

第三章 ABAP 语法示例

3.1 FIELD-SYMBOLS

FIELD-SYMBOLS 是字段符号，类似于 FOXPRO 的宏，FOXPRO 能把一段程序存入一个字符串中，再通过某种方式使该字符串运行。SAP 的 FIELD-SYMBOLS，把一个结构定义分配给字段符号，通过字段符号来引用结构中的成员。

【例 3.1】

```
REPORT YTEST001.
```

```
DATA:BEGIN OF MAN,  
      NAME(30) TYPE C,  
      HIGH TYPE P DECIMALS 2,  
      WEIGHT TYPE P DECIMALS 2,  
END OF MAN.
```

```
FIELD-SYMBOLS <FSA> LIKE MAN.  
DATA MAN1 LIKE MAN.
```

```
MAN1-NAME = '张林'.  
MAN1-HIGH = '1.78'.  
MAN1-WEIGHT = 140.
```

```
ASSIGN MAN1 TO <FSA>.  
WRITE: / <FSA>-NAME,  
        <FSA>-HIGH,  
        <FSA>-WEIGHT.
```

输出结果如图 3-1 所示。

张林	1,78	140,00
----	------	--------

图 3-1

3.2 字符串处理

3.2.1 合并字符串

【例 3.2】

```
REPORT YTEST001.
```

```
DATA: C1(2) TYPE C,  
      C2(2) TYPE C,  
      C3(2) TYPE C,  
      C4(2) TYPE C,  
      C5(20) TYPE C,  
      C9(2) TYPE C.
```

```
C1 = 'AB'.  
C2 = 'CD'.  
C3 = 'EF'.  
C4 = 'GH'.  
C9 = '+'.  
CONCATENATE C1 C2 C3 C4 INTO C5.  
WRITE C5.  
CONCATENATE C1 C2 C3 C4 INTO C5 SEPARATED BY C9.  
WRITE / C5.  
输出结果如图 3-2 所示。
```



```
ABCDEFGH  
AB+ CD+ EF+ GH
```

图 3-2

本例中，先将字符串 C1、C2、C3、C4 合并到字符串 C5，再将字符串 C1、C2、C3、C4 用间隔符字符串 C9 合并到字符串 C5。

3.2.2 拆分字符串

【例 3.3】

```
REPORT YTEST001.  
DATA: C1(2) TYPE C,  
      C2(2) TYPE C,  
      C3(2) TYPE C,  
      C4(2) TYPE C,  
      C5(20) TYPE C VALUE '11 * 22 * 33 * 44',  
      C9(2) TYPE C.
```

```
C9 = '*'.  
WRITE C5.  
SPLIT C5 AT C9 INTO C1 C2 C3 C4.  
WRITE: / C1, C2, C3, C4.  
输出结果如图 3-3 所示。
```

```
11 * 22 * 33 * 44
11 22 33 44
```

图 3-3

3.3 内表带有标题行

【例 3.4】

```
REPORT  YTEST001.
DATA: BEGIN OF MAN,
NAME(20) TYPE C,
HIGH TYPE P DECIMALS 2,
WEIGHT TYPE P DECIMALS 2,
      END OF MAN.
```

```
DATA:  MAN1 LIKE TABLE OF MAN WITH HEADER LINE,
      MAN2 LIKE TABLE OF MAN.
```

```
MAN-NAME = '张参'.
MAN-HIGH = '1.68'.
MAN-WEIGHT = 120.
APPEND MAN TO MAN1.
```

```
MAN-NAME = '刘志'.
MAN-HIGH = '1.78'.
MAN-WEIGHT = 160.
APPEND MAN TO MAN1.
```

```
MOVE MAN1[] TO MAN2.
```

```
LOOP AT MAN2 INTO MAN.
  WRITE: / MAN-NAME,MAN-HIGH, MAN-WEIGHT.
ENDLOOP.
```

```
LOOP AT MAN1.
  WRITE: / MAN1-NAME,MAN1-HIGH,MAN1-WEIGHT.
ENDLOOP.
```

本例中内表 MAN1 有表头，内表 MAN2 无表头，输出结果一样，如图 3-4 所示。

张参	1,68	120,00
刘志	1,78	160,00
张参	1,68	120,00
刘志	1,78	160,00

图 3-4

3.4 内表排序

【例 3.5】

REPORT YTEST001.

DATA: BEGIN OF MAN,
NAME(20) TYPE C,
HIGH TYPE P DECIMALS 2,
WEIGHT TYPE P DECIMALS 2,
END OF MAN.

