

IDENTIFICATION DIVISION.

PROGRAM-ID. READ04N.

DATE-WRITTEN. AUGUST, 2025.

DATE-COMPILED.

REMARKS. READ SALES HISTORY VIA AIX2 (DATE/TYPE),
 PRODUCE SALES HISTORY REPORT SUMMARIZED BY
 YEAR/MONTH, AND TYPE.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT SALES-HISTORY-FILE

ASSIGN TO SALESI

ORGANIZATION IS INDEXED

ACCESS IS SEQUENTIAL

RECORD KEY IS SHR-ALTSEQ-FIELD-2

FILE STATUS IS SALESI-STATUS.

SELECT REPORT-FILE

ASSIGN TO S-REPORT.

DATA DIVISION.

FILE SECTION.

FD SALES-HISTORY-FILE

LABEL RECORDS STANDARD

RECORD CONTAINS 118 CHARACTERS

DATA RECORD IS SALES-HISTORY-RECORD.

01 SALES-HISTORY-RECORD.

02 SHR-DATE PIC 9(08).

02 FILLER REDEFINES SHR-DATE.

03 SHR-YEAR-MONTH PIC 9(06).

03 FILLER REDEFINES SHR-YEAR-MONTH.

04 SHR-YEAR PIC 9(04).

04 SHR-MONTH PIC 9(02).

03 FILLER PIC 9(02).

02 SHR-TYPE PIC 9(03).

02 SHR-DESCRIPTION PIC X(40).

02 SHR-GROSS PIC S9(5)V99 COMP-3.

02 SHR-DISCOUNT PIC V99.

02 SHR-NET PIC S9(5)V99 COMP-3.

02 SHR-ALTSEQ-FIELD-1.

03 SHR-A1-CUSTOMER PIC X(35).

03 SHR-A1-TYPE PIC 9(03).

03 SHR-A1-RRN PIC S9(8) COMP.

02 SHR-ALTSEQ-FIELD-2.

03 SHR-A2-DATE PIC 9(08).

IDENTIFICATION DIVISION.

PROGRAM-ID. READ04V.

DATE-WRITTEN. AUGUST, 2025.

DATE-COMPILED.

REMARKS. READ SALES HISTORY VIA AIX2 (DATE/TYPE),
 PRODUCE SALES HISTORY REPORT SUMMARIZED BY
 YEAR/MONTH, AND TYPE.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT REPORT-FILE

ASSIGN TO UR-S-REPORT.

DATA DIVISION.

FILE SECTION.

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03 SHR-A2-TYPE      PIC 9(03).
03 SHR-A2-RRN       PIC S9(8) COMP.

```

FD REPORT-FILE

LABEL RECORDS STANDARD

REPORT IS TYPE-SALES-REPORT.

WORKING-STORAGE SECTION.

```

01 SALES-HISTORY-EOF-SW      PIC X    VALUE 'N'.
   88 SALES-HISTORY-NOT-EOF  VALUE 'N'.
   88 SALES-HISTORY-EOF      VALUE 'Y'.

01 SALESI-STATUS             PIC X(02).

01 Y2K-GETD-PARAMETERS.
   02 Y2K-GETDP-DATE-G       PIC 9(8).
   02 Y2K-GETDP-DATE-J       PIC 9(7).
   02 Y2K-GETDP-ANUM         PIC S9(7).
   02 Y2K-GETDP-CLOCK        PIC 9(8).
   02 FILLER                  REDEFINES Y2K-GETDP-CLOCK.
       03 Y2K-GETDP-CLOCK-HH  PIC 9(2).
       03 Y2K-GETDP-CLOCK-MM  PIC 9(2).
       03 Y2K-GETDP-CLOCK-SS  PIC 9(2).
       03 Y2K-GETDP-CLOCK-T   PIC 9(1).
       03 Y2K-GETDP-CLOCK-H   PIC 9(1).
   02 Y2K-GETDP-CLOCK12      PIC X(11).

01 Y2K-DFMT-PARAMETERS.
   02 Y2K-DFMTP-DATEIN       PIC X(8).
   02 Y2K-DFMTP-MAJOR        PIC X(1).
   02 Y2K-DFMTP-MINOR        PIC X(1).
   02 Y2K-DFMTP-RETURN-CODE  PIC 9(1).
   02 Y2K-DFMTP-OUTPUT-SIZE  PIC S9(2).
   02 Y2K-DFMTP-OUTPUT       PIC X(29).

```

FD REPORT-FILE

LABEL RECORDS OMITTED

REPORT IS TYPE-SALES-REPORT.

WORKING-STORAGE SECTION.

