

## Set Lower Limits and Read (in CL)

Though it is very common to use SETLL and READ in an RPG program to retrieve a record from a database file, there is a similar mechanism to get a record within a CL program. The CL equivalent of SETLL and READ is OVERDBF and RCVF.

```
PGM                                PARM(&LIN &DPT)

DCL                                VAR(&LIN) TYPE(*CHAR) LEN(1)
DCL                                VAR(&DPT) TYPE(*CHAR) LEN(2)
DCL                                VAR(&LINNBR) TYPE(*DEC) LEN(1 0)
DCL                                VAR(&DPTNBR) TYPE(*DEC) LEN(2 0)
DCL                                VAR(&DPTVAR) TYPE(*CHAR) LEN(2)
DCL                                VAR(&FILEKEY) TYPE(*CHAR) len(3)
DCLF                               FILE(LFSDPTC1)

CHGVAR                             VAR(&FILEKEY) VALUE(&LIN || &DPT)
CHGVAR                             VAR(&LINNBR) VALUE(&LIN)
CHGVAR                             VAR(&DPTNBR) VALUE(&DPT)

OVRDBF                             FILE(LFSDPTC1) POSITION(*KEYAE 2 *N &FILEKEY)
RCVF
MONMSG                             MSGID(CPF0864) EXEC(GOTO CMDLBL(EXITPGM))

CHGVAR                             VAR(&DPTVAR) VALUE(&SDDPT)
IF                                 COND(&SDDPT *NE &DPTNBR) THEN(SNDUSRMSG +
    MSG('Department code ' || &DPT |> 'is not +
    on file.') MSGTYPE(*INFO))
ELSE                               CMD(SNDUSRMSG MSG('Record received for +
    department' |> &DPTVAR |> &SDDPTN) +
    MSGTYPE(*INFO))

EXITPGM:
DLTOVR                             FILE(LFSDPTC1)
MONMSG                             MSGID(CPF0000)
RETURN
```

Fig. 1

The sample program in Fig. 1 illustrates the technique. In this example the CL is attempting to retrieve the shipping variables at the department level. The key to the view (LFSDPTC1) is line number and department code, a single-digit and a two-digit numeric field, respectively.

The input to the test program is a single-byte alpha field, and a two-byte alpha field, representing the line number and department code. After the program variables are declared, the file is declared (DCLF).

In order to retrieve the correct record for the program, a variable to contain the file keys will have to be created. In this case a three-character variable is assigned the value of the line number concatenated with the department code. Note: even though line number and department code are defined as numeric entries, the key being created is a character value.

Having constructed a file key, the OVRDBF statement is issued. The override functions similar to a SETLL statement when the position parameters are used. In this case POSITION is assigned to reflect the starting position in the file. The value \*KEYAE specifies that the record identified by the search values is to be the first record read. If there is no record on file that matches the file key values, the record with the next highest value is selected.

Since \*KEYAE has been specified the number of key fields should be entered as well. In this case 2 key fields will be used to position the file. The number of key fields entered does not have to correspond to the actual number of key fields on the file, there may be three, or four, but the positioning will only use the first two fields. For example, if you specify POSITION(\*KEY 1 RECFMTB A), the first record in the file format RECFMTB that has a first key field value of A is read. If you specify a key value of zero, the search is based on all key fields. If zero is used, the key value must contain the maximum key size. If it does not, no match occurs.

Multiple format file can be processed by specifying the name of the record format to select (read from), however, in this case \*N signals that no record format name is specified, all record formats (in this case only one) are searched for the first record that matches the other search values regardless of record format.

The key value that was created by concatenating the line number and the department code indicated the first record to be read. The key value is may be specified as a character string enclosed in apostrophes for character or positive zoned decimal formats, or as a character variable (as in Fig.1) or it may be specified in hexadecimal form. (For example: X'123F' for a packed decimal representation of 123.)

In this program (Fig.1) the instruction to read a record is RCVF (receive file). Notice there is a monitor message on the command. The message CPF0864 is the end of file notice that will occur when no more records can be retrieved.

If a record has been received and returned to the program, the value of the department code returned is tested against the value of the department code requested. Just as in an RPG program when a SETLL operation is followed by a READ, the information returned must be examined to determine whether or not it was the data requested.

Keep in mind, the position operation using \*KEYAE will position the file to read the record requested, if the key value is present on the file. If the key value is not on file, the RCVF operation will return the record with the next highest key value.

1. If the parameters entered were '1' and '02', and the department code 2 for line 1 is on file, the first record retrieved will be the record for department code 2.
2. However, if the department codes defined for line 1 on the shipping variables department level file are 1,2,3,4,5,98,99 and the parameters entered were '1' and '35', the first record returned to the program will be for department code 98, since that is the next highest key value.