SQL Reports

Report = query + formatting.

SQL includes commands that specify report headings, report footers, report titles, page numbers, and other common report features.

Take a look at an EXAMPLE from class: report1.sql

Brief summary of report commands, variables and other useful SQL features:

REM

• Optional remarks are typically entered at the beginning of a command file program that provide a summary of the important document details

• Remarks and blank lines are used throughout a program to enhance the understandability and readability of programming code.

SETTING ENVIRONMENT VARIABLES

LINESIZE
PAGESIZE
PAUSE

• The SET LINESIZE command specifies the size of an output line in characters.

• E.g SET LINESIZE 55

• Similarly, the SET PAGESIZE command specifies the number of lines to be printed per page. A typical setting is 50 to 55 lines of output per page for 10-point or 12-point printer fonts.

• The command shown below sets the page size to 50 lines.

  SET PAGESIZE 50

• SET PAUSE causes output to pause between pages until Enter is pressed, so that you can review the report.

COLUMN FORMATTING

COLUMN
FORMAT
HEADER

The COLUMN command's HEADING clause can be used to assign meaningful column headings

The COLUMN command's FORMAT clause can be used to modify the format of numeric and alphanumeric values

OTHER FORMATTING FEATURES
**Title, Btitle**

- specify header and footer of each page of report
  - When a simple TTITLE command like the one shown below is used, the report will automatically display the report date and page number.
  
  ```
  TTITLE 'Customer Sales'
  ```

- can specify a more detailed header using CENTER, RIGHT, LEFT clauses

- use SKIP to leave blanks

- SQL.PNO is a variable that stores the report page number – can be used in Ttitle and Btitle.

**REPHEADER**

**REPFOOTER**

- REPHEADER specifies information to be displayed on only the first page as a title. REPFOOTER – specifies the last line of the report.

The REPHEADER command shown below uses the SKIP 2 option to insert two blank lines immediately after the report header is printed.

```
REPHEADER 'Sales - prepared by J.Smith' SKIP 2
```

**ORGANIZING REPORT DATA IN GROUPS.**

**COMPUTING AGGREGATE VALUES.**

**BREAK**

- Break on Col will suppress duplicate appearance of Col value.
  - A break is associated with every change of the value in the specified column Col
  - Used to improve readability and also facilitate computation of aggregate functions: max, min, sum, avg, count.
  - SKIP can be used with break to allow for extra white space between groups of rows.
  - The CLEAR BREAKS command clears any previously established breaks.
    - Only one BREAK command can be active at a time.
COMPUTE

In order for a COMPUTE command to compute subtotals and other values it must be used in conjunction with a BREAK command.

The values of aggregate (group) functions are displayed upon each break.

When used with BREAK, a COMPUTE command displays values that are computed for the BREAK expression.

COMPUTE {group function} OF {column_name} ON {break_column_name};

A Label command can be used to change the label corresponding to each computed group function.

INTERACTIVE REPORTS

- reports that accept user input.

Consider EXAMPLE from class – report-interactive.sql

ACCEPT ..PROMPT

Prompt a user to enter a value, save value in a variable

Variable can be used inside queries and formatting commands.