

Inside Module 5

Working with Files

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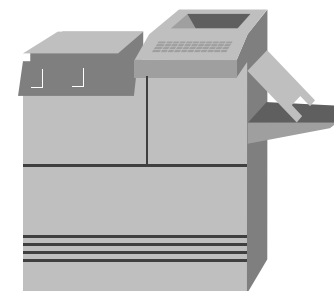
Copying files

- Copying an MPE file

```
>input file1  
>output file2  
>xex
```

- Copying an entire dataset to an MPE file

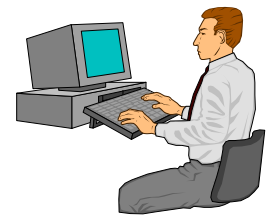
```
>base store  
>get m-customer  
>output custdump  
>exit
```





MPE files vs HP-UX files

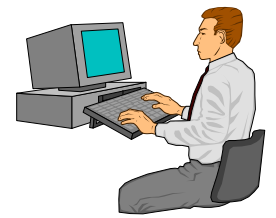
- File system differences
- Input command requires more information on HP-UX
- Reclen
- Linefeeds



Working with ordinary disc files

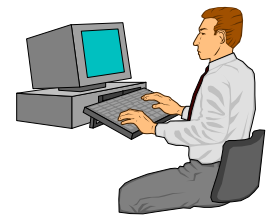
- A source of input files can be ordinary disc files, such as MPE, KSAM, tape files or POSIX files
- You can select, extract, and sort these files
- Listing the Custdump file
 - >**input custdump**
 - >**list char**
 - >**xeq**





POSIX filesystem vs MPE filesystem

- MPE filenames have three parts:
 - file.group.account
 - file.group *account is assumed*
 - file *group and account are assumed*
- POSIX filenames can have any number of parts:
 - ./file *assumed to be in the current directory*
 - ../file *in the next level 'up'*
 - ./Letters/PersonalStuff/Mom-1999-04-15
 - /ACCOUNT/GROUP/FILE
- Suprtool can use POSIX files anywhere it can use MPE files
- HP-UX files are similar to MPE's POSIX files



Define the record structure

- Use the DEFINE command to describe the layout of a flat file

```
>input custdump
>define account,17,8
>define lastname,37,16
>define credit,13,4,int;item credit,decimal,2
>extract account,lastname,credit
>sort account
>if credit > 2000.00
>list standard
>xex
```

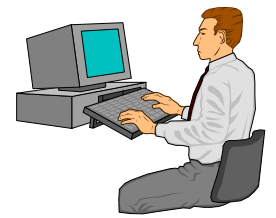
```
May 06, 1996 22:28
ACCOUNT  LASTNAME
```

```
File: CUSTDUMP
CREDIT
```

```
Page 1
```

```
00010003 Melander
00010005 Coyle
```

```
2500.00
2400.00
```



Let Suprtool maintain field names

- Use the INPUT command to tell Suprtool that a file has the same structure as a dataset

```
>input custdump = m-customer
>item credit-rating,decimal,2
>extract cust-account,name-last,credit-rating
>sort cust-account
>if credit-rating > 2000.00
>list standard
>xex
```

May 06, 1996 22:38

File: CUSTDUMP

Page 1

CUST-ACCO NAME-LAST

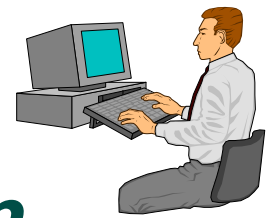
CREDIT-RATING

10003 Melander

2500.00

10005 Coyle

2400.00



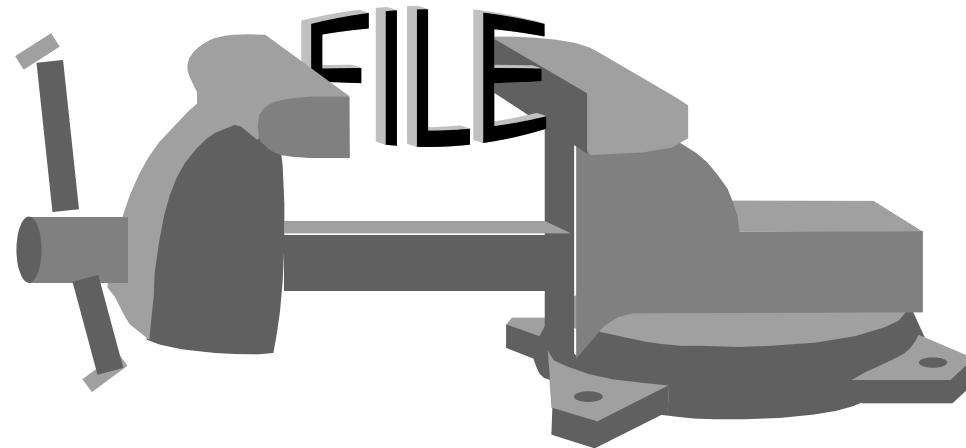
To create, or not to create -- that is the option

