BCI433 - IBM i Business Computing

Week 5&6: RPGLE Business Application (with printer/database files)

Agenda

- ► Develop Printer files using Screen Designer
- ► RPGLE Business Application with Database /Printer files
- ► Database (physical) File Override
- ► Explore (db) Object Authority
- ► Lab 5
- ► Test 1 (Midterm)

Lesson Objectives

Upon completion of this lecture and lab 5 you'll be able to:

► Develop a printer file using Report Designer.

► Create an RPGLE program that determines employee payment using a database and an externally described printer file.

► Run a file override from the command line to have your RPGLE program produce different result.

Report Designer

Very Similar to Screen Designer!

What does **RPG** stand for?

Report Designer – Creating Printer files

► To create the printer file, add a member to a source physical file, e.g. QDDSSRC, in your library. Make sure the TYPE is PRTF.

- The first record format must be an absolute record.

- All following records dragged from the palette should be relative records.

- SPACEB – Space Before

  ► SPACEB(1) - specifies that the printer device is to space 1 line before it prints the next line or lines.
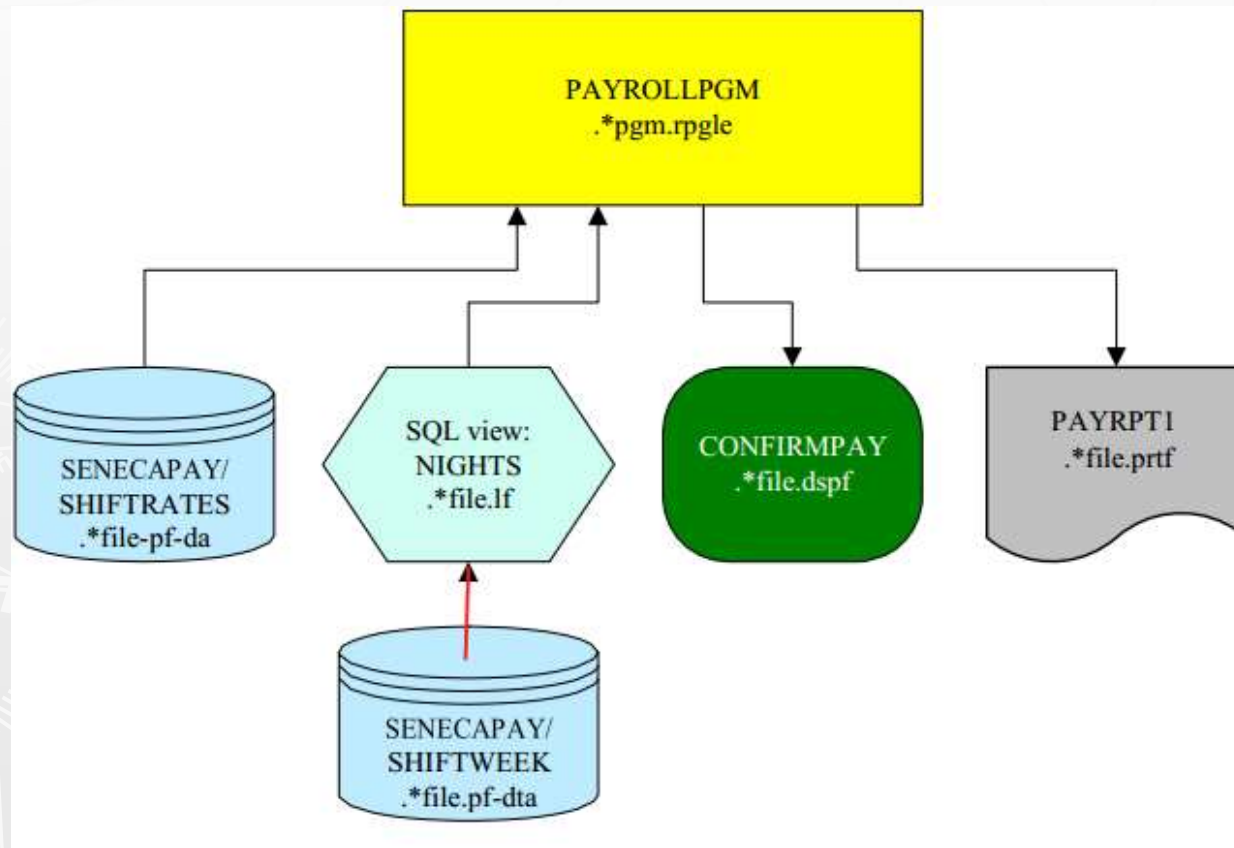
Report Designer – Creating Printer files

► The maximum number of record formats in a printer file is 1024.

