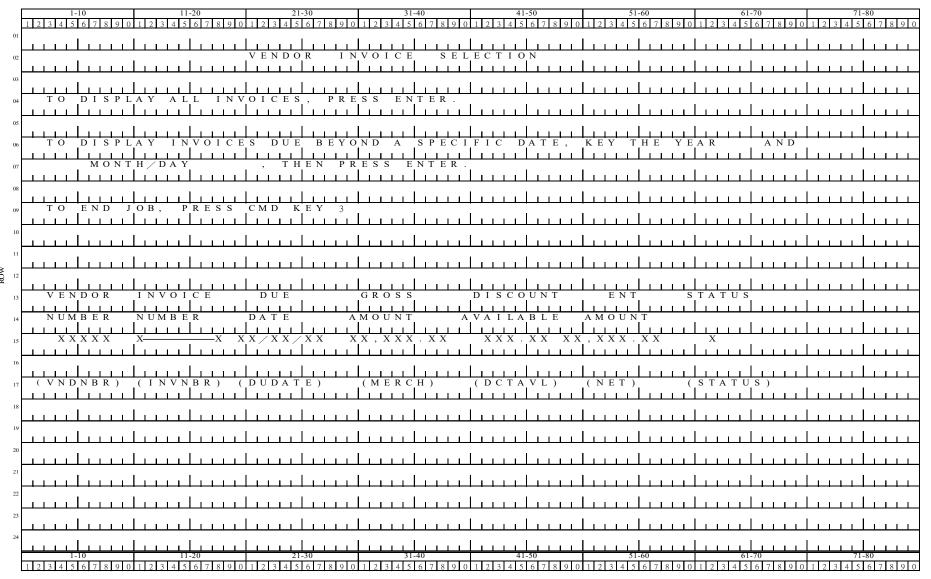
練習步驟:

- 1. 請根據 LAB5-2 頁的流程圖撰寫此支程式。
- 2. 此程式所使用的為一邏輯檔(廠商發票檔) DUEDATEL。
- 3. 螢幕畫面在 LAB5-3 頁。
- 4. 在DSPF中已定義好一部分Keyword, 您必須再定義另一部分有關 SUBFILE CONTROL RECORD 的 Keyword 其 DDS 存在 QDDSSRC 中。
- 5. 請將 SUBFILE SIZE 設定為 20。
- 6. 編輯您的 DISPLAY FILE (DSP005)。
- 7. 檔案資料重新設定:CALL REFRESH。
- 8. 開始撰寫 RPG05 程式。
- 9. 編寫好 RPG05 程式。
- 10. 執行程式:請輸入日期1月1日1980年及3月30日1980年。
- 11. 執行結果應與LAB5-4 頁相同。



Display Screen Layout Sheet

COLUMN



SAMPLE SUBFILE DISPLAY FOR EXERCISE 5

VENDOR INVOICE SELECTION

TO DISPLAY ALL INVOICES, PRESS ENTER.

TO DISPLAY INVOICES DUE EEYCNC A SPECIFIC DATE. KEY THE YEAR 00 AND MONTH/DAY 0000. THEN PRESS ENTER

TO END JOB, PRESS CMD KEY 3

VENDOR NUMBER	INVOICE NUMBER	DUE DATE	GROSS AMOUNT	DISCOUNT AVAILABLE	NET AMOUNT	STATUS
10502	872	1/01/80	500.00	50.00	450.00	\mathbf{C}
88714	147	1/15/80	600.00	60.00	540.00	\mathbf{C}
73013	812	1/30/80	400.00	40.00	360.00	\mathbf{C}
56567	923	2/01/80	100.00	10.00	90.00	\mathbf{C}
21178	124	2/15/80	120.00	12.00	108.00	\mathbf{C}
07733	536	2/28/80	150.00	15.00	135.00	\mathbf{C}
00612	138	3/01/80	300.00	30.00	270.00	\mathbf{C}
07374	36	3/15/80	600.00	60.00	540.00	C
						· ·

VENDOR INVOICE SELECTION

TO DISPLAY ALL INVOICES, PRESS ENTER.

TO DISPLAY INVOICES DUE EEYCNC A SPECIFIC DATE, KEY THE YEAR 00 AND MONTH/DAY 0000, THEN PRESS ENTER

TO END JOB, PRESS CMC KEY 3

VENDOR	INVOICE	DUE	GROSS	DISCOUNT	NET	STATUS
NUMBER	NUMBER	DATE	AMOUNT	AVAILABLE	AMOUNT	
11002	24	3/30/80	500.00	50.00	450.00	C
06242	37	4/01/80	100.00	10.00	90.00	C
84210	116	4/15/80	150.00	15.00	135.00	C
72302	84	4/30/80	50.00	5.00	45.00	C

FILE LIST BEFORE EXECUTING

EXERCISE 5 TEAM J							
VENDOR	INVOICE	PO	DUE	GROSS	DISCOUNT	NET	STATUS
NUMBER	NUMBER	DATE	DATE	AMOUNT	AVAILABLE	AMOUNT	
10502	872	600050	1/01/80	500.00	50.00	450.00	\mathbf{C}
88714	147	600060	1/15/80	600.00	60.00	540.00	\mathbf{C}
73013	812	600070	1/30/80	400.00	40.00	360.00	\mathbf{C}
56567	923	60080	2/01/80	100.00	10.00	90.00	\mathbf{C}
21178	124	60090	2/15/80	120.00	12.00	108.00	\mathbf{C}
7733	536	600100	2/28/80	150.00	15.00	135.00	\mathbf{C}
612	138	600110	3/01/80	300.00	30.00	270.00	\mathbf{C}
7374	36	600120	3/15/80	600.00	60.00	540.00	\mathbf{C}
11002	24	600130	3/30/80	500.00	50.00	450.00	\mathbf{C}
6242	37	600140	4/01/80	100.00	10.00	90.00	\mathbf{C}
84210	116	600150	4/15/80	150.00	15.00	135.00	\mathbf{C}
72302	84	600160	4/30/80	50.00	5.00	45.00	C

SAMPLE SUBFILE DISPLAY

VENDOR INVOICE SELECTION

TO DISPLAY ALL INVOICES, PRESS ENTER.

TO DISPLAY INVOICES DUE EEYCNC A SPECIFIC DATE, KEY THE YEAR 80 AND MONTH/DAY 0130, THEN PRESS ENTER

TO END JOB, PRESS CMC KEY 3

TO UPDATE THE INVOICES, PRESS CMD KEY 5.

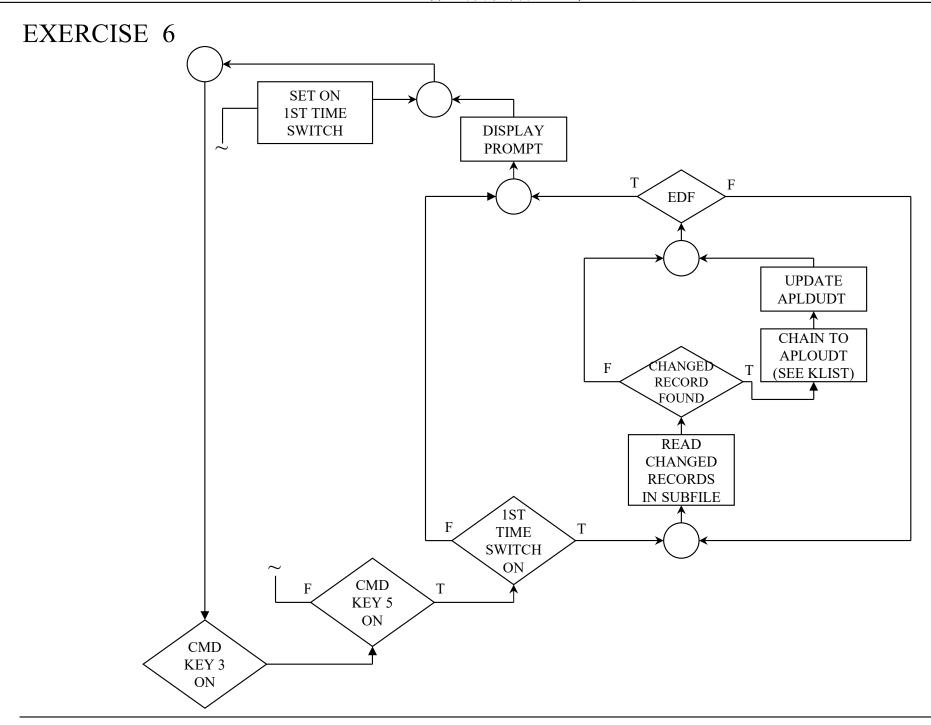
VENDOR NUMBER	INVOICE NUMBER	DUE DATE	GROSS AMOUNT	DISCOUNT AVAILABLE	NET AMOUNT	STATUS	PAY
56567	923	2/01/80	100.00	10.00	90.00	\mathbf{C}	\mathbf{X}
21178	124	2/15/80	120.00	12.00	108.00	\mathbf{C}	
07733	536	2/28/80	150.00	15.00	135.00	\mathbf{C}	
00612	138	3/01/80	300.00	30.00	270.00	\mathbf{C}	
07374	36	3/15/80	600.00	60.00	540.00	\mathbf{C}	\mathbf{X}
11002	24	3/30/80	500.00	50.00	450.00	\mathbf{C}	
06242	37	4/01/80	100.00	10.00	90.00	\mathbf{C}	
84210	116	4/15/80	150.00	15.00	135.00	\mathbf{C}	X

LAB 6

程式目的:請撰寫出一支可執行修改功能之 SUBFILE 程式,利用先前所寫好之 RPG05 程式為主體,增加修改功能。利用 RPG05 為主體,增加一個欄位,可讓程式選擇付款給那些廠商所開之發票。

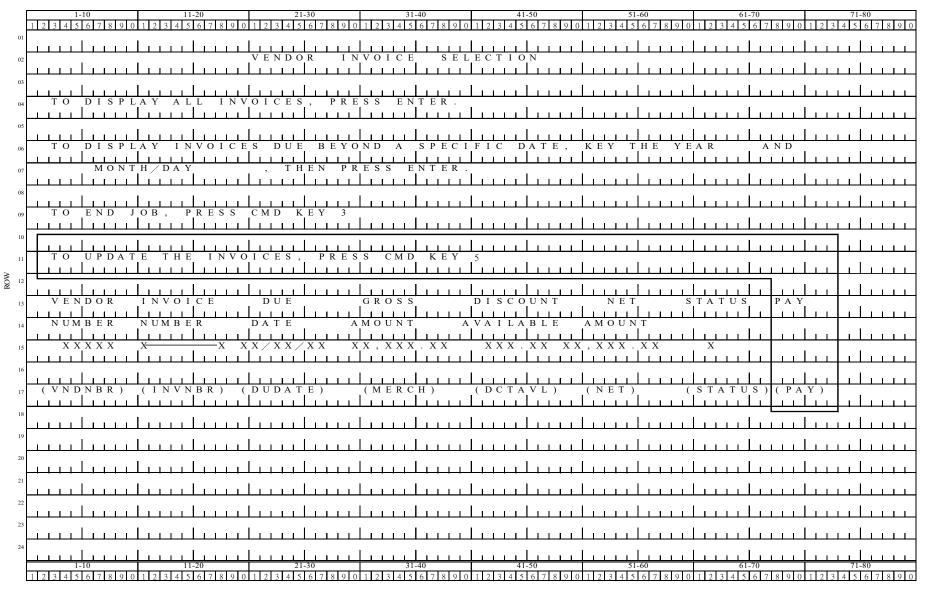
練習步驟:

- 1. 螢幕畫面在 LAB6-4 頁,框框內的部分是新增的說明及欄位。
- 2. 新增加的部分已經 CODING 在 DSP006 中,目前只需要定義一個 Payment 欄位。
- 3. 請按照 LAB6-3 頁之流程圖撰寫程式。
- 4. 請拷貝 RPG05 成 RPG06, 並且加上修改功能,可讓使用者在PAY欄位內輸入 "X",表示付款給該廠商所開之發票。
- 5. 編輯 RPG06 程式。
- 6. 檔案資料重新設定:CALL REFRESH。
- 7. 執行前報表列印:CALL LIST6。列印之結果應與 LAB5-5 頁相同。
- 8. 執行 RPG06 輸入日期為 1 月 30 日 1980 年。
- 9. 選擇發票號碼 923, 36, 116 作付款, 請參考 LAB5-5 頁。
- 10 為了確認已正確地修改 DUEDATEL 中的資料,請再 CALL LIST6,列印之結果應與 LAB6-5 頁相同。
- 11. 您也可以再次輸入日期 1 月 30 日 1980 年查詢資料,其結果應與 LAB6-5 相同。
- 12. 若需重新設定資料: CALL REFERSH。



Display Screen Layout Sheet

COLUMN



FILE LIST AFTER EXERCUTING

EXERCISE 6 TEAM J							
VENDOR NUMBER	INVOICE NUMBER	PO NUMBER	DUE DATE	GROSS AMOUNT	DISCOUNT AVAILABLE	NET AMOUNT	STATUS
10502	872	600050	1/01/80	500.00	50.00	450.00	C
88714	147	600060	1/15/80	600.00	60.00	540.00	\mathbf{C}
73013	812	600070	1/30/80	400.00	40.00	360.00	\mathbf{C}
56567	923	60080	2/01/80	100.00	10.00	90.00	T
21178	124	60090	2/15/80	120.00	12.00	108.00	\mathbf{C}
7733	536	600100	2/28/80	150.00	15.00	135.00	\mathbf{C}
612	138	600110	3/01/80	300.00	30.00	270.00	\mathbf{C}
7374	36	600120	3/15/80	600.00	60.00	540.00	T
11002	24	600130	3/30/80	500.00	50.00	450.00	\mathbf{C}
6242	37	600140	4/01/80	100.00	10.00	90.00	\mathbf{C}
84210	116	600150	4/15/80	150.00	15.00	135.00	T
72302	84	600160	4/30/80	50.00	5.00	45.00	C

SUBFILE DISPLAY AFTER EXECUTING

VENDOR INVOICE SELECTION

TO DISPLAY ALL INVOICES, PRESS ENTER.

TO DISPLAY INVOICES DUE BEYOND A SPECIFIC DATE, KEY THE YEAR 80 AND MONTH/DAY 0130, THEN PRESS ENTER

TO END JOB, PRESS CMD KEY 3

TO UPDATE THE INVOICES, PRESS CMD KEY 5.

VENDOR NUMBER	INVOICE NUMBER	DUE DATE	GROSS AMOUNT	DISCOUNT AVAILABLE	NET AMOUNT	STATUS	PAY
56567	923	2/01/80	100.00	10.00	90.00	T	
21178	124	2/15/80	120.00	12.00	108.00	\mathbf{C}	
07733	536	2/28/80	150.00	15.00	135.00	\mathbf{C}	
00612	138	3/01/80	300.00	30.00	270.00	\mathbf{C}	
07374	36	3/15/80	600.00	60.00	540.00	T	
11002	24	3/30/80	500.00	50.00	450.00	\mathbf{C}	
06242	37	4/01/80	100.00	10.00	90.00	\mathbf{C}	
84210	116	4/15/80	150.00	15.00	135.00	T	

LAB EXERCISE 7

THE PURPOSE OF THIS EXERCISE IS TO USE A SUBFILE FOR DATE ENTRY. IT IS BASED ON A PURCHASE ORDER APPLICATION. YOUR PROGRAM WILL REQUIRE THE OPERATOR TO ENTER THE FIRST LINE ITEM THROUGH A NORMAL DISPLAY. THE LINE ITEM IS WRITTEN TO A SUBFILE WHICH IS THEN DISPLAYED. THE REMAINING LINE ITEMS ARE KEYED DIRECTLY INTO THE SUBFILE. THIS EXERCISE DEMONSTRATES HOW TO ENTER DATA DIRECTLY INTO A SUBFILE.

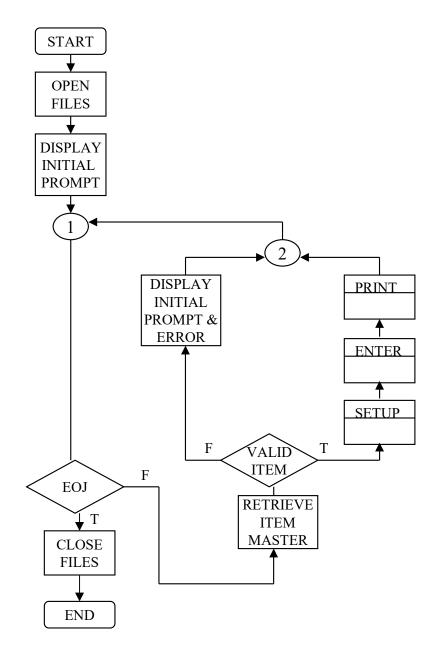
- 1. THE INITIAL PROMPT SCREEN AND SUBFILE ARE CONTAINED IN ONE DISPLAY FILE, DSP007 ALL OF THE DATA DESCRIPTION KEYWORDS FOR THE SUBFILE CONTROL RECORD AND THE SUBFILE RECORD. THE SCREEN LAYOUTS ARE ON PAGE 35.
- 2. ADD THE REMATINTING DATA DESCRIPTION SPECIFICATIONS, AND CREATE THE DISPLAY FILE IN YOUR LIBRARY.
- 3. YOUR PROGRAM WILL ACCESS THE LOGICAL VENDOR MASTER FILE, VENDORL, AND THE LOGICAL ITEM MASTER FILE, ITEML. DDS FOR THESE FILES ARE FOUND IN YOUR SOURCE FILE QDDSSRC.
- 4. THE PRINTER OUTPUT SPECIFICATIONS ARE PROVIDED FOR YOU IN THE SOURCE MEMBER RPG07. THE PURCHASE ORDER LAYOUT IS ON PAGE 37.
- 5. CODE YOUR PROGRAM FORM THE STRUCTURED FLOWCHART ON PAGES 33 AND 34, AND ENTER INTO THE SOURCE MEMBER RPG07 IN QRPGSRC.
- 6. COMPILE YOUR PROGRAM AND PLACE IT IN YOUR LIBRARY.
- 7. EXECUTE YOUR PROGRAM AND ENTER THE FOLLOWING PURCHASE ORDERS:

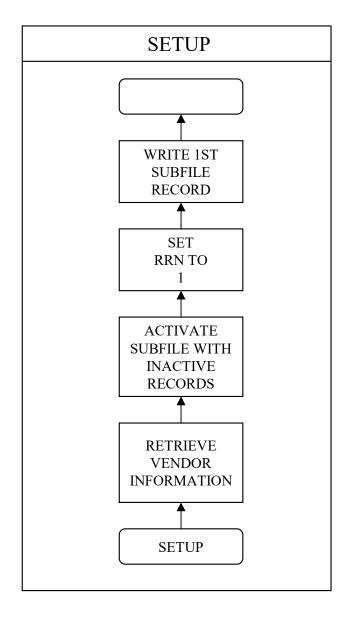
PURCHASE ORDER	ITEM NUMBER	QUANTITY	DEPARTMENT NUMBER
1	75	50	10
	225	15	12
	450	5	10
2	400	2	50
	200	4	10
	100	25	50
	50	25	12

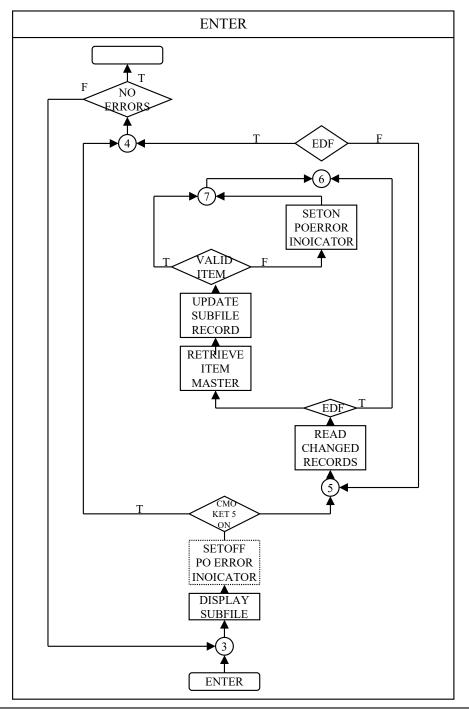
REMEMBER TO TEST FOR AN INVALID ITEM NUMBER (999999).

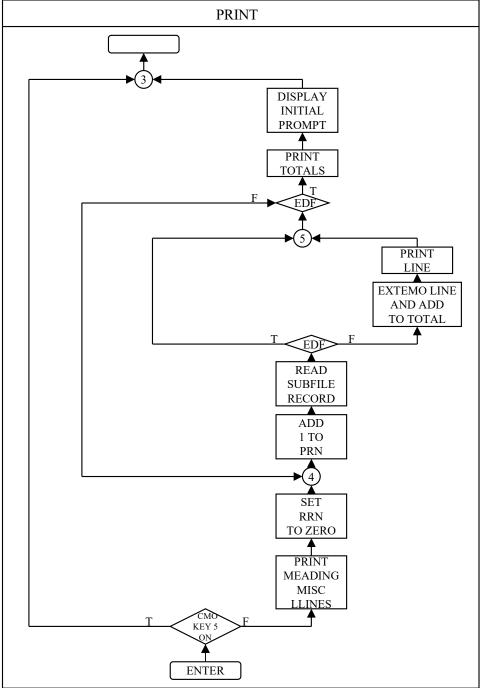
SAMPLE DISPLAYS ARE LISTED ON PAGE 36. EXAMPLÈS OF YOUR PURCHASE ORDERS ARE ON PAGE 38.