- Default is to create a new, permanent file
>`output custdump`
- TEMP creates a temporary file
>`output foo,temp`
- APPEND adds data to an existing file
>`output blabla,append`
- ERASE overwrites an existing file
>`output subfile,erase`

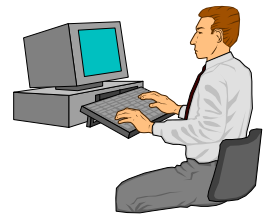
To squeeze, or not to squeeze, that is the option



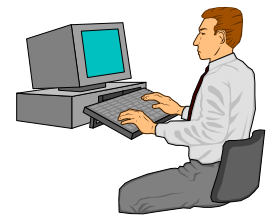
- Sometimes output file capacity (limit) is set higher than the number of records (EOF)
- Sometimes the limit is squeezed to the EOF to save disc space
- You control it with SET SQUEEZE ON or OFF
- To reserve space for appending later, use SET SQUEEZE OFF



To squeeze, or not to squeeze, what is the default?



- If you specify Set Squeeze On or Off, Suprtool will do what you say
- If you don't specify, Suprtool makes up its own mind
- The Output file will be squeezed except in these cases:
 - input is a file, not a dataset
 - output option is Append or Erase
 - output option is Ask or Num,Query



Writing records

- The OUTPUT command determines where your output records go and in what format

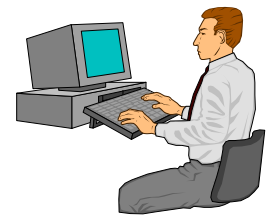
```
>output customer,num,data
```

- Select one of these output formats:

Data (default) - records are identical to input format

Key - records contain only the sort keys

Num - records contain 32-bit input record number



More common record formats

- Additional formats of the OUTPUT command:

Num,Key

Num,Data

Query ancient self-describing

Link improved self-describing

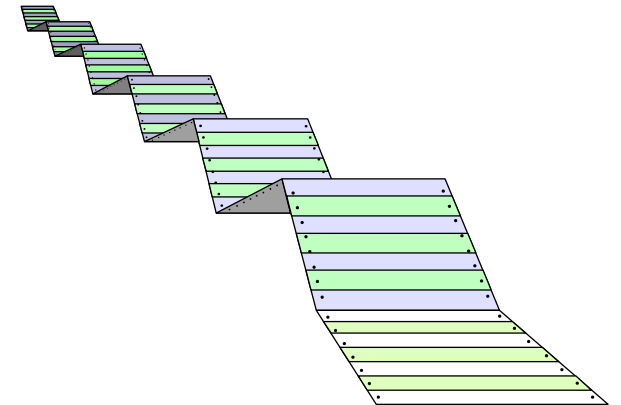
Num,Query

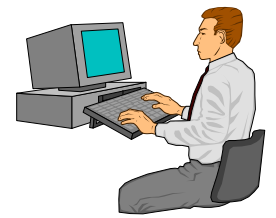
Ask ASK report writer

ASCII human-readable

Display computer-readable

PRN import to PC program

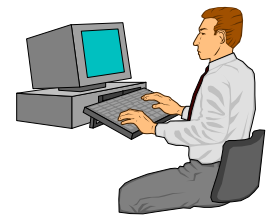




Numrecs controls size of output file

- Limit the number of records selected
- Limit the size of the sort scratch files
- Limit the size of the output file if input is a dataset
- Specify the number of records in a tape file
- Use percentage >100 with SET SQUEEZE OFF to create output file bigger than input file. This provides space for appending records.

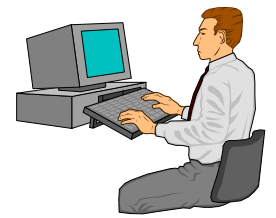
```
>numrecs 100  
>numrecs 100000  
>numrecs 10%  
>numrecs 200%
```



Listing records

- Listing refers to displaying the records in either a dump format or as simple reports
- Use the LIST command to produce formatted listings of selected records

```
>list octal,char  
>list decimal,record  
>list standard  
>list hex,char,labels
```



List format of nonself-describing files

```
>in catalog.pub.sys (12/12)
```

```
>list
```

```
>exit
```

```
>IN CATALOG.PUB.SYS (12) >OUT $NULL (12)
```

```
00000: 030460 020127 071157 067147 020166 067554 10 Wrong vol
```

```
00006: 072555 062440 067556 020114 042145 073043 ume on LDev
```