```

01 SALES-HISTORY-EOF-SW      PIC X    VALUE 'N'.
   88 SALES-HISTORY-NOT-EOF  VALUE 'N'.
   88 SALES-HISTORY-EOF      VALUE 'Y'.

01 SALESI-STATUS             PIC X(02).

01 Y2K-GETD-PARAMETERS.
   02 Y2K-GETDP-DATE-G       PIC 9(8).
   02 Y2K-GETDP-DATE-J       PIC 9(7).
   02 Y2K-GETDP-ANUM         PIC S9(7).
   02 Y2K-GETDP-CLOCK        PIC 9(8).
   02 FILLER                  REDEFINES Y2K-GETDP-CLOCK.
       03 Y2K-GETDP-CLOCK-HH  PIC 9(2).
       03 Y2K-GETDP-CLOCK-MM  PIC 9(2).
       03 Y2K-GETDP-CLOCK-SS  PIC 9(2).
       03 Y2K-GETDP-CLOCK-T   PIC 9(1).
       03 Y2K-GETDP-CLOCK-H   PIC 9(1).
   02 Y2K-GETDP-CLOCK12      PIC X(11).

01 Y2K-DFMT-PARAMETERS.
   02 Y2K-DFMTP-DATEIN       PIC X(8).
   02 Y2K-DFMTP-MAJOR        PIC X(1).
   02 Y2K-DFMTP-MINOR        PIC X(1).
   02 Y2K-DFMTP-RETURN-CODE  PIC 9(1).
   02 Y2K-DFMTP-OUTPUT-SIZE  PIC S9(2).
   02 Y2K-DFMTP-OUTPUT       PIC X(29).

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01 VSIO-PARAMETER-VALUES    COPY VSAMIO.
01 SALESI                   COPY VSAMIOFB.
01 SALES-HISTORY-RECORD.
   02 SHR-DATE               PIC 9(08).
   02 FILLER                 REDEFINES SHR-DATE.
   03 SHR-YEAR-MONTH         PIC 9(06).
   03 FILLER                 REDEFINES SHR-YEAR-MONTH.
       04 SHR-YEAR           PIC 9(04).
       04 SHR-MONTH          PIC 9(02).
   03 FILLER                 PIC 9(02).
   02 SHR-TYPE               PIC 9(03).
   02 SHR-DESCRIPTION        PIC X(40).
   02 SHR-GROSS              PIC S9(5)V99 COMP-3.

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01 TYPE-TABLE-DEFINE.
  02 FILLER          PIC X(31) VALUE
    '101Books'.
  02 FILLER          PIC X(31) VALUE
    '102Jacket Covers'.
  02 FILLER          PIC X(31) VALUE
    '103Gift Certificate (purchased)'.
  02 FILLER          PIC X(31) VALUE
    '104Diskettes'.
  02 FILLER          PIC X(31) VALUE
    '105Out-of-print search'.
  02 FILLER          PIC X(31) VALUE
    '106Postage'.
  02 FILLER          PIC X(31) VALUE
    '107Miscellaneous'.
  02 FILLER          PIC X(31) VALUE
    '108Post cards (political)'.
  02 FILLER          PIC X(31) VALUE
    '109Post cards (general)'.
  02 FILLER          PIC X(31) VALUE
    '110Deposit on special order'.
  02 FILLER          PIC X(31) VALUE
    '111Buttons'.
01 TYPE-TABLE
  02 TYPE-TABLE-ENTRY REDEFINES TYPE-TABLE-DEFINE.
    OCCURS 11 TIMES
    ASCENDING KEY IS TTE-CODE
    INDEXED BY TYPE-IX.
    03 TTE-CODE       PIC 9(03).
    03 TTE-TEXT       PIC X(28).

01 TYPE-TEXT-TO-PRINT.
  02 TTTP-CODE        PIC 9(03) VALUE 0.
  02 TTTP-TEXT.
    03 FILLER         PIC X(03).
    03 TTTP-TEXT-UNKNOWN PIC X(25).