EXERCISE 7







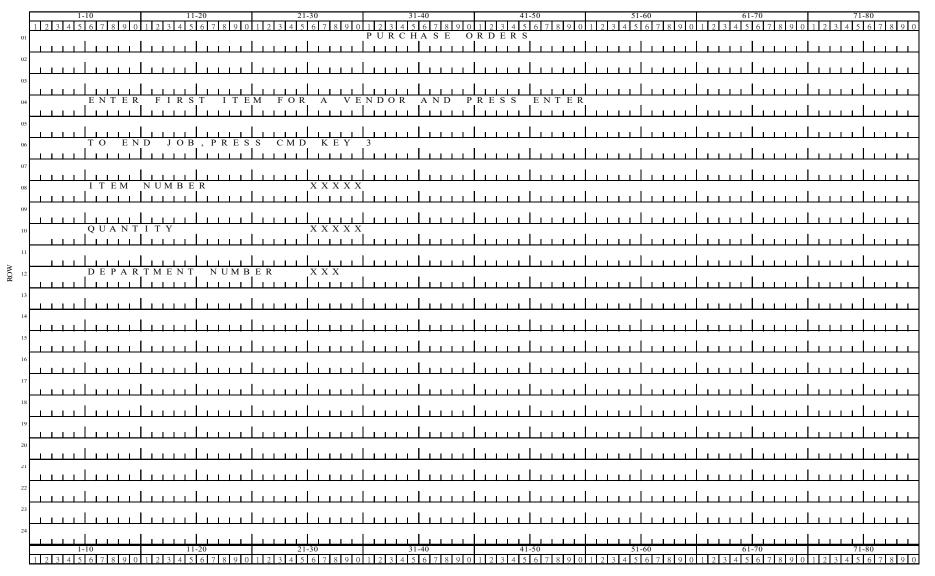


PROVIDED DISPLAYS FOR EXERCISE 7 $\,$

INITIAL PROMPT

COLUMN

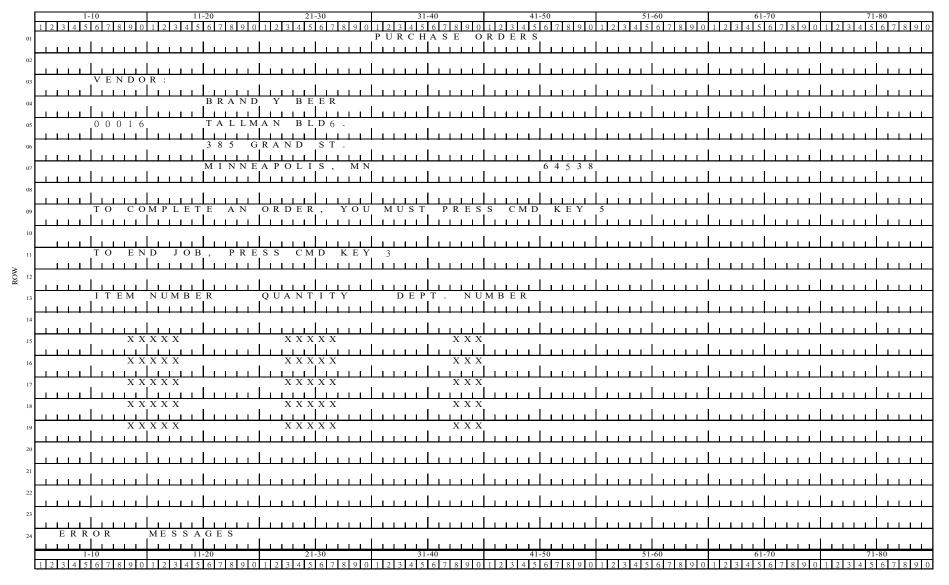
Display Screen Layout Sheet



SUBFILE DISPLAY

COLUMN

Display Screen Layout Sheet



SAMPLE DISPLAYS OF EXERCISE 7

PURCHASE ORDERS

VENDOR:

FETZNER & FETZNER

00011 34 MILL ELLFF ROAD

SYRACUSE, N.Y.

17625

TO COMPLETE AN ORDER, YOU MUST PRESS ENTER TO END JOB, PRESS CMD KEY 3

ITEM NUMER	QUANTITY	DEPT.NUMBER
00400	00002	050
200	4	10
100	25	50
50	25	12
00000	00000	000

PURCHASE ORDERS

VENDOR:

BRAND X BEER

00016 TALLMAN ELCG.

385 GRAND ST.

MINNEAPOLIS, MN. 64538

TO COMPLETE AN ORDER, YOU MUST PRESS ENTER

TO END JOB, PRESS CMD KEY 3

ITEM NUMBER	QUANTITY	DEPT.NUMBER
00075	00050	010
225	15	12
450	5	10
00000	00000	000
00000	00000	000

											\neg
				3 3 3 3 3 3 3 3 3 4 4							
	1 2 3 4 5 6 7 8 9 0 1	2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9 0 1	2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7	78901234567	7 8 9 0 1 2 3 4	5 6 7 8 9 0 1 2 3	4 5 6 7 8 9	0
1											_
2											_
3		-	DITID	CHA	CE	OR	DER				_
4		-			O L	UI					_
5											╛
6											╛
7											
8				NDNAM)							╛
9		T O :	X		X						
10			X		X						╛
11			X		X						
12			X		X						
13				ADI - VNDAD3)	XXXX	XX					П
14					(VND2	ZIP)					
15	ORDER NUMB	ER ORD	ER DATE	VENDOR NU	MBER		ALESPERSON				
16	XXXXX	X	X / X X / X X	XXXX		X		-+	X		П
17	(PORNBR)		(DATE)	(VNDNBR	.)		(VNDSLS)				
18				`							П
19	CAI ALOG NO	OUR NO		DESCRIPTIO	N		QTY	COST	AMOUNT		П
20											П
21											П
22	XX	XXXXX	X			X	XXXXX	XXX.XX	XX, XXX. X	X	1
23	(CATNBR)	(ITMNBR)		(ITMDSC			(ITMQTY)(I T MC S I)	(ITMAMT)		ı
24											
25											
26											П
27											1
28											
29											1
30											1
31											1
32								TOTAL	XX, XXX. X	X	1
33											
34			' 								\exists
35									(MERCH)		╛
36											Ⅎ
50											_

SAMPLE PURCHASE ORDERS FOR EXERCISE 7

BRAND X BEER TALLMAN BLOG. 385 GRAND ST. MONNEAPOLIS, MN.					
TE	AMJ		64538		
ORDER NUMBER	ORDER DATE 3/02/81	VENDOR NUMBER 16	SALESPERSON DAVID TEEHAN		
CATALOG NO OU	R NO 75 225 450	DESCRIPTION	QTY 50 15 5	COST .50 10.00 4.00	AMOUNT 25.00 150.00 20.00
				TOTAL	195.00

	FETZNER & F 34 MILL BLUI SYRACUSE, N	FF ROAD			
TEAMJ			17625		
ORDER NUMBER	ORDER DATE 3/02/81	VENDOR NUMBER 11	SALESPERSON TOM WOOLEY		
CATALOG NO OUI	R NO 400 200 100 50	DESCRIPTION	QTY 2 4 25 25	COST 4 .50 5.00 2.00 1.50 TOTAL	AMOUNT 9.00 20.00 50.00 37.50 116.50

LAB 8

本習題主要目的在於練習使用簡單的資料結構 (DATA STRUCTURE) 來進行欄位切割作業。 請利用 RPG02 來修改:將原有的刪除功能再加條件控制;條件如下:

1. 檢查一筆要刪除的資料,收貨日期月份必須等於當月份才可刪除,為了練習方便, 我們假設當月份=02。

請使用 DATA STRUCTURE 將收貨日期 (DATREC) 之月份切割出來,以備進行檢查;檢查之錯誤訊息已在 DSP008 中提供,請參考。

練習步驟如下:

- 1. 編譯 DSP008。
- 2. COPY RPG02 成 ROG08, 並進行程式修改→增加 DATA STRUCTURE 及刪除條件。
- 3. 編譯 RPG008。
- 4. 重新設定檔案資料: CALL REFRESH。
- 5. 執行前檔案資料列印: CALL LIST8 (報表同 LAB-8-3)。
- 6. 依下列資料執行你(妳)的程式。

MAINTAIN	PURCHASE	ITEM
CODE	ORDER NO	NO
2	400001	375 RECORD DATE IS NOT CURRENT MONTH
2	400001	475
2	400015	275 RECORD DATE IS NOT CURRENT MONTH
2	400015	250

- 7. 執行後資料列印: CALL LIST 8 (報表同 LAB-8-4)。
- 8. 檔案如要重新設定: CALL REFRESH。

BEFORE EXECUTING

		EXERC I	SE 8 TEA	M J					
PO NUMBER	VENDOR NUMB ER		ORDER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DATE RECEIVED
400001	1 0	JOHN M. SMITH & SONS	500.0	0					
	1 0		3000		2.5	LINED PAPER	2 5		0/00/00
					150	BEAKERS	100		0/00/00
				C	3 7 5	EDGER S	3 0	3 0	3 / 1 5 / 8 0
				С	475	RIBBONS	100	100	2 / 2 6 / 8 0
400005	11	FETZNER &FETZNER	110.0	0					
100005	1 1		110.0	· ·	5 0	SPOOLS	1 0	5	2/02/80
				C	100	INVITATIONS	15	1 5	2/12/80
				C	200	LADDERS	6	6	2 / 2 4 / 8 0
				С	400	FILES	8	8	2/16/80
400010	1.6	BRAND X BEER	350.0	0					
	10		3300		7 5	BOTTLES	5 0 0		0/00/00
					450	CANS	2 5		0/00/00
400015	4 3 1	MARGARET MART INC.	121.0	0					
			0	C	175	CARPETS	3	3	2/22/80
				C	250	SPINDLES	5	5	2 / 1 7 / 8 0
					275	MOLDS	2		0 / 0 0 / 0 0
400020	5075	PETER VAN ROTH CORP.	169.5	0					
.00020	50,5		107.5	C	3 0 0	DISPLAYS	6	6	1/23/80
					4 2 5	CABINETS	9	3	0/00/00
400025	7374	PHOTO LABS INC.	45.5	0					
				C	500	PICTURES	1 3	1 3	2/05/80

AFTER EXECUTING

EXERCISE 8 TEAM J									
PO NUMBER	VENDOR NUMBER	VENDOR NAME	ORDER AMOUNT	STATUS	I T EM NUMB ER	ITEM DESCRIPTION	QUANT I TY ORDER ED	QUANTITY RECEIVED	DAT E R EC E I V EI
400001	1.0	JOHN M. SMITH & SONS	500.0	0					
100001	10		3000	·	2.5	LINED PAPER	2 5		0/00/00
					150	BEAKERS	100		0/00/0
				C	3 7 5	EDGER S	3 0	3 0	3 / 1 5 / 8
				С	475	RIBBONS	100	100	2/26/8
400005	1 1	FETZNER &FETZNER	110.0	0					
					5 0	SPOOLS	10	5	2/02/8
				C	100	INVITATIONS	1 5	1 5	2/12/8
				C	200	LADDERS	6	6	2/24/8
				С	400	FILES	8	8	2/16/8
400010	16	BRAND X BEER	350.0	0					
					7 5	BOTTLES	500		0/00/0
					4 5 0	CANS	2 5		0 / 0 0 / 0
400015	4 3 1	MARGARET MART INC.	121.0	0					
				C	175	CARPETS	3	3	2/22/8
				C	250	SPINDLES	5	5	2/17/8
					275	MOLDS	2		0 / 0 0 / 0
400020	5075	PETER VAN ROTH CORP.	169.5	0					
				C	300	DISPLAYS	6	6	1 / 2 3 / 8
					4 2 5	CABINETS	9		0 \ 0 0 \ 0
400025	7 3 7 4	PHOTO LABS INC.	45.5	0					
				C	5 0 0	PICTURES	1 3	1 3	2/05/8

補充教材

H
Control Specification Summary Chart

	Control Specification Summary Chart				
Positions	Name	Entry	Explanation		
1-2	Page	Page number	Entry assigns a page number to each specification.		
3-5	Line	Line number	Entry numbers the specification line.		
6	Form type	Н	Identification for a control (or header) specification.		
7-14		Blank			
15	Debug	Blank	DEBUG and DUMP operations are not used. Compiler-generated symbols are not placed in the symbol table.		
			DEBUG and DUMP operations are used. Compiler-generated symbols are placed in the symbol table.		
16-17		Blank			

H

		Cor	ntrol Specification Summary Chart
Positions	Name	Entry	Explanation
19	Date format (user dates)	Blank	Month / day / year format (mmddyy) if position 21 is blank. If position 21 contains a D, I, or J, the day / month / year (ddmmyy) format is used.
		M	Month / day / year (mmddyy). The separator character used depends on the entry in position 20 or position 21.
		D	Day / month / year (ddmmyy). The separator character used depends on the entry in position 20 or position 21.
		Y	Year / month / year (yymmdd). The separator character used depends on the entry in position 20 or position 21.
20	Date edit (Y edit code)	Any character	Separator character used between the fields of the date. If this position is blank, the separator is specified by the entry in position 21.
		&	Blank is used as separator character.
21	Decimal Notation	Blank	Numeric fields and edit codes use a period as decimal notation and a comma for separators. If position 19 is blank, uses mmddyy format. If position 20 is blank, uses a slash (/) as separator for date.
		I	Numeric fields use comma as decimal notation and a period as a separator. If position 19 is blank, uses ddmmyy format. If position 20 is blank, uses a period (.) as separator for date.
		J	Type J, which is the same as I, except zero is written to the left of the decimal (comma) when the field contains a zero balance.
		D	Numeric fields use a period as decimal notation and a comma as a separator. If position 19 is blank, uses ddmmyy format. If position 20 is blank, uses a slash (/) as separator for date.