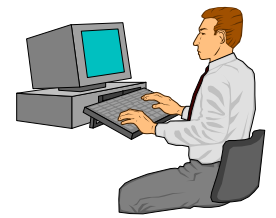
```
00014: 056056 020040 040556 067564 064145 071040 . Another
```

```
00022: 060566 060551 066141 061154 062440 024131 available (Y
```

```
00030: 027516 024477 020040 020040 020040 020040 /N)?
```

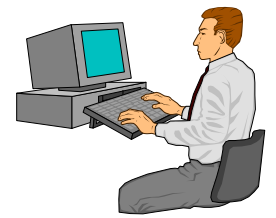
```
00036: SAME TO: 000043
```

```
00044: 030060 030061 031460 030060 00013000
```



Some List options for reports

- ONEPERLINE
- NONAME
- NOSKIP
- STANDARD format
- DUPLEX printing
- HEADINGS
- NOREC



Listing one field per line

```
>get m-customer  
>list oneperline  
>xex
```

```
>GET M-CUSTOMER (1) >OUT $NULL (0)  
NAME-FIRST      = Terry  
NAME-LAST       = Coyle  
STATE-CODE      = AL  
CUST-STATUS     = 30
```

Preparing program input by combining List options



- Combine LIST options to format input to other programs

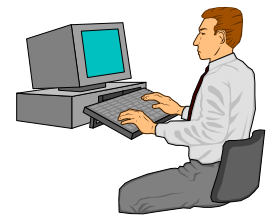
```
>get m-customer
>extract name-last, name-first, city, state-code
>list norec, noskip, noname, oneperline
>file suprlist=myinput,new;save;dev=disc;
                    rec=-80,,f,ascii;nocctl
>xex
```

- Run the program with the file as input

```
:run dataload.prog;stdin=myinput
```

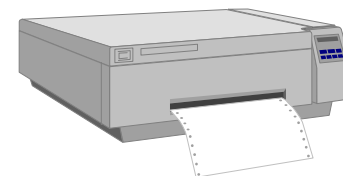
Or....

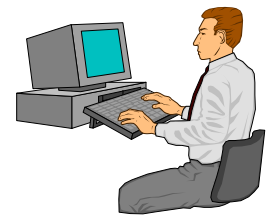
```
:run dataload.prog < myinput
```



Printing reports

- The LIST command writes to an output file called Suprlist, which defaults to \$stdlist
- Override the default using a file command
`:file suprlist;dev=laser155`
- Listing to a LaserJet
- SET PCL command indicates page orientation and font type

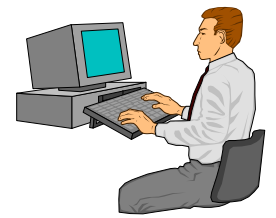




Printing mailing labels

- Use the EXTRACT command with LIST ONEPERLINE to produce mailing labels

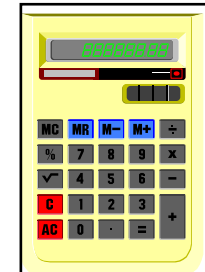
```
>get m-customer
>extract " "      {blank line}
>extract " "      {blank line}
>extract customer-name
>extract street-address (1)
>extract street-address (2)
>extract street-address (3)
>extract " "      {blank line}
>list oneperline,noname,noskip,norec
>xeq
```



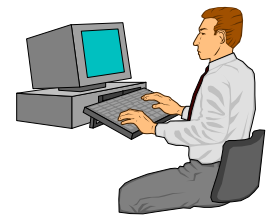
Calculating totals in numeric fields

- The TOTAL command provides an easy way to sum the contents of one or more numeric fields in selected records

```
>if state-code = "BC"  
>total sales-total
```



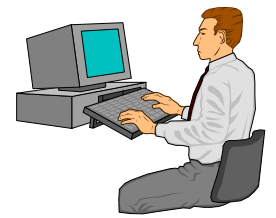
- By default, the result is printed to \$stdlist or can be redirected to another device
- If you are using the Suprtool2 interface from a programming language, the total amount is returned to the calling program in the workspace



Sorting records

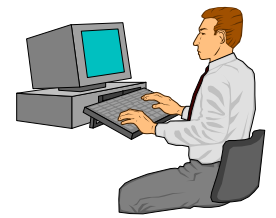
- Suprtool can sort in several ways
 - On any field
 - On any part of an input record, not just previously defined fields
 - According to multiple sort keys (e.g., primary, secondary)
 - Ascending or descending order