- Commonly in the course, 4 record formats are needed, and may be named like:
  - ► TITLE, the absolute one
  - ► COLHDG, for column headings
  - ► xxxDETAIL, multiple lines, for showing data from database file(s) – PF and/or LF
  - ► TOTAL, for summary fields

Report Designer – Creating Printer files

► There 2 kinds of fields in record formats:

  ▪ Named fields – similar to the ones in display/screen files

  ▪ (data) fields – can be created by dragging from database table's columns, i.e. physical file's fields in RDi

► Creating design reports:

  ▪ to put all record formats in one page of the GUI Report Designer – for layout/alignment adjustment

► The created printer file after coding, compilation:

  ▪ Object type: *file

  ▪ Attribute: PRTF

RPGLE Business Application
(with printer/database files)

Lab 5 files:

Defining a Physical File in RPGLE

► SQL and RPG

- When defining a table, SQL doesn't follow the rules that the record format name must be different than the table name.

► The RPG program does not allow the record format to be the same as the file/table name.

Defining a Physical File in RPGLE

► Solve the SQL problem

- Specifying RENAME option on the RPGLE file definition so that the format is defined with a different name internal to the RPG program:

- KEYWORDS:

  RENAME(fileName:newRecName)

► Define database files

```
DCL-F SHIFTWEEK  USAGE(*INPUT) KEYED RENAME(SHIFTWEEK:SHIFTWEEKR);
DCL-F SHIFTRATES DISK USAGE(*INPUT); // RENAME(SHIFTRATES:SHIFTRATER);
```

Defining a Printer (Spooled) File

► OverFLow INDicator – for Handling page overflow
  ▪ Specify an indicator from *IN01 through *IN99
  ▪ Use KEYWORDS: OFLIND

► Example: OFLIND(*IN01)

► Defining a Printer File

```
DCL-F PAYRPT                 PRINTER OFLIND(*IN01)
```

RPGLE: Handling page overflow

```
IF *IN01; // check *IN01 before write Detail
   Write Title;
   Write ColHdg;
   *IN01 = *Off;
ENDIF;
Write  EmpDetail;
```

Review: Operations on Screen Records

► EXFMT
- Write a screen record and waits for input (Write / Read operations)

    e.g.   LETGRADE = 'F'   ;
            EXFMT RECORD1;

► WRITE
- Writes a screen record to a file/display station (without a pause)

    e.g. WRITE RECORED1;
            EXFMT RECORD2;

Operations on Printer/Data Records

► READ
- Read a data (i.e. physical or db table) record then point to next record

  e.g.   READ ShiftRates;

  READ SHIFTWEEK;

► WRITE
- Writes a printer/screen record to a file/display station

  e.g. Write Title;

  Write ColHdg;

  Write EmpDetail;

► %EOF (filename)
- Checks for End of File
- e.g.   DOW NOT %EOF;