H

		Cor	trol Specification Summary Chart
Positions	Name	Entry	Explanation
22–25		Blank	
26	Alternate	Blank	Normal collating sequence is used.
	collating sequence	S	Alternate collating sequence is used.
27-39		Blank	
40	Sign Han- dling	Blank	The sign is always forced on input and output of zoned numeric fields.
41 Forms	Blank	First line is printed only once.	
	Alignment	1	First line can be printed repeatedly.
42		Blank	
43	File trans-	Blank	No file translation is requested.
	lation	F	Files are to be translated.
44-56		Blank	
57	Transpar-	Blank	No check for DBCS in literals.
	ency check	1	Check for DBCS in literals.
58-74		Blank	
75-80	program identification		Entry used to assign a unique name to the program. This name can be overridden by the CRTRPGPGM command. If a name is not specified in positions 75 through 80 or on the CRTRPGPGM command, but the
	11011		source file is a database file, the member name is used as the program
			name. If the source is not from a database file, the program name defaults to RPGOBJ.

F Main File Description Line Summary Chart

		(Page 1 of 5)	Main File Description Line Summary Chart
Positions	Name	Entry	Explanation
1-2	Page	page number	Entry assigns a page number to each specification.
3-5	Line	Line number	Entry numbers the specification line.
6	Form type	<u>F</u>	Identification for a file description specification.
7-14	File name	A valid file name	Every file must have a unique file name that is defined to OS/400. The file name can be from 1 to 8 characters long, and must begin with an alphabetic character.
15	<u>File type</u>	<u>I</u>	Input file.
		<u>O</u>	Output file.
		<u>U</u>	Update file.
		<u>C</u>	Combined (input/output) file.
16	File	<u>Blank</u>	Output file.
	designation	<u>P</u>	Primary file.
		S	Secondary file.
		R	Record address file.
		T	Array or table file (prerun-time arrays or tables).
		<u>F</u>	Full procedural file.
17	End of file	<u>F</u>	All records from the file must be processed before the program can end. Not valid for files processed by a record address file.
		Blank	If position 17 is blank for all files, all records from all files must be processed before end-of-program (LR) can occur. If position 17 is not blank for all files, all records from this file may or may not be processed before end-of-program occurs in multifile processing.

		(Page 2 of 5)	Main File Description Line Summary Chart
Positions	Name	Entry	Explanation
18	Sequence	A or blank	Match fields are in ascending sequence.
		D	Match fields are in descending sequence.
19	File format	F	Program described file.
		<u>E</u>	Externally described file.
20-23		Blank	
24-27	Record length	1-9999	Specifies the length of logical records contained in a program described file. The device record size constraints may override an excessive record length.
28	Mode of processing	L	Sequential-within-limits processing by a record address file.
		Blank	Random or sequential processing. Random and sequential processing are are implied by a combination of positions 16 and 31 of the file describtion specifications, and the calculation operation specified.
29-30	Length of key field or record address field	1-99	Length of the key field or the length of each entry in a record address file. Valid for program described files only. If the file being defined uses keys for record identification, enter the number of positions to be occupied by each record key. Record key length must be specified for indexed files.
		Blank	These positions must be blank for externally described files. For program described files, a blank entry indicates that keys are not used.

		(Page 3 of 5)	Main File Description Line Summary Chart
Positions	Name	Entry	Explanation
31	Record address type	Blank	* Relative record numbers are used to process the file. * Records are read consecutively. * Record address file contains relative record numbers. * Keys in record address limits file are in same format as keys in file being processed.
		A	Character keys (valid only for program described file specified as indexed file or as record address limits file).
		P	Packed keys (valid only for program described files specified as indexed file or as record address limits file).
		<u>K</u>	Key values are used to process this file. Valid only for externally described files.
32	Type of file organization	Blank	Program described file is processed without keys, or file is externally described.
	or additional area	I	Indexed file. Valid only for program described files.
		Т	Record address file that contains relative record numbers. Valid only for program described files.
33-34	Overflow	Blank	No overflow indicator is used.
	indicators	OA-OG, OV	Specified overflow indicator conditions the lines to be printed when overflow occurs. Valid only for program described PRINTER files.
		01-99	Set on when overflow occurs. Valid for both program described and externally described PRINTER files.

		(Page 4 of 5)	Main File Description Line Summary Chart
Positions	Name	Entry	Explanation
35-38	35-38 Key filed starting	Blank	Key files are not used for this program described file, or the file is externally described.
location	1-9999	Record position in a program described file in which the key filed begins.	
39	Extension	Blank	No extension or line counter specifications are used.
	code	Е	Extension specifications further describe the file.
		L	Line counter specifications further describe the file.
40-46	Device	<u>PRINTER</u>	The file is a PRINTER file: the printer is used as output device.
		<u>DISK</u>	The file is a disk file: this device supports sequential and random read/write functions.
		WORKSTN	The file is a work station file: input/output is through a display or ICF file.
		SPECIAL	The file is a special file: input or output is associated with a device that is accessed by a user-supplied routine. The name of the routine must be specified in positions 54 through 59. The file must be a fixed unblocked format.
		SEQ	The file is a sequentially organized file: the actual device is specified outside the RPG program.
47-52		Blank	
53	Continuation lines	<u>Blank</u>	This specification is not a continuation line. The following position explanations apply when position 53 is blank.
		K	Indicates a continuation line. For an explanation of positions 54-80 when position 53 contains K, see "Continuation Line" on page 5-17.

		(Page 5 of 5)	Main File Description Line Summary Chart
Positions	Name	Entry	Explanation
54-59	Name of label exit	Name of user- supplied routine	When SPECIAL is the device entry, the routine named in positions 54 through 59 handles the support for the special I/O device.
60-65		Blank	
66	File addition/un-	Blank	No additions of records can be made to an input or update file. For output files, a blank is equivalent to A.
	ordered	A	Add records to a DISK file. Positions 16 through 18 of the output specifications must contain ADD, or a <u>WRITE</u> operation code must be used in the calculation specifications.
67-70		Blank	
71-72	File condition	Blank	The file can be used by the program. If it is an input file, it is opend by RPG/400.
		U1-U8	The file can be used by the program when the indicator is on; it is not used when the indicator is off.
		UC	Programmer control of first open. If a file is to be opened by an OPEN operation in the calculation specification, a UC entry causes the file not to be opened at program initialization. Not valid for primary, secondary, table, or record address input files, or for output files conditioned by 1P indicator.
73-74		Blank	
75-80		Optional	This space is available for comments.

Extension Specification Summary Chart

		(Page 1 of 4)	Extension Specifications Summary Chart
Positions	Name	Entry	Explanation
1-2	Page	Page Number	Entry assigns a page number to each specification.
3-5	Line	Line Number	Entry numbers the specification line.
6	Form type	<u>E</u>	Identification for an extension specification.
7-10		Blank	
11-18	From file name	Blank	The array or table is loaded at compilation time or by input or calculation specifications.
		Record address file name	Name of the record address file.
		Array or table file name	The array or table file loaded at prerun time.
19-26	To file name	Blank	The array or table is not written at the end of the program.
		Name of an input or update file containing data records	File processed with the record address file named in positions 11 through 18.
		Name of an output or combined file	File (output or combined) to which an array or table is to be written.
27-32	Table or	Table or array	The name of array or table used in the program.
	array name	name	
33-35	Number of	Blank	This array is loaded by input or calculation specifications.
	entries per record	1-999	Number of array or table entries in each array or table input record.

		(Page 2 of 4)	Extension Specifications Summary Chart
Positions	Name	Entry	Explanation
36-39	Number of entries per array or table	1-9999	Maximum number of array or table entries.
40-42	Length of entry	1-256	Length of each element in the array or table named in positions 27 through 32.
43	Packed/ Binary, sign	Blank	The data for the array or table is in zoned decimal format or in character format.
	left/right	P	The data for the array or table is in packed decimal format.
		В	The data for the array or table is in binary format.
		L	The data for a numeric array or table element has a preceding (left) plus or minus sign.
		R	The data for a numeric array or table element has a following (right) plus or minus sign.
44	Decimal	Blank	Character array or table.
	positions	0-9	Number of positions to the right of the decimal in numeric array or table elements.
45	Sequence	Blank	No particular sequence.
15		A	Ascending sequence.
		D	Descending sequence.
46-51	Table or	Table or array	The name of the table or array used in the program.
	array name (alternating format)	name (alternating format)	
52-54	Length of entry	1-256	Length of each element in the array or table named in positions 46-51.

(Page 3 of 4) Program Described Files, Field Description Entries Summary Chart			
Positions	Name	Entry	Explanation
bina	Packed/ binary, sign left/right	Blank P	The data for the array or table is in zoned decimal format or in character format.
		B	The data for the array or table is in packed decimal format. The data for the array or table is in binary format.
		L	The data for a numeric array or table element has a preceding (left) plus or minus sign.
		R	The data for a numeric array or table element has a following (right) plus or minus sign.
56	Decimal positions	Blank 0-9	Character array or table. Number of positions to the right of the decimal in numeric array or table elements.
57	Sequence	Blank A D	No particular sequence. Ascending sequence. Descending sequence.
61-62	Match fields	Blank M1-M9	This is not a match field. This field is a match field. Match fields are valid only for primary and secondary files.

(Page 4 of 4) Program Described Files, Field Description Entries Summary Chart			
Positions	Name	Entry	Explanation
63-64	Field record	Blank	The field is common to all record types.
	relation	01-99	General indicators.
		L1-L9	Control level indicators.
		MR	Matching record indicators.
		U1-U8	External indicators.
		Н1-Н9	Halt indicators.
		RT	Return indicator.
	Field indicators	Blank	No indicator specified.
	maicators	01-99	Field indicator.
		Н1-Н9	Halt indicator.
		U1-U8	External indicators.
		RT	Return indicator.
71-74		Blank	
75-80		Optional	This space is available for comments.

IX
Externally Described Files, Record Identification Entries

Externally Described Files, Record Identification Entries Summary Chart			
Positions	Name	Entry	Explanation
1-2	Page	Page number	Entry assigns a page number to each specification form.
3-5	Line	Line number	Entry numbers the specification line.
6	Form type	I	Identification for an input specification.
7-14	Record name	Record format	The RPG/400 name of the record format. A file name cannot be used.
		name	
15-18	Sequence	Blank	These positions must be blank.
19-20	Record identifying	Blank	No record identifying indicator.
	indicators	01-99	General indicator.
		L1-L9,LR	Control level indicator used for record identifying indicator.
		H1-H9	Halt indicator.
		U1-U8	External indicator.
		RT	Return indicator.
21-41	Record identification	Blank	Record format names are used to determine the record types used in the program.
	code		
42-74		Blank	
75-80		Optional	This space is available for comments.