01 COUNT-1           PIC 9(01) VALUE 1.

```

REPORT SECTION.

```

02 SHR-DISCOUNT      PIC V99.
02 SHR-NET           PIC S9(5)V99 COMP-3.
02 SHR-ALTSEQ-FIELD-1.
  03 SHR-A1-CUSTOMER PIC X(35).
  03 SHR-A1-TYPE     PIC 9(03).
  03 SHR-A1-RRN      PIC S9(8) COMP.
02 SHR-ALTSEQ-FIELD-2.
  03 SHR-A2-DATE     PIC 9(08).
  03 SHR-A2-TYPE     PIC 9(03).
  03 SHR-A2-RRN      PIC S9(8) COMP.

```

```

01 TYPE-TABLE-DEFINE.
  02 FILLER          PIC X(31) VALUE
    '101Books'.
  02 FILLER          PIC X(31) VALUE
    '102Jacket Covers'.
  02 FILLER          PIC X(31) VALUE
    '103Gift Certificate (purchased)'.
  02 FILLER          PIC X(31) VALUE
    '104Diskettes'.
  02 FILLER          PIC X(31) VALUE
    '105Out-of-print search'.
  02 FILLER          PIC X(31) VALUE
    '106Postage'.
  02 FILLER          PIC X(31) VALUE
    '107Miscellaneous'.
  02 FILLER          PIC X(31) VALUE
    '108Post cards (political)'.
  02 FILLER          PIC X(31) VALUE
    '109Post cards (general)'.
  02 FILLER          PIC X(31) VALUE
    '110Deposit on special order'.
  02 FILLER          PIC X(31) VALUE
    '111Buttons'.
01 TYPE-TABLE
  02 TYPE-TABLE-ENTRY REDEFINES TYPE-TABLE-DEFINE.
    OCCURS 11 TIMES
    ASCENDING KEY IS TTE-CODE
    INDEXED BY TYPE-IX.
    03 TTE-CODE       PIC 9(03).
    03 TTE-TEXT       PIC X(28).

01 TYPE-TEXT-TO-PRINT.
  02 TTTP-CODE        PIC 9(03) VALUE 0.
  02 TTTP-TEXT.
    03 FILLER         PIC X(03).
    03 TTTP-TEXT-UNKNOWN PIC X(25).

01 COUNT-1           PIC 9(01) VALUE 1.

```

REPORT SECTION.

RD TYPE-SALES-REPORT
 CONTROLS ARE TTTP-TEXT, SHR-YEAR-MONTH
 PAGE LIMIT IS 66 LINES
 HEADING 2
 FIRST DETAIL 5
 LAST DETAIL 59.

01 PAGE-HEAD TYPE PAGE HEADING.

02 LINE 2.

03 COLUMN 01 PIC X(10) SOURCE Y2K-DFMTP-OUTPUT.

03 COLUMN 15 PIC X(03) VALUE '(N)'.

03 COLUMN 25 PIC X(09) VALUE 'Discovery'.

03 COLUMN 36 PIC X(04) VALUE 'Nook'.

03 COLUMN 42 PIC X(05) VALUE 'Sales'.

03 COLUMN 49 PIC X(07) VALUE 'History'.

03 COLUMN 73 PIC X(04) VALUE 'Page'.

03 COLUMN 78 PIC ZZ9 SOURCE PAGE-COUNTER.

02 LINE 3.

03 COLUMN 01 PIC X(11) SOURCE Y2K-GETDP-CLOCK12.

03 COLUMN 32 PIC X(16) VALUE 'By Type and Year'.

01 TYPE-HEAD TYPE CONTROL HEADING TTTP-TEXT.

02 LINE PLUS 1.