DATA: MAN1 LIKE HASHED TABLE OF MAN WITH UNIQUE KEY NAME.

MAN-NAME = '张参'.
MAN-HIGH = '1.68'.
MAN-WEIGHT = 120.
INSERT MAN INTO TABLE MAN1.

MAN-NAME = '刘志'.
MAN-HIGH = '1.78'.
MAN-WEIGHT = 160.
INSERT MAN INTO TABLE MAN1.

MAN-NAME = '朱强'.
MAN-HIGH = '1.72'.
MAN-WEIGHT = 130.
INSERT MAN INTO TABLE MAN1..

LOOP AT MAN1 INTO MAN.
WRITE: / MAN-NAME,MAN-HIGH, MAN-WEIGHT.
ENDLOOP.

SORT MAN1 DESCENDING BY WEIGHT ASCENDING.
SKIP.
ULINE.
LOOP AT MAN1 INTO MAN.
WRITE: / MAN-NAME,MAN-HIGH,MAN-WEIGHT.
ENDLOOP.

输出结果如图 3-5 所示。

张参	1,68	120,00
刘志	1,78	160,00
朱强	1,72	130,00
张参	1,68	120,00
朱强	1,72	130,00
刘志	1,78	160,00

图 3-5

3.5 修改内表数据

【例 3.6】

REPORT YTEST001.

DATA: BEGIN OF MAN,
NAME(20) TYPE C,
HIGH TYPE P DECIMALS 2,
WEIGHT TYPE P DECIMALS 2,
END OF MAN.

DATA: MAN1 LIKE HASHED TABLE OF MAN WITH UNIQUE KEY NAME.

MAN-NAME = '张参'.
MAN-HIGH = '1.68'.
MAN-WEIGHT = 120.
INSERT MAN INTO TABLE MAN1.

MAN-NAME = '刘志'.
MAN-HIGH = '1.78'.
MAN-WEIGHT = 160.
INSERT MAN INTO TABLE MAN1.

LOOP AT MAN1 INTO MAN.
WRITE: / MAN-NAME,MAN-HIGH, MAN-WEIGHT.
ENDLOOP.

MAN-NAME = '张参'.
MAN-HIGH = '2.22'.
MAN-WEIGHT = 220.
MODIFY TABLE MAN1 FROM MAN.

LOOP AT MAN1 INTO MAN.
WRITE: / MAN-NAME,MAN-HIGH,MAN-WEIGHT.
ENDLOOP.

本例根据关键字修改内表，输出结果如图 3-6 所示。

张参	1,68	120,00
刘志	1,78	160,00
张参	2,22	220,00
刘志	1,78	160,00

图 3-6

3.6 删除内表记录

【例 3.7】

REPORT YTEST001.

```
DATA: BEGIN OF MAN,
      NAME(20) TYPE C,
      HIGH TYPE P DECIMALS 2,
      WEIGHT TYPE P DECIMALS 2,
    END OF MAN.
DATA: MAN1 LIKE HASHED TABLE OF MAN WITH UNIQUE KEY NAME.

MAN-NAME = '张参'.
MAN-HIGH = '1.68'.
MAN-WEIGHT = 120.
INSERT MAN INTO TABLE MAN1.

MAN-NAME = '刘志'.
MAN-HIGH = '1.78'.
MAN-WEIGHT = 160.
INSERT MAN INTO TABLE MAN1.

LOOP AT MAN1 INTO MAN.
  WRITE: / MAN-NAME,MAN-HIGH, MAN-WEIGHT.
ENDLOOP.

DELETE MAN1 WHERE NAME = '张参'.
SKIP.
ULINE.
LOOP AT MAN1 INTO MAN.
  WRITE: / MAN-NAME,MAN-HIGH,MAN-WEIGHT.
ENDLOOP.
```

输出结果如图 3-7 所示。

张参	1, 68	120, 00
刘志	1, 78	160, 00
刘志	1, 78	160, 00

图 3-7

3.7 使用索引插入内表行

【例 3.8】

REPORT YTEST001.

DATA: BEGIN OF MAN,
NAME(20) TYPE C,
HIGH TYPE P DECIMALS 2,
WEIGHT TYPE P DECIMALS 2,
END OF MAN.

DATA: MAN1 LIKE TABLE OF MAN.

MAN-NAME = '张参'.
MAN-HIGH = '1.68'.
MAN-WEIGHT = 120.
INSERT MAN INTO TABLE MAN1.