JX
Externally Described Files, Field Description Entries

Externally Described Files, Field Description Entries Summary Chart			
Positions	Name	Entry	Explanation
7-20		Blank	
21-30	External field name	Field name	If a field within a record in an externally described field is to be renamed, enter the external name of the field in these positions.
31-52		Blank	
53-58	RPG/400 field name	Field name	The name of the field as it appears in the external record description (if 6 characters or less) or the field name that replaces the externally defined field name in positions 21 through 30.
59-60	Control level	Blank L1-L9	Field is not a control field. This field is a control field.
61-62	Match fields	Blank M1-M9	Field is not a match field. The field is a match field.
63-64		Blank	
65-70	Field indicators	Blank 01-99	No indicator specified. General indicators.
		H1-H9	Halt indicators.
		U1-U8	External indicators.
		RT	Return indicator.
71-74		Blank	
75-80		Optional	This space is available for comments.

DS
Data Structure Statement Specifications

(Page 1 of 2) Data Structure Statement Specifications Summary Chart			
Positions	Name	Entry	Explanation
1-2	Page	Page Number	Entry assigns a page number to each specification form.
3-5	Line	Line number	Entry numbers the specification line.
6	Form type	I	Identification for an input specification.
7-12	Data	Blank	The name of the data structure being defined may be omitted.
	structure name	Valid data structure name	Enter the name of the data structure being defined.
13-16		Blank	
17	External	Blank	Subfield definitions for this data structure follow this specification.
	Description	E	Subfield definitions are defined externally. The entry in positions 7 through 12 references the external definition.
18	Option	Blank	Not a program status or data area data structure.
		<u>S</u>	A program status data structure. Only one data structure may be designated as the program status data structure.
		<u>U</u>	A data area data structure. RPG/400 retrieves the external data area (named in positions 7 through 12) at initialization and rewrites it at the end of the job. If you put blanks in positions 7 through 12, RPG/400 uses the local data area.
19-20	Record identifying indicator	<u>DS</u>	Indicates a data structure.

DS

(Page 2 of 2) Data Structure Statement Specifications Summary Chart			
Positions	Name	Entry	Explanation
21-30	External file name	External name of data structure	If an externally described data structure is to be renamed, enter the external file name for the subfield definitions and enter the name to be used in the program in positions 7 through 12.
		description	
31-43		Blank	
44-47	Number of	Blank	This is not a multiple occurrence data structure.
	occurrences	1-9999	Entry indicates the number of occurrences of this multiple occurrence data structure.
48-51	Data structure length	Blank	Length of the data structure is either the length specified on the input field specifications if the data structure is an input field or the highest to position specified for a subfield within the data structure if the data structure is not an input field.
		1-9999	Length of the data structure.
52-74		Blank	
75-80		Optional	This space is available for comments

SS Data Structure Subfield Specifications

	(P	Page 1 of 2) Data	Structure Subfield Specifications Summary Chart								
Positions	Name	Entry	Explanation								
7-20		Blank									
21-30	External	Subfield name	If a subfield in an externally described data structure is to be renamed,								
	field name		enter the external name of the subfield in these positions.								
31-42		Blank									
43	Packed /	Blank	Subfield is in zoned decimal format or character format.								
	binary										
		P	Subfield is in packed decimal format.								
		В	Subfield is in binary format.								
44-47	From	1-9999	Specifies subfield's beginning position in data structure.								
48-51	То	1-9999	Specifies subfield's end position in data structure.								
44-51	Keywords	Valid	Special keywords define the location of subfields in the program status								
		keyword	data structure or the file information data structure. Keywords for the								
			program status data structure are *STATUS, *PROGRAM, *PARMS, and								
			*ROUTINE. Keywords for the file information data structure are *FILE,								
			*RECORD, *OPCODE, *STATUS, and *ROUTINE.								
52	Decimal	Blank	Character subfield.								
	position										
72.70	~ 1 ~ 11	0-9	Number of decimal positions in a numeric subfield.								
53-58	Subfield	Valid subfield	The subfield name or the external name of the subfield or the subfield								
		name	name that replaces the external subfield name specified in positions 21								
50.54		D1 1	through 30.								
59-74		Blank									
75-80		Optional	This space is available for comments.								

Named Constant

		Named	constant Specifications Summary Chart
Positions	Name	Entry	Explanation
1-5		Blank	
6	Form type	I	Identification for an input specification.
7-20		Blank	
21-42	Constant	Constant	Any valid RPG literal including transparent literals. The character constants may be continued on the next line if needed by coding a hyphen instead of a single quote as the last character. Numeric constants can be continued by coding a hyphen immediately to the right of the constant. The next line must contain only an I in position 6 and the continuation of the literal in positions 21-42.
43	Data Type	C Blank	Indicates type of name is constant. Continuation line.
44-52		Blank	
53-58	Constant Name	Name	Name of constant. The normal rules for RPG names apply. Reserved words cannot be used.
59-74		Blank	

Calculation Specification Summary Chart

		(page 1 of 4). Calculation Specification Summary Chart										
Positions	Name	Entry	Explanation										
1-2	Page	Page number	7 6 1 6										
3-5	Line	Line number	Entry numbers the specification line.										
6	Form type	С	Identification for a calculation specification.										
7-8	Control Level	Blank	The calculation operation is done at detail calculation time of each program cycle if the calculation is part of a subroutine, or if the calculation is a declarative statement.										
		L8	The calculation operation is done at total calculation time of each program cycle.										
		L1-L9	The calculation operation is done at total calculation time if the indicator is on (because a control break occurs or because the indicator is set on).										
		LR	The calculation operation is done after the last record has been processed or after the LR indicator as been set on.										
		SR	The calculation operation is part of an RPG/400 subroutine. Optional.										
		AN, OR	Indicators on more than one line condition the calculation.										

		(page 2 of 4).	Calculation Specification Summary Chart							
Positions	Name	Entry	Explanation							
9-17	Conditioning Indicators	Blank	The operation is done if the condition specified in positions 7 and 8 is satisfied.							
			An N in positions 9, 12, and 15 is used to check if the indicator is not on (SETOF or containing 0) to decide if calculations will occur. The following indicators are valid in positions 9 through 17:							
		01-99	General indicator							
		KA-KN, KP-KY	Function key indicator							
		L1-L9	Control level indicator							
		LR	Last record indicator							
		MR	Matching record indicator							
		Н1-Н9	• Halt indicator							
		RT	Return indicator							
		U1-U8	• External indicator							
		OA-OG, OV	Overflow indicator							
			If the conditions specified in positions 9 through 17 are satisfied, the operation is done.							
18-27	Factor 1	Symbolic name or literal	Entry specifies a symbolic name or actual data on which an operation is							
28-32	Operation	Operation code	to be done. Valid entries depend on the operation code. Entry specifies the operation to be done.							
33-42	Factor 2	Symbolic name or literal	Entry specifies a symbolic name or actual data on which an operation is to be done. Valid entries depend on the operation code.							

		(page 3 of 4)	. Calculation Specification Summary Chart							
Positions	Name	Entry	Explanation							
43-48	Result field	Field name	The result field names the field that contains the result of the calculation operation specified in positions 28 through 32. The entry cannot be a named constant.							
49-51	Field length	Blank 1-30 1-256	The result field is defined elsewhere. Numeric field length. Character field length.							
52	Decimal positions	Blank 0-9	The result field is character data or has been defined elsewhere in the program. Number of decimal positions in a numeric result field.							
53	Half-adjust	Blank H	Half-adjust is not done. Half-adjust is done.							

	(page 4 of	(4) Externally De	scribed Files, Field Description Entries Summary Chart
Positions	Name	Entry	Explanation
54-59	Resulting	Blank	No resulting indicator.
	indicators	01-99	General indicators.
		KA-KN,KP-KY	Function key indicators.
		H1-H9	Halt indicators.
		L1-L9	Control level indicators.
		LR	Last record indicator.
		OA-OG, OV	Overflow indicators.
		U1-U8	External indicators.
		RT	Return indicator.
			Note: The resulting indicator positions (54 and 55, 56 and 57, and 58 and 59) have different uses, depending on the operation code specified.
60-74	Comments	Comments	These positions can be used for comments to document the purpose of
			the calculation.
75-80		Optional	This space is available for comments.

RPG 程式限制-1

Function	Restriction
AN/OR lines (positions 7 and 8 of calculation specifications)	Maximum of 7 per operation.
Arrays and tables	Maximum of 200 per program.
Array/table input record length for compile time	Maximum length is 80.
Character field length	Maximum length is 256.
Control fields (position 59 and 60 of input specifications)	Maximum length is 256.
length	
Data structure length	Maximum of 9999.
Data structure occurrences (number of)	Maximum of 9999 per data structure.
Do-groups (nested)	Maximum of 100 per program.
Edit Word	Maximum length of 24 for literals or 115 for named
	constants.
Elements in an array/table (positions 36 through 39 of	Maximum of 9999 per array/table.
extension specifications)	
File	Maximum of 50 per program.
Look-ahead	Can be specified only once for a file. Can be specified only
	for primary and secondary files.
Named constant	Maximum length of 256 for Character named constant and
	30 digits with 9 decimal positions for numeric named
	constant.

RPG 程式限制 - 2

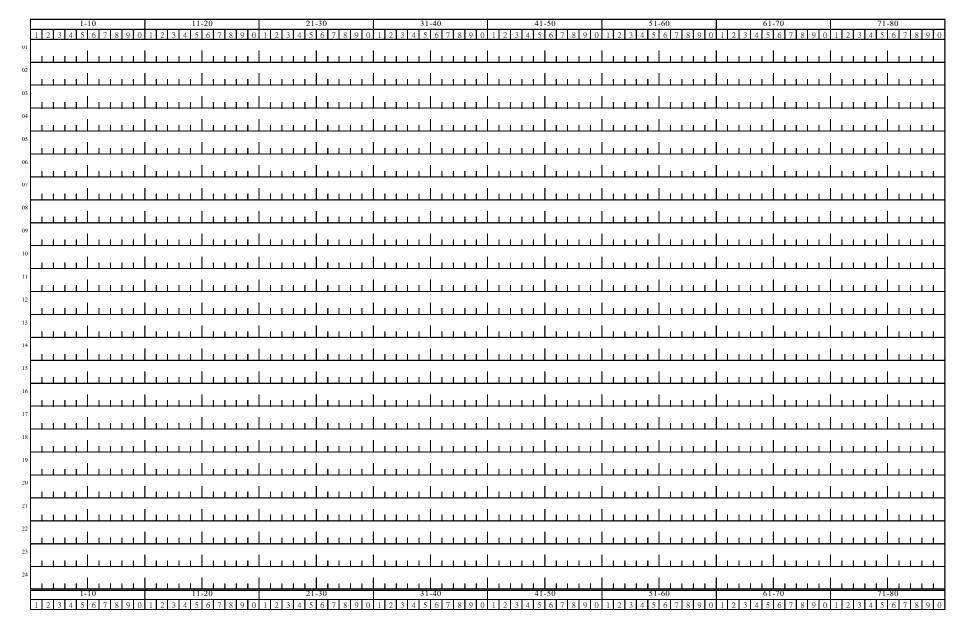
Function	Restriction
Overflow indicator	Only 1 unique overflow indicator can be specified per printer file.
Primary file (P in position 16 of file description specifications)	Maximum of 1 per program.
Printer file (PRINTER in positions 40 through 46 of file	Maximum of 8 per program.
description specifications)	
Printing lines per page	Minimum of 2; maximum of 112.
Program status data structure	Only 1 allowed per program.
Record address file (R in position 16 of file description	Only 1 allowed per program.
specifications)	
Record length for program described file (positions 24	Maximum length is 9999.
through 27 of file description specifications)	
Subroutines	Maximum of 254 per program.
Tables (see arrays)	
'Any device record size restraints override this value.	