03 COLUMN 08 PIC X(28) SOURCE TTTP-TEXT.

01 SALE-DETAIL TYPE IS DETAIL.

02 LINE PLUS 1.

03 COLUMN 01 PIC 9(02) SOURCE COUNT-1.

03 COLUMN 05 PIC 99999.99- SOURCE SHR-NET.

01 YEAR-FOOT TYPE IS CONTROL FOOTING SHR-YEAR-MONTH.

02 LINE PLUS 1.

03 COLUMN 17 PIC 9(04) SOURCE SHR-YEAR.

03 COLUMN 21 PIC X(01) VALUE '/'.

03 COLUMN 22 PIC 9(02) SOURCE SHR-MONTH.

03 COLUMN 27 PIC Z,ZZ9 SUM COUNT-1.

03 COLUMN 32 PIC X(01) VALUE '*'.

03 COLUMN 38 PIC \$ZZ,ZZ9.99 SUM SHR-NET.

03 COLUMN 48 PIC X(01) VALUE '*'.

01 TYPE-FOOT TYPE IS CONTROL FOOTING TTTP-TEXT.

02 LINE PLUS 1.

03 COLUMN 27 PIC Z,ZZ9 SUM COUNT-1.

03 COLUMN 32 PIC X(01) VALUE '*'.

03 COLUMN 38 PIC \$ZZ,ZZ9.99 SUM SHR-NET.

03 COLUMN 48 PIC X(02) VALUE '**'.

PROCEDURE DIVISION.

RD TYPE-SALES-REPORT
 CONTROLS ARE TTTP-TEXT, SHR-YEAR-MONTH
 PAGE LIMIT IS 66 LINES
 HEADING 2
 FIRST DETAIL 5
 LAST DETAIL 59.

01 PAGE-HEAD TYPE PAGE HEADING.

02 LINE 2.

03 COLUMN 01 PIC X(10) SOURCE Y2K-DFMTP-OUTPUT.

03 COLUMN 15 PIC X(03) VALUE '(V)'.

03 COLUMN 25 PIC X(09) VALUE 'Discovery'.

03 COLUMN 36 PIC X(04) VALUE 'Nook'.

03 COLUMN 42 PIC X(05) VALUE 'Sales'.

03 COLUMN 49 PIC X(07) VALUE 'History'.

03 COLUMN 73 PIC X(04) VALUE 'Page'.

03 COLUMN 78 PIC ZZ9 SOURCE PAGE-COUNTER.

02 LINE 3.

03 COLUMN 01 PIC X(11) SOURCE Y2K-GETDP-CLOCK12.

03 COLUMN 32 PIC X(16) VALUE 'By Type and Year'.

01 TYPE-HEAD TYPE CONTROL HEADING TTTP-TEXT.

02 LINE PLUS 1.

03 COLUMN 08 PIC X(28) SOURCE TTTP-TEXT.

01 SALE-DETAIL TYPE IS DETAIL.

02 LINE PLUS 1.

03 COLUMN 01 PIC 9(02) SOURCE COUNT-1.

03 COLUMN 05 PIC 99999.99- SOURCE SHR-NET.

01 YEAR-FOOT TYPE IS CONTROL FOOTING SHR-YEAR-MONTH.

02 LINE PLUS 1.

03 COLUMN 17 PIC 9(04) SOURCE SHR-YEAR.

03 COLUMN 21 PIC X(01) VALUE '/'.

03 COLUMN 22 PIC 9(02) SOURCE SHR-MONTH.

03 COLUMN 27 PIC Z,ZZ9 SUM COUNT-1.

03 COLUMN 32 PIC X(01) VALUE '*'.

03 COLUMN 38 PIC \$ZZ,ZZ9.99 SUM SHR-NET.

03 COLUMN 48 PIC X(01) VALUE '*'.

01 TYPE-FOOT TYPE IS CONTROL FOOTING TTTP-TEXT.

02 LINE PLUS 1.

03 COLUMN 27 PIC Z,ZZ9 SUM COUNT-1.

03 COLUMN 32 PIC X(01) VALUE '*'.

03 COLUMN 38 PIC \$ZZ,ZZ9.99 SUM SHR-NET.

03 COLUMN 48 PIC X(02) VALUE '**'.

PROCEDURE DIVISION.

read04n - read04v

0000-MAIN SECTION.

0000-HOUSEKEEPING.