MAN-NAME = '刘志'.
MAN-HIGH = '1.78'.
MAN-WEIGHT = 160.
INSERT MAN INTO TABLE MAN1.

LOOP AT MAN1 INTO MAN.
WRITE: / MAN-NAME,MAN-HIGH, MAN-WEIGHT.
ENDLOOP.

MAN-NAME = '李志'.
MAN-HIGH = '1.58'.
MAN-WEIGHT = 110.
INSERT MAN INTO MAN1 INDEX 2.
ULINE.

LOOP AT MAN1 INTO MAN.
WRITE: / MAN-NAME,MAN-HIGH,MAN-WEIGHT.
ENDLOOP.

输出结果如图 3-8 所示。

张参	1,68	120,00
刘志	1,78	160,00
张参	1,68	120,00
李志	1,58	110,00
刘志	1,78	160,00

图 3-8

3.8 格式化输出

【例 3.9】

```
REPORT YTEST001.
DATA WA LIKE SPFLI.
WRITE: /.
```

WRITE: 10'航班承运人',40'航班连接',60'国家代码',80'起飞城市',100'起飞机场'.

```
SELECT * INTO WA FROM SPFLI.
```

```
WRITE: / WA-CARRID UNDER '航班承运人',
        WA-CONNID UNDER '航班连接',
        WA-COUNTRYFR UNDER '国家代码',
        WA-CITYFROM UNDER '起飞城市',
        WA-AIRPFROM UNDER '起飞机场'.
```

```
ENDSELECT.
```

本例通过 UNDER 定位输出位置，输出结果如图 3-9 所示。

The screenshot shows the SAP SAFE FILE transaction. The title bar includes 'SAP' and 'safe file'. The main window displays a table with the following columns: 航班承运人 (Flight Carrier), 航班连接 (Flight Connection), 国家代码 (Country Code), 起飞城市 (Origin City), and 起飞机场 (Origin Airport). The data is as follows:

航班承运人	航班连接	国家代码	起飞城市	起飞机场
AA	0017		NEW YORK	JFK
AA	0064		SAN FRANCISCO	SFO
AC	0820	DE	FRANKFURT/MAIN	FRA
AF	0820	DE	FRANKFURT/MAIN	FRA
DL	1699		NEW YORK	JFK
DL	1984		SAN FRANCISCO	SFO
LH	0400		FRANKFURT	FRA
LH	0402		FRANKFURT	FRA
LH	0454		FRANKFURT	FRA
LH	0455		SAN FRANCISCO	SFO
LH	2402		FRANKFURT	FRA
LH	2407		BERLIN	TXL
LH	2415		BERLIN	SXF
LH	2436		FRANKFURT	FRA
LH	2462		FRANKFURT	FRA
LH	2463		BERLIN	SXF
LH	3577		ROM	FCO
LH	9981	DE	FRANKFURT	FRA
SQ	0026		FRANKFURT	FRA
UA	0007		NEW YORK	JFK
UA	0941		FRANKFURT	FRA
UA	3504		SAN FRANCISCO	SFO

The status bar at the bottom indicates 'D01 (1) 100 ERPDEV INS'.

图 3-9

3.9 内部数据存为文件

【例 3.10】

REPORT YTEST001.

DATA: BEGIN OF MAN,
 NAME(20) TYPE C,
 HIGH TYPE P DECIMALS 2,
 WEIGHT TYPE P DECIMALS 2,
 END OF MAN.

DATA: MAN1 LIKE TABLE OF MAN.

DATA: NAME TYPE RLGRAP-FILENAME, TYPA TYPE RLGRAP-FILETYPE.

MAN-NAME = '张参'.

MAN-HIGH = '1.68'.

MAN-WEIGHT = 120.

INSERT MAN INTO TABLE MAN1.

MAN-NAME = '刘志'.

MAN-HIGH = '1.78'.