		Exam	ples of Edit Code U	Jsage					
	Positive	Positive	Negative	Negative	Zero	Positive			
Edit Codes	Number-Two	Number-No	Number-Three	Number-No	Balance-Two	Balance-No			
Ean Codes	Decimal	Decimal	Decimal	Decimal	Decimal	Decimal			
	Positions	Positions	Positions	Positions	Positions	Positions			
Unedited	1234567	1234567	000125^3	000125^3	000000	000000			
1	12,345.67	1,234,567	.120	120	.00	0			
2	12,345.67	1,234,567	.120	120					
3	12345.67	1234567	.120	120	.00	0			
4	12345.67	1234567	.120	120					
5-9'									
A	12,345.67	1,234,567	.128CR	128CR	.00	0			
В	12,345.67	1,234,567	.128CR	128CR					
С	12345.67	1234567	.128CR	128CR	.00	0			
D	12345.67	1234567	.128CR	128CR					
J	12,345.67	1,234,567	.120-	120-	.00	0			
K	12,345.67	1,234,567	.120-	120-					
L	12345.67	1234567	.120-	120-	.00	0			
M	12345.67	1234567	.120-	120-					
N	12,345.67	1,234,567	120	-120	.00	0			
О	12,345.67	1,234,567	120	-120					
P	12345.67	1234567	120	-120	.00	0			
Q	12345.67	1234567	120	-120					
X^2	1234567	1234567	000125^3	000125^3	000000	000000			
Y^3			0/01/20	0/01/20	0/00/00	0/00/00			
Z^4	1234567	1234567	120	120					

for RPG:

	H I	L E			
• CHAIN	40		40	: not found	
• SETLL	41	42	41	: not found	42:equal
• SETGT	43		43	: not found	
• READE		44	44	: end of file	
• READC		57	57	: end of subf	file
• READ		46	46	: end of file	
• READP		47	47	: begin of fil	e
• WRITE		53	53	: subfile full	

COLUMN



DATA DESCRIPTION SPECIFICATIONS

File												Keyin		Gr	aphic						Description Page of
Programmer							I	Date	;			Instru	ction	n Ke	у						
A Sequence Number	A Conditioning Sequence Condition Name Number			me	<u>e</u>						Ţ		F A/S/X/Y/N/I/W)			Location					
Number 1 2 3 4 5	9 Form Type 2 And/Or/Comment(A/O	8 Not (N)	9 10	11 Not (N)	Indicator	(N) toN 14	1 5 Indicator	9 Name tvpe (b/R/K/S/O)	Reserved	19 20 21 22	23 24 25	5 26 27 2	& Rreference (R)	30 31 32	33 34 3	C Date Type (b/A/P/S/B/	99 Decimal 22 Posittions	⇔ Usaqe (b/O/I/B/H/M/P)	Line 39 40 41	Pos 42 43 44	Funclion 445 46 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65
	A																				
	A																				
	Α																				
	Α																				
	A																				
	A																				
	A																				
	A																				
	A																				
	A																				
	A																				
	A																				
	Α																				
	Α																				
	Α	\top				\sqcap	寸	T													
	Α						T	T								1					
	Α	T						T								1		П			
	Α	\top		П		\sqcap	1									1					
	Α	$\dagger \dagger$		\Box		${\dagger}{\dagger}$	T	T								1					
	Α	\dagger		П		†	1	T								1					

F		F	ile T	уре			Mode of Processing												File	Addi	tion/(Unord	lered
r			Fil	e De	signation		1	Lei	ngth	of I	Key	Field or						Extent Exit	lΓ	Num	ber c	of Tra	icks
				End	of File			ofR	eco	ord Address Field						S/NE/M	Name of	for DAM		fc	or Cy	linder	r
	Filename			S	equence			Record			cord Address Type						Label Exit			(Over	flow	
				ı <u></u>					Т	ype	ofF	f File Organiza-				Labels 5				Nu		of Ext	ents
					File F	ormat	1		ion (pe of File Organizanor Additional Area		e E/	Device	Symbolic	Cab		Storage Index			File	e	
Line		fr)/E					ç	10		rflow Indi-	Cod			Г					Re	wind	
) F/V/S/M/D/I	Block	Record			وَا	e ca	ator	rflow Indi- Key Field Starting Location	lon (Device						Ιſ	Cond	lition
, and		C/D		[/S/]	Length	Length	را		A/P/I/K	ב ב		Starting	ensi				Continuati	on Lines	11			U1-U	8.UC
La) 					L/R		A/F	3		Location	Ext			K	Option	Entry			R/U/N	Ī	
For		I/O/U/C/D P/S/C/R/T/D/F	Щ	\breve{A}		Externa													A/U				
3 4 5 6	7 8 9 10 11 12 13 14	15 10	6 17	18 19	20 21 22 23	24 25 26 27	28	29 30	31 3	2 33	3 3 4	35 36 37 38	39	40 41 42 43 44 45 46	47 48 49 50 51 5	2 53	54 55 56 57 58 59	60 61 62 63 64 65	66 6	7 68 6	9 70	71 72	73 74
F	,																						
F																							
F	,																		Ш				
F	,																		Ш		Ш		
F	'																		Ш		Ш		
F	1		Ш																Ш		Ш		
F	1																		Ш		Ш		
F			Ш																Ш		Ш		
F		Щ	Ш																Ш		$\perp \!\!\! \perp$		<u> </u>
F																			Ш		$\perp \!\!\! \perp$		
F		$oxed{oxed}$	\perp							\perp						1			Ш	1	4		Щ.
F		$\perp \perp$	\sqcup				L		4	\bot						_			\sqcup	1	44		\vdash
F		$oxed{oldsymbol{eta}}$	\Box						_	\perp						4			\sqcup	1	+		\vdash
F		$\sqcup \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	\Box	-					_	\perp						+			\sqcup	1	4		\vdash
F		$\vdash \vdash$	\Box						_	\perp						_			\sqcup	1	+		\vdash
F		$oxed{oldsymbol{eta}}$	\Box						_	\perp						-			\sqcup	1	+		$\vdash \vdash \vdash$
F		$oxed{oldsymbol{eta}}$	+	4					4	\perp						+			\vdash	+	\dashv		$\vdash \vdash$
F		$\vdash \vdash$	\Box	\perp					_	\perp						+			\sqcup	1	4		\square
F																					Ш		

RPG INPUT SPECIFICATIONS

(SEE OVER FOR RPG EXTENSION AND LINE COUNTER SPECIFICATIONS)

																1				I I a 1 m			Τ΄	1 2	_					
ogram					D	-4-						_	leying estruction		Grap	hic	\vdash	++		Card Ele	ectro Number		Page		of		ogram dentific	_4:	75 76	77 78 79 80
grammer					D	ate						11	istruction		Key								l	Ш	_	Inc	aentiiic	ation	шШ	
I	_					Sednence		Record Identifying Indicator, **, or DS					bfield Initi Name Co	nstan	t V	alue				Field L	ocaction			(6)		uc		Field		
			Filename	2		jen Jen	Π \sim						External Fi] [2]	RPG	1	[0 S	atic	Ir	ndicate	ors	
			or			เ _ร	$\widehat{\mathbb{Z}}^{\square}$	$\frac{g}{2}$				Reco	ord Identif	icatio	n C	Codes			~	:		Sŧ	Field Name		iel de	Re]				
	ΛΩ	3	Record Na	ame	1	Ω	$\frac{r(1)}{(0)}$	or Light		1			2			3			P/B/L/]	Form	То	1 Positions		evel	g Fig	ord			Zero	
Line	Form Tyne					П	mbe	dent **				ĘĘ			ter		20	ter	P/I	Data S	Structure	Decimal 1		olL	tchin naini	Rec	Plus	Minus	or	
	Ę.	5	Data		O R A N		N C	ord I	Posi	tion	ot (I	C/Z/D Character	Position	Not (N)	arac	Position	Not (N) C/Z/D	naracte		Occurs	Length	Ğ		Control Level (L1-L9)	Matching Fields or Chaining Fields	Field Record Relation				
			Structure Name	-	AN	D		Rec			z	7 5			' [ਹੋ			CF		n Times	Lungar		Name						Bank	
3 4 :	5 6	5 7		12 13	14 15	16	17 18	8 19 20	21 22	23 24	25 2	26 27	28 29 30 31	32 3	3 34	35 36 37 38	39 40	41 4	2 43	44 45 46 47	48 49 50 51	52	53 54 55 56 57 58	59 60	61 62	63 64	65 66	67 68	69 70	71 72 73 74
0 1	I	[
0 2	I	[]																												
0 3	I	[
0 4	I	[
0 5	I	[П								П																
0 6	I	[П								П																
0 7	I	[
0 8	I	[
0 9	I	[
1 0	I	[
1 1	I	[
1 2	I	[
1 3	I	[Ш					Ш																			
1 4	I	[Ш																								
1 5	I	[Ш								$\perp \perp$			Ш													
1 6	I										Ц			$\perp \perp$																
1 7	I	[$\perp \perp$			$oxed{oxed}$													
1 8	I					Ш								$\perp \perp$																
1 9	I	[$\perp \downarrow \downarrow$	┸	Ш					\sqcup			$\perp \perp$	_		$\sqcup \!\!\! \perp$													
2 0	I	[$\perp \perp$																

RPG CALCULATION SPECIFICATIONS

Program	keying	Graphic	Card Electro Number Page Program 75 76 77 78 79 80
Programmer Date	Instruction	Key	I dentificatio I I I I I I I I I I I I I I I I I I I
C C C C C C C C	Operation	Factor 2	Result Field Substitute Compare Comments
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28			Name Length
0 1 C			
0 2 C	++++		
0 3 C 0 0 4 C	+++++		
0 4 C	++++		
0 6 C	++++		
0 7 C	++++	+++++++	
0 8 C	 	 	
	 	 	
11 C			
12 0			
1 3 C			
1 4 C			
1 5 C			
1 6 C			
1 7 C			
1 8 C			
1 9 C	++++		
2 0 C			
C			
C			
C			
C			
		<u> </u>	<u> </u>
72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47	7 46 45 44 43 4	42 41 40 39 38 37 36 35 34 33	3 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