Logic for an RPG program that creates a report for all of the records in a file

Report Logic

Initialize Variables

Print the report heading

Read the first record and check for EOF

Loop until EOF

    format the detail line

    update the totals

    print the detail line

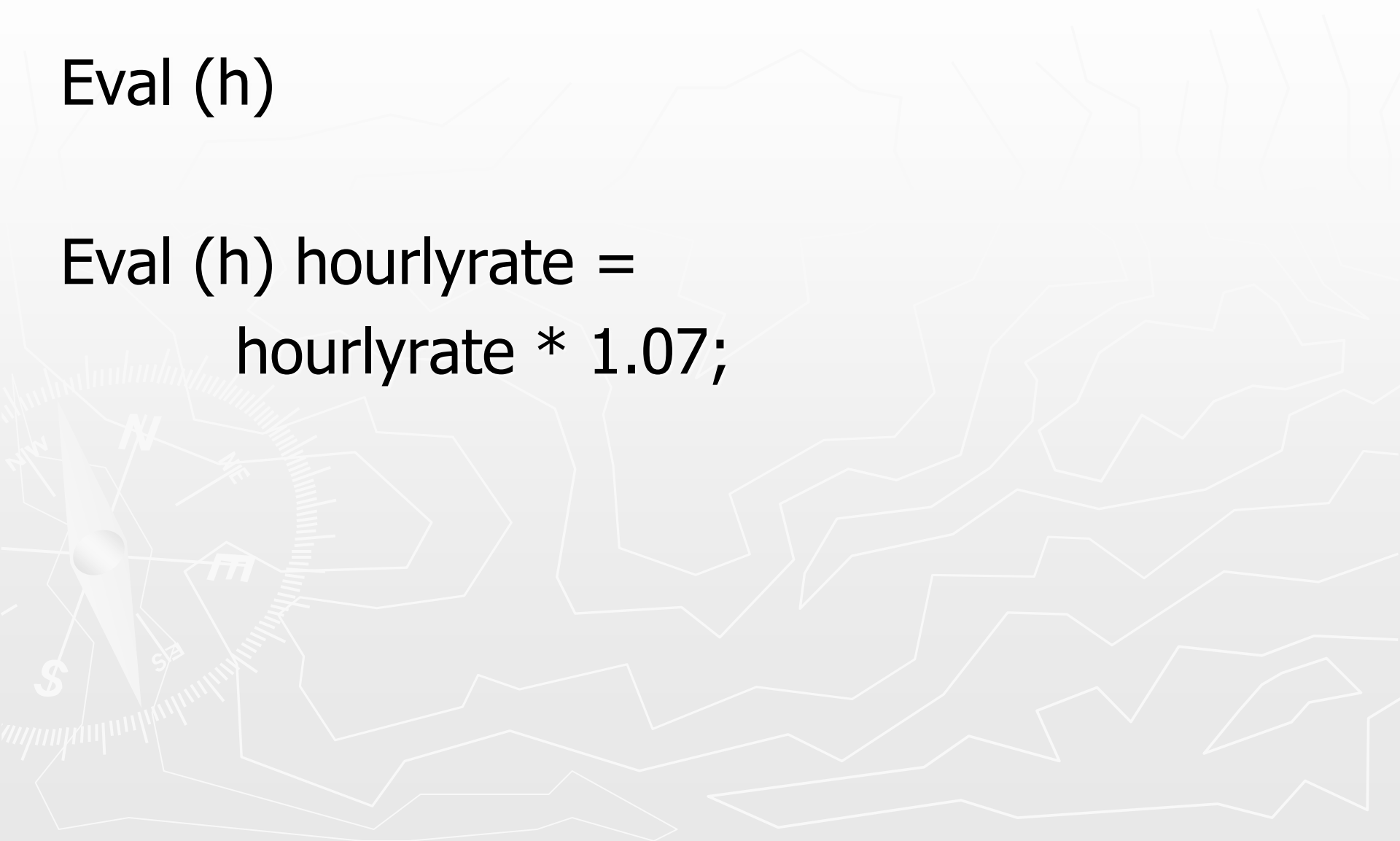   read the next record

End of loop

Print the totals

End of program logic

Rounding Numbers in RPG

Eval (h)

Eval (h) hourlyrate =
      hourlyrate * 1.07;

File Overrides

►OVRDBF

- A CLLE command: allows you to use a different file instead of the one that is defined by the RPG program

- Example

  OVRDBF ALLSHIFT NIGHTS

  - Override all reference to the file ALLSHIFT to be directed to the view NIGHTS

►DSPOVR

File Overrides

► OVRPRTF

  ▪ Changes attributes about the spooled file

Lab 5 Demo

Homework

► Review lecture notes.

► Complete Lab 5,

► Prepare for Test 1 (midterm)