MAN-WEIGHT = 160.

```
INSERT MAN INTO TABLE MAN1.
```

```
MAN-NAME = '李志'.
```

```
MAN-HIGH = '1.58'.
```

```
MAN-WEIGHT = 110.
```

```
INSERT MAN INTO MAN1 INDEX 2.
```

```
NAME = 'C:\TEMP\TESTA.TXT'.
```

```
TYPA = 'DAT'.
```

```
CALL FUNCTION 'DOWNLOAD'
```

```
EXPORTING
```

```
CODEPAGE                = 'TESTA'
```

```
FILENAME                = NAME
```

```
FILETYPE                = TYPA
```

```
ITEM                    = '文件测试'
```

```
TABLES
```

```
DATA_TAB                = MAN1
```

```
EXCEPTIONS
```

```
INVALID_FILESIZE        = 1
```

```
INVALID_TABLE_WIDTH     = 2
```

```
INVALID_TYPE            = 3
```

```
NO_BATCH                = 4
```

```
UNKNOWN_ERROR           = 5
```

```
GUI_REFUSE_FILETRANSFER = 6
```

```
OTHERS                  = 7.
```

```
IF SY-SUBRC <> 0.
```

```
* MESSAGE ID SY-MSGID TYPE SY-MSGTY NUMBER SY-MSGNO
```

```
*           WITH SY-MSGV1 SY-MSGV2 SY-MSGV3 SY-MSGV4.
```

```
ENDIF.
```

打开运行实例存储文件，有以下内容：

```
张参      1,68 120,00
```

```
李志      1,58 110,00
```

```
刘志      1,78 160,00
```

3.10 直接存入文件

【例 3.10】

```
REPORT YTEST001.
```

```
DATA: BEGIN OF MAN,
```

```
NAME(20) TYPE C,
```

```
HIGH TYPE P DECIMALS 2,
```

```

        WEIGHT TYPE P DECIMALS 2,
    END OF MAN.
DATA: MAN1 LIKE TABLE OF MAN.

CALL FUNCTION 'UPLOAD'
EXPORTING
    CODEPAGE                = 'TEST'
    FILENAME                = 'C:\TEMP\TESTA.TXT'
    FILETYPE                = 'DAT'
    ITEM                    = '读放文件'
TABLES
    DATA_TAB               = MAN1
EXCEPTIONS
    CONVERSION_ERROR        = 1
    INVALID_TABLE_WIDTH     = 2
    INVALID_TYPE            = 3
    NO_BATCH                = 4
    UNKNOWN_ERROR           = 5
    GUI_REFUSE_FILETRANSFER = 6
    OTHERS                  = 7.
IF SY-SUBRC <> 0.
* MESSAGE ID SY-MSGID TYPE SY-MSGTY NUMBER SY-MSGNO
*           WITH SY-MSGV1 SY-MSGV2 SY-MSGV3 SY-MSGV4.
ENDIF.

LOOP AT MAN1 INTO MAN.
    WRITE: / MAN-NAME, MAN-HIGH, MAN-WEIGHT.
ENDLOOP.

```

输出结果如图 3-10 所示。

张参	1,68	120,00
李志	1,58	110,00
刘志	1,78	160,00

图 3-10

3.12 不使用提示框提示直接读入文件

在例 3.11 中,程序运行时弹出输入读入文件名的提示框(如图 3-10 示),将程序中“CALL FUNCTION ‘UPLOAD’”改为“CALL FUNCTION ‘WS——UPLOAD’”,程序运行时将不再提示直接读入文件。

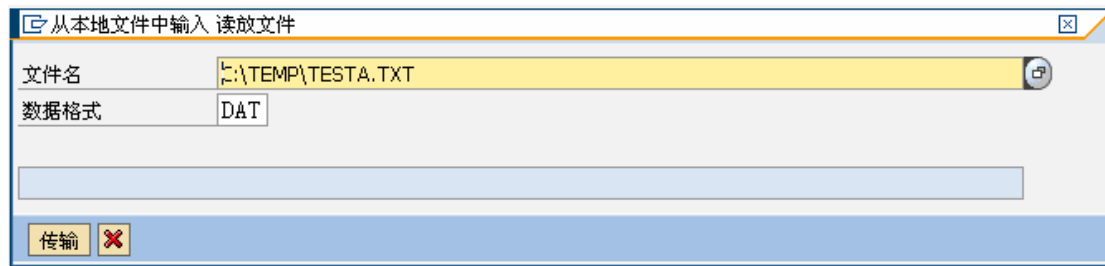


图 3-11

3.13 列表输出

WRITE 语法

WRITE AT [/] [<pos>] [<len>] 文本

“/”: 下一行

“pos”: 列

“len”: 长度

【例 3.10】

REPORT YTEST001.

DATA: STR1(10) TYPE C VALUE 'AABBCCDDEE'.

WRITE '接着的字符串_____将被替换.'

WRITE AT 14(10) STR1.

输出结果如图 3-11 所示。

接着的字符串_AABBCCDDEE_将被替换.

图 3-12