RPG OUTPUT SPECIFICATIONS

C Line E S S S S S S S S S S S S S S S S S S	Re	Filenar or ecord N	Name	O R A N		□ □ After Before		Not		Not	A	nd		F	*A	UTO	me	8 Edit Codes	In Ou Re	osition utput ecord	P/B/L/R		1 2		5 6		rint s S S	10 11	12	I Stant 13 14	B C O of Ea	K L M dit W 16 17	Pl Y=D Fi Z=Z Su Vord	ield Ed	gn lit sss 21 22		er ined 4	<u> </u>	-
3 4 5 6 7 0 1 0 0 0 2 0 0 0 3 0 0 0 4 0 0 0 5 0 0 0 7 0 0 0 8 0 0 0 9 0 1 0 0 0	Re	or ecord N	Name	O R A N	D	Be				Not		Not	0 31		*A	UTO		Edit Code	Po In Ou Re	osition utput ecord	P/B/L/R			Yes No No	5 6	No YE No 7 8	S S 9	10 11	3 4 Cons 12	stant 13 14	B C O of Ea	K L M dit W 16 17	Fi Z=Z Su Vord V 18 1	ield Ed Zero uppres	ss 21 22	Deli	ined 4	<u>+</u>	
3 4 5 6 7 0 1 0 0 0 2 0 0 0 3 0 0 0 4 0 0 0 5 0 0 0 7 0 0 0 8 0 0 0 9 0 1 0 0 0				O R A N	D	Be					27 28		0 31	32			6 37	Edit Code	Oı Re	utput				3 4		7 8	3 9	10 11	12	stant 13 14	of Ed 15 1	dit W 16 17	ord 18 1	19 20 2	21 22			Ŧ	
0 1 0 0 2 0 0 3 0 0 4 0 0 5 0 0 6 0 0 7 0 0 8 0 0 9 0 1 0 0	7 8	9 10 11	1 12 13	14 15	16 17	18 19 2	20 21 2	22 23 2	24 25	26 2	27 28	29 3	0 31	32	33 34	35 3	6 37	38 39	40	41 42	43 44	45 46	6 47	48 49	50 51	52 53	54	55 56	57 5	58 59	60 6	61 62	63 6	64 65 (66 67	68 6	9 70	Ŧ	\blacksquare
0 2 0 0 3 0 0 4 0 0 5 0 0 6 0 0 7 0 0 8 0 0 9 0 1 0 0																								+		Ш	Ы			\perp		\pm	\forall	\mp	+	\pm	$\frac{+}{+}$	\pm	井
0 3 O 0 4 O 0 5 O 0 6 O 0 7 O 0 8 O 0 9 O 1 0 O																	1		Ш											+	H	+	${\dagger}{\dagger}$	+	\top	廿	$\downarrow \downarrow$	士	++
0 5 O 0 6 O 0 7 O 0 8 O 0 9 O 1 0 O					\Box	+				H	-	\vdash								_			П		T		П		Ш		\vdash	+	++	+	+				++
0 6 O 0 7 O 0 8 O 0 9 O 1 0 O					++	+++									\dashv	++	+		++	-			+	-	-		H		H	+	H	+-'	₩	++	+	++	++	+	$+\!+\!-$
0 7 O 0 8 O 0 9 O 1 0 O			++	+				ΙĪ		H	+	H		H			+	H	H				+	+		H	H		H	+	H	十	+	++	+	++	++	+	+
0 9 O 1 0 O 1 1 O					\Box					Ħ		H		H		11		H	П				H	\exists			Ħ		Ħ		П	\top	Ħ	\top	\top	T	\top	\top	+
1 0 O 1 1 O																			П														Ш			Ш			
1 1 O																																	Ш			Ш	Ш		Ш
	$\perp \downarrow \downarrow$	_ _	$\perp \downarrow$		Ш	igspace				Ш		Ш		Ш					Ш												Ш	'	Ш	$\bot\!\!\!\bot$		Ш	$\perp \! \! \perp$	_	\bot
1121 101				$\sqcup \sqcup$	Ш	$oldsymbol{\sqcup}$				Ш		Ш		Ш		Ш	_	Ш	ш								Ш				Ш		ш	$\perp \! \! \perp$		ш	ш	丄	ш
	$\perp \!\!\! \perp \!\!\! \perp$			$\sqcup \!\!\! \perp$	Ш	\longrightarrow				Ш		Ш		Ш		$\sqcup \bot$		Ш	ш					\perp	_	Ш	Ш		Ш	'	Ш	<u> </u>	\sqcup	$\bot\!\!\!\!\bot$	_	\sqcup	$\bot\!\!\!\!\bot$	丄	$+\!\!+\!\!\!+$
1 3 O				$\perp \perp$	Ш	\longrightarrow		\perp		Ш		ш		Ш		$\perp \perp$		Ш	ш				Ш	\perp	_	Ш	Ш				ш		₩	$\bot\!\!\!\bot$		\sqcup	$\bot\!\!\!\!\bot$	\bot	$\bot\!\!\!\bot$
1 4 O		\bot		$\perp \perp$	Ш	$oldsymbol{oldsymbol{+}}$	\perp	\perp	\perp	$\sqcup \!\!\! \perp$		Ш	\perp	\sqcup		$\perp \perp$	4	Ш	Н				\bot	\perp			Ш		\sqcup		Ш		\vdash	$\bot\!\!\!\!\bot$		++	$\dashv \downarrow$	\bot	$+\!\!+\!\!\!+$
1 5 O	\bot		$\perp \perp$	\vdash	\coprod	$\dashv \dashv$	$\perp \downarrow \downarrow$	\perp	\perp	$\sqcup \!\!\!\! \perp$	\perp	\sqcup		\sqcup		$\bot \bot$	_	\vdash	\sqcup				\perp	\perp		\vdash	Н				Ш	<u></u>	\dashv	\dashv	4	++	$\bot\!\!\!\!\bot$	+	$+\!\!+\!\!\!+$
1 6 O		\bot		$\sqcup \!\!\! \perp$	Ш	$oldsymbol{\sqcup}$	\perp	\perp		$\sqcup \!\!\! \perp$		Ш	\perp	\sqcup		$\sqcup \!\!\!\! \perp$	4	Ш	Н				$\perp \downarrow$	$\perp \!\!\! \perp \!\!\! \perp$		Ш	Ш		\sqcup		Ш	<u> </u>	\sqcup	$\bot\!\!\!\!\bot$		++	$+\!\!+\!\!\!+$	\bot	$+\!\!+\!\!\!+$
1 7 O	\perp			\vdash	$\sqcup \sqcup$	$\dashv \downarrow$	$\perp \downarrow \downarrow$	\dashv	\perp	Ш		\sqcup		Ш		\sqcup		\sqcup	Ш	\perp			$\downarrow \downarrow$	$\perp \!\!\! \perp$		Ш	Ш		Щ	'			${}\downarrow\downarrow$	$+\!\!+\!\!\!+$		\vdash	$+\!\!+\!\!\!+$	丄	$+\!\!+\!\!\!+$
1 8 O	$\perp \downarrow \downarrow$			$\perp \perp$	$\sqcup \sqcup$	$oldsymbol{oldsymbol{\sqcup}}$	\perp	\perp	\perp	$\sqcup \bot$	\perp	$\sqcup \!\!\! \perp$	\perp	Ш		$\bot \bot$	_	$\sqcup \!\!\! \perp$	\sqcup				\perp	\dashv	_	$\sqcup \!\!\! \perp$	Ш		\sqcup		Ш		\sqcup	$\perp \downarrow$		$\perp \! \! \perp$	$\bot\!\!\!\!\bot$	\bot	$+\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$
1 9 O	\perp	$\perp \perp$	$\bot \bot$	oxdot	$\sqcup \sqcup$	$\dashv \downarrow$	$\perp \downarrow \downarrow$	$\perp \downarrow \downarrow$	\perp	$\sqcup \!\!\! \perp$		$\sqcup \bot$		Ш		$\sqcup \bot$		$\sqcup \!\!\!\! \perp$	Щ	\perp			\perp	$oldsymbol{\perp}$	\bot	$\sqcup \!\!\!\! \perp$	Щ		Ш		Ш	┷	\sqcup	$\bot\!\!\!\!\bot$	\bot	\sqcup	$\bot\!\!\!\!\bot$	丄	$+\!\!\!+\!\!\!\!+$
2 0 O	$\bot\!\!\!\!\bot$		$\bot \bot$	$\sqcup \!\!\!\! \perp$	\coprod	\coprod	\perp	$\perp \downarrow \downarrow$		$\sqcup \!\!\! \perp$		\sqcup		Ш		$\sqcup \bot$		$\sqcup \!\!\!\! \perp$	Ц				Ш	$oldsymbol{\perp}$	\bot	$\sqcup \!\!\!\! \perp$	Ш		Ш	'	Ш	Щ	\sqcup	$\bot\!\!\!\!\bot$	\bot	\sqcup	$\bot\!\!\!\!\bot$	丄	$+\!\!\!+\!\!\!\!+$
0	$\perp \downarrow \downarrow$	\bot	$\perp \perp$	$oxed{oxed}$	Ш	\coprod	$\perp \downarrow \downarrow$			$\sqcup \!\!\! \perp$		Ш		Ш		$\perp \perp$		Ш	Ш				Ш	\perp	\perp	Ш	Ш		Ш		Ш	'	\sqcup	$\bot\!\!\!\!\bot$	4	\sqcup	$\perp \! \! \perp$	丄	$\bot \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$
0				$\sqcup \sqcup$	Ш	Ш		\perp		Ш		Ш		Ш		$oldsymbol{ol}}}}}}}}}}}}}}}}}}$		Ш	Ш				Щ	$\perp \! \! \perp \! \! \! \perp$		Ш	Ш		Щ		Ш		Ш	$\perp \! \! \perp$	Щ	$\perp \! \! \! \! \! \! \! \perp$	$\perp \! \! \perp$	丄	$\bot \bot$
0	$\perp \! \! \perp$	$\perp \perp$	$\bot \bot$	$oxed{oxed}$	Ш	igspace	$\perp \downarrow \downarrow$	\perp		$\sqcup \! \! \! \! \! \perp$		$\sqcup \!\!\! \perp$		Ш		$\perp \perp$	\perp	oxdot	Ш					$\perp \!\!\! \perp \!\!\! \perp$	\perp	oxdot	Ш		Ш		Ш		\sqcup	$\perp \! \! \perp$	_	$\perp \! \! \perp$	$\perp \! \! \perp$	丄	$\bot \bot$
0					Ш	Ш		\perp		Ш		Ш		Ш		$oldsymbol{\perp}oldsymbol{\perp}$		Ш	Ш				Ш	$\perp \! \! \perp \! \! \! \perp$		Ш	Ш		Ш		Ш		Ш	$\perp \! \! \perp$		$\perp \! \! \perp$	$\perp \! \! \perp$	丄	$\bot \bot$
72 71 70 69 68	1 1	1 1		1 1	1 1 1																												Ш	$\perp \perp \perp$	\perp	Ш	Ш	\perp	Ш

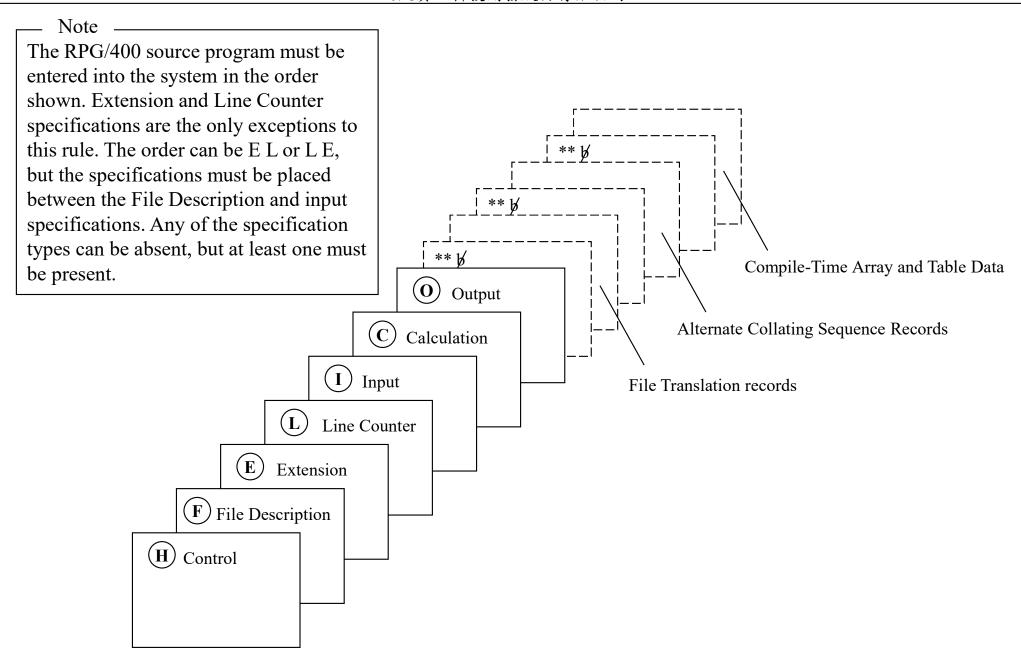


Figure 1. Order of the Types of Specifications in an RPG/400 Source Program

Prompt Selection

Type choice, press Enter.