- MPE files require a DEFINE command to define the field or use the KEY command



Working with duplicate records

- `DUPLICATE [NONE | ONLY] [RECORD | KEYS [n]]`
 - >`duplicate none record`
 - >`duplicate none keys 1`
 - >`duplicate only record`
 - >`duplicate only keys`
- `DUPLICATE NONE KEYS [n] [COUNT] [TOTAL field [field...]]`
 - >`duplicate none keys count`
 - >`duplicate none keys total sales-qty sales-value`
 - >`duplicate none keys count total sales-qty sales-value`



Discarding duplicates from the output file

- Remove duplicates to get a list of unique values or records
- Based on the whole record or the sort key(s)

Input file - 6 records

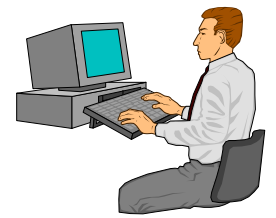
10003	112.07	19931015	505
10003	166.00	19931015	505
10003	219.10	19931015	505
10016	159.42	19931021	505
10020	224.15	19931001	505
10020	167.13	19931028	505

```
>sort cust-account
```

```
>dup none keys
```

Output file - 3 records

10003	112.07	19931015	505
10016	159.42	19931021	505
10020	224.15	19931001	505



Saving only the duplicates

- Remove “originals” to get a list of duplicate values or records
- Exact opposite of DUPLICATE NONE

Input file - same 6 records

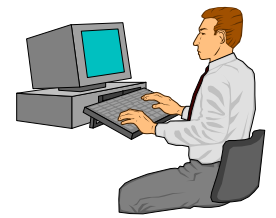
10003	112.07	19931015	505
10003	166.00	19931015	505
10003	219.10	19931015	505
10016	159.42	19931021	505
10020	224.15	19931001	505
10020	167.13	19931028	505

```
>sort cust-account
```

```
>dup only keys
```

Output file - the other 3 records

10003	166.00	19931015	505
10003	219.10	19931015	505
10020	167.13	19931028	505



Counting records

- DUPLICATE COUNT can tell you how many records have the same key

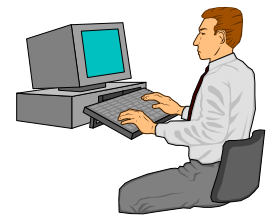
Input file - 6 records

10003	112.07	19931015
10003	166.00	19931015
10003	219.10	19931015
10016	159.42	19931021
10020	224.15	19931001
10020	167.13	19931028

```
>get d-sales  
>sort cust-account  
>duplicate none keys count
```

Output file - 3 records

10003	112.07	19931015	3
10016	159.42	19931021	1
10020	224.15	19931001	2



Totaling records

- DUPLICATE TOTAL calculates a field total for all records with the same key

Input file - 6 records

10003	112.07	19931015
10003	166.00	19931015
10003	219.10	19931015
10016	159.42	19931021
10020	224.15	19931001
10020	167.13	19931028

```
>get d-sales  
>sort cust-account  
>duplicate none keys total sales-  
total
```

Output file - 3 records

10003	112.07	19931015	497.17
10016	159.42	19931021	159.42
10020	224.15	19931001	391.28

Exercises

Duplicates, Duplicates, Duplicates, Duplicates



- Exercise 1

Create a list of all the states/provinces in which we have customers

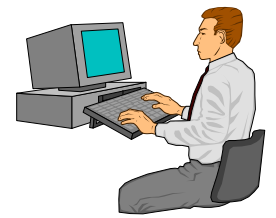
- Exercise 2

List all the dates on which we made more than one sale

- Bonus Exercise 3

List all the sales made on the dates in Exercise 2

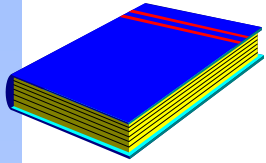
HINT: Requires two passes, and the TABLE command



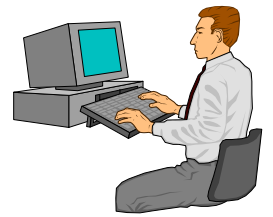
How to check Suprtool results

- Use the `:SHOWJCW` command to check the Job Control Word (JCW) after a task has been completed
- On MPE V and MPE/iX, the `SUPRTOOLOUTCOUNT JCW` contains the number of records written to the output file (up to 65,535 maximum)
- On MPE/iX, the `SUPRTOOLFULLCOUNT` variable also contains the output count (no limit)
- On HP-UX, `-oc` option puts count into `.stoutcount`

➔ 28,916



Summary



- Copy a dataset or a file
- Define new fields
- Select a set of records
- Produce listings
- Specify record formats
- Sorting records
- Checking for duplicates