```
CALL 'Y2KGETD' USING Y2K-GETD-PARAMETERS.  
MOVE Y2K-GETDP-DATE-G TO Y2K-DFMTP-DATEIN.  
MOVE '1' TO Y2K-DFMTP-MAJOR.  
MOVE '3' TO Y2K-DFMTP-MINOR.  
CALL 'Y2KDFMT' USING Y2K-DFMT-PARAMETERS.
```

0100-PRODUCE-REPORT.

```
OPEN INPUT SALES-HISTORY-FILE,  
      OUTPUT REPORT-FILE.
```

INITIATE TYPE-SALES-REPORT.

PERFORM 1100-READ-SALES-HISTORY

UNTIL SALES-HISTORY-EOF.

0000-MAIN SECTION.

0000-HOUSEKEEPING.

```
CALL 'Y2KGETD' USING Y2K-GETD-PARAMETERS.  
MOVE Y2K-GETDP-DATE-G TO Y2K-DFMTP-DATEIN.  
MOVE '1' TO Y2K-DFMTP-MAJOR.  
MOVE '3' TO Y2K-DFMTP-MINOR.  
CALL 'Y2KDFMT' USING Y2K-DFMT-PARAMETERS.
```

0100-PRODUCE-REPORT.

```
MOVE 'SALES1 ' TO VSIO-DDNAME.  
MOVE VSIO-KSDS TO VSIO-ORGANIZATION.  
MOVE VSIO-SEQUENTIAL TO VSIO-ACCESS.  
MOVE VSIO-INPUT TO VSIO-MODE.  
MOVE +118 TO VSIO-RECORD-LENGTH.  
MOVE VSIO-OPEN TO VSIO-COMMAND.  
CALL 'VSAMIO' USING VSIO-PARAMETER-BLOCK, SALES1,  
                  SALES-HISTORY-RECORD.
```

```
IF NOT VSIO-SUCCESS  
  DISPLAY 'VSAMIO ERROR OCCURRED DURING '  
          VSIO-COMMAND  
  EXHIBIT NAMED VSIO-RETURN-CODE,  
  EXHIBIT NAMED VSIO-VSAM-RETURN-CODE,  
              VSIO-VSAM-FUNCTION-CODE,  
              VSIO-VSAM-FEEDBACK-CODE  
  MOVE +12 TO RETURN-CODE  
  STOP RUN.
```

```
OPEN OUTPUT REPORT-FILE.  
INITIATE TYPE-SALES-REPORT.
```

PERFORM 1100-READ-SALES-HISTORY

```
THRU 1199-EXIT  
UNTIL SALES-HISTORY-EOF.
```

```
MOVE VSIO-CLOSE TO VSIO-COMMAND.  
CALL 'VSAMIO' USING VSIO-PARAMETER-BLOCK, SALES1,  
                  SALES-HISTORY-RECORD.
```

```
IF NOT VSIO-SUCCESS  
  DISPLAY 'VSAMIO ERROR OCCURRED DURING '  
          VSIO-COMMAND  
  EXHIBIT NAMED VSIO-RETURN-CODE,  
  EXHIBIT NAMED VSIO-VSAM-RETURN-CODE,  
              VSIO-VSAM-FUNCTION-CODE,  
              VSIO-VSAM-FEEDBACK-CODE  
  MOVE +12 TO RETURN-CODE.
```

TERMINATE TYPE-SALES-REPORT.

CLOSE SALES-HISTORY-FILE,
REPORT-FILE.

GOBACK.

1000-LEVEL-1-ROUTINES SECTION.

1100-READ-SALES-HISTORY.

READ SALES-HISTORY-FILE NEXT RECORD
AT END

MOVE 'Y' TO SALES-HISTORY-EOF-SW.

IF SALES-HISTORY-NOT-EOF

PERFORM 2100-PRODUCE-REPORT.

2000-LEVEL-2-ROUTINES SECTION.

2100-PRODUCE-REPORT.

IF TTTP-CODE NOT = SHR-A1-TYPE

MOVE SHR-A1-TYPE TO TTTP-CODE, TTTP-TEXT

SET TYPE-IX TO +1

SEARCH TYPE-TABLE-ENTRY

AT END

MOVE ' ** Unknown **' TO TTTP-TEXT-UNKNOWN

WHEN TTE-CODE (TYPE-IX) = TTTP-CODE

MOVE TTE-TEXT (TYPE-IX) TO TTTP-TEXT.

GENERATE TYPE-SALES-REPORT.

TERMINATE TYPE-SALES-REPORT.

CLOSE REPORT-FILE.

GOBACK.

1000-LEVEL-1-ROUTINES SECTION.

1100-READ-SALES-HISTORY.

MOVE VSIO-READ TO VSIO-COMMAND.

CALL 'VSAMIO' USING VSIO-PARAMETER-BLOCK, SALESI,
SALES-HISTORY-RECORD.

IF NOT VSIO-SUCCESS

IF VSIO-END-OF-FILE

MOVE 'Y' TO SALES-HISTORY-EOF-SW

ELSE

DISPLAY 'VSAMIO ERROR OCCURRED DURING '
VSIO-COMMAND

EXHIBIT NAMED VSIO-RETURN-CODE,

EXHIBIT NAMED VSIO-VSAM-RETURN-CODE,

VSIO-VSAM-FUNCTION-CODE,

VSIO-VSAM-FEEDBACK-CODE

MOVE +12 TO RETURN-CODE

MOVE 'Y' TO SALES-HISTORY-EOF-SW.

IF SALES-HISTORY-NOT-EOF

PERFORM 2100-PRODUCE-REPORT

THRU 2199-EXIT.

1199-EXIT.

EXIT.

2000-LEVEL-2-ROUTINES SECTION.

2100-PRODUCE-REPORT.

IF TTTP-CODE NOT = SHR-A1-TYPE

MOVE SHR-A1-TYPE TO TTTP-CODE, TTTP-TEXT

SET TYPE-IX TO +1

SEARCH TYPE-TABLE-ENTRY

AT END

MOVE ' ** Unknown **' TO TTTP-TEXT-UNKNOWN

WHEN TTE-CODE (TYPE-IX) = TTTP-CODE

MOVE TTE-TEXT (TYPE-IX) TO TTTP-TEXT.

GENERATE TYPE-SALES-REPORT.

2199-EXIT.

read04n - read04v

EXIT.