Prompt type Values listed below

RPG/400: H, F, FC, FK, FX, U, E, L, I, X, J (I cont), JX, DS, SS, C, O, P (0 cont),

N, * (Comment)

COBOL: CB, C*

REFORMAT/SORT: RH, RR, RF, RC

DDS: LF (Logical file), PF (Physical file),

BC (Interactive Communications Feature file),

DP (Display and Printer file),

A* (Comment)

MNU: MS, MH, MD, MC (MD cont), CC (Comment)

Other: NC (No syntax checking), ** (Free format)

F12=Cancel F23=User Prompt Selection

Columns Find		1 71		Edit				CHPLIB/QRPGSRC CHR021
		neIPEAF	L I		Devi	ce+	KExi	t++Entry+AU
0015.00	FDJAPCM		K		DISK			3
0016.00	FCMRO2P	0 E		39	PRIN	TER		
0017.00	IFAATRC:	13						
Prompt type	e	F	Sequence n	number .		0016.	. 00	
	D. I	п.	•	П 1	c			D. I
	File		le	End of		_		File
Filename	Type	Desig	nation	File		Seque	ence	Format
CMR02P	0							E
Record	Mode of	L	ength of	ŀ	Recor	ď		
Length	Processin	ng K	ey Field	Addı	ress	Type		
E;10		Overaflow	. Voy	r Ei ald		Euto		
File		Overflow	•	Field		Extn	ъ.	
Organizatio	on	Indicato	r Sta	ırt Loc		Code	Devi	
		39					PRIN'	TER
				File			File	
Continuation	on Ext	it En	try A	ddition		Co	ondition	
F3=Exit F11=Bottom		F4=Prompt F12=Cance		F5=Refre F24=More		S	F10=To	p

Chapter 11. Operation Codes

The RPG/400 programming language allows you to do many different types of operations on your data. Operation codes, which are entered on the calculation specifications, indicate the operation to be done. Usually they are abbreviations of the name of the operation.

Many operation codes can be placed into categories. The first part of this chapter includes general information about these categories. The latter part of the chapter describes each operation code in alphabetical order and shows one or more examples for most of the operations.

The tables on the next few pages are a summary of the specifications for each operation code.

- An empty column indicates that the field must be blank.
- All underlined fields are required.
- An underscored space denotes that there is no resulting indicator in that position.
- Symbols
 - (1/2) Half adjust the result.
 - (n) No lock.
 - (p) Pad the result with blanks.
 - + Plus.
 - Minus.
 - BL Blank(s).
 - BN Blank(s) then numeric.
 - BOF Beginning of the file.
 - EOF End of the file.

EQ Equal.

ER Error.

Found. FD

HI Greater than.

Indicator. IN

LO Less than.

LR Last record.

NR No record was found.

Numeric. NU

Off. OF

ON On.

Z Zero.

ZB Zero or Blank.

Table 35 (Page 1 of	4). Operation Code Spec	cifications Summary		
Codes	Factor 1	Factor 2	Result Field	Resulting Indicators
ACQ	<u>Device name</u>	WORKSTN file		ER

- At least 1 resulting indicator is required.

 A found indicator is required if the result field is not specified.
- You must specify factor 2 or the result field. You may specify both.

Operation Codes

Table 35 (Pag	e 2 of 4) Operation Coo	de Specifications Summary		
Codes	Factor 1	Factor 2	Result Field	Resulting Indicators
ADD(1/2)	Addend	Addend	Sum	+ - Z
ANDxx	Comparand	Comparand		
BEGSR	Subroutine name			
BITOF		Bit numbers	Character field	
BITON		Bit numbers	Character field	
CABxx	Comparand	Comparand	Label	HI LO EQ
CALL		Program name	Plist name	_ ER LR
CASxx	Comparand	Comparand	Subroutine name	HI LO EQ
CAT(p)	Source string 1	Source string 2:number of blanks	Target string	
CHAIN(n)	Search argument	File name	Data structure	<u>NR</u> ER _
CHECK ²	Comparator String	Base string:start	Left-most Position(s)	_ ER FD
CHEKR ²	Comparator String	Base string:start	Right-most Position(s)	_ ER FD
CLEAR	*NOKEY	Structure or Variable		
CLOSE		<u>File name</u>		_ ER _
COMIT	Boundary			_ ER _
COMP ¹	Comparand	Comparand		HI LO EQ
DEBUG	Identifier	Output file	Debug into	
DEFN	<u>*LIKE</u>	Referenced field	Defined field	
DEFN	*NAMVAR	Internal program area	External data area	
DELET	Search argument	<u>File name</u>		NR ER _
DIV(1/2)	Dividend	Divisor	Quotient	+ - Z
DO	Starting value	Limit value	Index value	
DOUxx	Comparand	Comparand		
DOWxx	Comparand	Comparand		
DSPLY	Message identifier	Output queue	Response	_ ER _

Codes	Factor 1	Factor 2	Result Field	Resulting Indicators
DUMP	Identifier			
ELSE				
END		Increment value		
ENDCS				
ENDDO		Increment value		
ENDIF				
ENDSL				
ENDSR	Label	Return point		
EXCPT		EXCPT name		
EXFMT		Record format name		_ ER _
EXSR		Subroutine name		
FEOD		File name		_ ER _
FORCE		File name		
FREE		Program name		_ ER _

¹ At least 1 resulting indicator is required.

² A found Indicator is required if the result field is not specified.

³ You must specify factor 2 or the result field. You may specify both.

Operation Codes

Codes	Factor 1	Factor 2	Result Field	Resulting Indicators
GOTO		Label		
IFxx	Comparand	Comparand		
IN	*LOCK	Data area name		_ ER _
ITER				
KFLD			Key field	
KLIST	KLIST name			
LEAVE				
LOKUP ¹				
(array)	Search argument	Array name		HI LO EQ
(table)	Search argument	<u>Table name</u>	Table name	HI LO EQ
MHHZO		Source field	Target field	
MHLZO		Source field	Target field	
MLHZO		Source field	Target field	
MLLZO		Source field	<u>Target field</u>	
MOVE(p)		Source field	Target field	+-ZB
MOVEA(p)		Source	<u>Target</u>	+-ZB
MOVEL(p)		Source field	Target field	+-ZB
MULT(1/2)	Multiplicand	<u>Multiplier</u>	<u>Product</u>	+ - Z
MVR			Remainder	+ - Z
NEXT	Program device	File name		_ ER _
OCUR	Occurrence value	<u>Data structure</u>	Occurrence value	_ ER _
OPEN		<u>File name</u>		_ ER _
ORxx	Comparand	Comparand		
OTHER				
OUT	*LOCK	Data area name		_ ER _
PARM	Target field	Source field	Parameter	
PLIST	PLIST name			

Codes	Factor 1	Factor 2	Result Field	Resulting
Codes	T detail i	1 40001 2	result i feld	Indicators
POST ²	Program device	<u>File name</u>	INFDS name	_ ER _
READ(n)		File name, Record name	Data structure	_ ER <u>EOF</u>
READC		Record name		_ ER <u>EOF</u>
READE(n)	Search argument	File name, Record name	Data structure	_ ER <u>EOF</u>
READP(n)		File name, Record name	Data structure	_ ER <u>BOF</u>
REDPE(n)	Search argument	File name, Record name	Data structure	_ ER <u>BOF</u>
REL	Program device	File name		_ ER _
RESET	*NOKEY	Structure or variable		
RETRN				
ROLBK				_ ER _
SCAN ²	Comparator string:length	Base string:start	Left-most position(s)	- ER FD
SELEC				
SETGT	Search argument	<u>File name</u>		NR ER _

¹ At least 1 resulting indicator is required.

² A found Indicator is required if the result field is not specified.

³ You must specify factor 2 or the result field. You may specify both.

Arithmetic Operations

Table 35 (Pag	ge 4 of 4). Operation Co	ode Specifications Summary		
Codes	Factor 1	Factor 2	Result Field	Resulting Indicators
SETLL	Search argument	File name		NR ER EQ
SFTOF ¹				OF OF OF
SFTON ¹				ON ON ON
SHTDN				ON
SORTA		Array name		
SQRT(1/2)		Value	Root	
SUB(1/2)	Minuend	Subtrahend	<u>Difference</u>	+ - Z
SUBST(p)	Length to extract	Base string:start	Target string	_ ER _
TAG	Label			
TESTB ¹		Bit numbers	Character field	OF ON EQ
TESTN ¹			Character field	NU BN BL
TESTZ ¹			Character field	
TIME			Numeric field	
UNLCK		Data area, record, or file name		_ ER _
UPDAT		File name	Data structure	_ ER _
WHxx	Comparand	Comparand		
WRITE		File name	Data structure	_ ER EOF
XFOOT(1/2)		Array name	Sum	+ - Z
XLATE(p)	From:TO	String:start	Target String	_ ER _
Z-ADD(1/2)		Addend	Sum	+ - Z
Z-SUB(1/2)		Subtrahend	Difference	+ - Z

¹ At least 1 resulting indicator is required.

² A found indicator is required if the result field is not specified.

³ You must specify factor 2 or the result field. You may specify both.

Arithmetic Operations

The arithmetic operation are:

- "ADD (Add)" on page 177
- "DIV (Divide)" on page 212
- "MULT (Multiply)" on page 268
- "MVR(Move Remainder)" on page 269
- "SQRT (Square Root)" on page 312
- "SUB (Subtract)" on page 313
- "XFOOT (Summing the Elements of an Array)" on page 331
- "Z-ADD (Zero and Add)" on page 334
- "Z-SUB (Zero and Subtract)" on page 335

For examples of arithmetic operations, see Figure 33 on page 164.

Remember the following when specifying arithmetic operations:

- Arithmetic operations can be done only on numeric fields (including numeric subfields, numeric arrays, numeric array elements, numeric table elements, numeric named constants, numeric figurative constants, and numeric literals).
- Arithmetic operations are done on data in packed decimal format. Data maintained in other formats is converted to or from packed decimal format
- Decimal alignment is done for all arithmetic operations. Even though truncation can occur, the position of the decimal point in the result field is not affected.

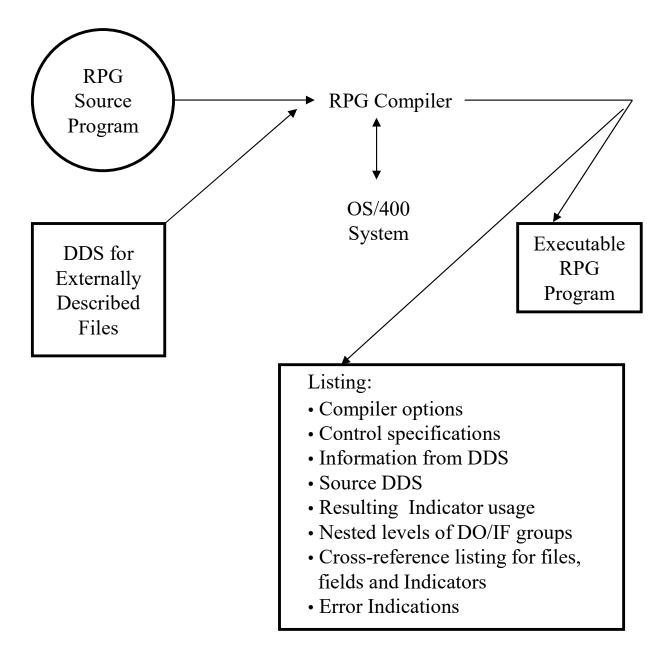


Figure 16. Overview of the Compilation Process

PAG Structure — Sharing In A Job

JOB CONTROL INFORMATION

32K

PROGRAM AND FILE VARIABLES

32K

ODP

OPEN FILE INFORMATION

ODP

ODP

32K

(OPEN DATA PATHS)

•

•

•

IPOPE405