

IBC233 - System i Business Computing

Week 3: RPG with Display files

Agenda

- ▶ Review
- ▶ Edit Words
- ▶ Library Lists
- ▶ Display Files
- ▶ RPG

Review

► What is PDM?

Command	Comments/examples
STRPDM	Indicates PDM is System i built-in tool to work with LIBRARIES, OBJECTs and MEMBERs
WRKLIBPDM	WRKLIBPDM DS233A36 WRKLIBPDM *LIBL
WRKOBJPDM	WRLOBJPDM DS233A36 WRKOBJPDM IBC233LIB
WRKMBRPDM	WRKMBRPDM QCLLESRC WRKMBRPDM QRPGLESRC WRKMBRPDM QDDSSRC

► In RDp, we can create filters to work with libraries, objects and members correspondingly.

Review

- The objects with the name as your user id on the system
 - Command: WRKOBJ **DS233A36**
 - Result:

Object	Type	Library
DS233A36	*LIB	QSYS
DS233A36	*USRPRF	QSYS
DS233A36	*MSGQ	QUSRSYS
DS233A36	*OUTQ	DS233A36

Review

- ▶ The command to see all your object in your library
 - DSPLIB **DS233A36**
 - WRKOBJPDM **DS233A36**
- ▶ The command to see all your libraries in you library list
 - DSPLIBL
 - WRKLIBPDM ***LIBL** or **WRKLIBPDM LIB(*LIBL)**

Review

- The objects created when you write programs

Object Type	Object Attribute	Object EXAMPLE	When Created
*FILE	PF-SCR	QCLLESRC	Creating Source Physical File
*PGM	CLLE	SYSVALPRG	Compiling CL code
*PGM	RPGLE	MARKSRPG	Compiling RPG code
*FILE	PF-DTA	STUDENTS	Compiling DDS code to create physical file
*FILE	DSPF	MARKSDSP	Compiling DDS code to produce a display file

Using RDp

- If you encounter weird problems in RDp, you may try:
 - Restart RDp
 - Use a new workspace , but don't forget to set properties of the *Objects* item to
 - manage your *Initial Library List*
 - , e.g. add IBC233 to your library list
 - add *Initial Command*
 - e.g. CALL STRJOB
- Printing at home

Edit Words / Codes

► Edit Words

- Used to make numbers more readable
- Example

Your number is 01234

The default display is 1,234

You want it displayed as 012-34

Then the EDTWRD would be ('0JJJJ-JJ')

(J means 1 blank space)

► Edit Codes

- See Lab 1

CALL IBC233LIB/EDITCODES

Playing with your Library List

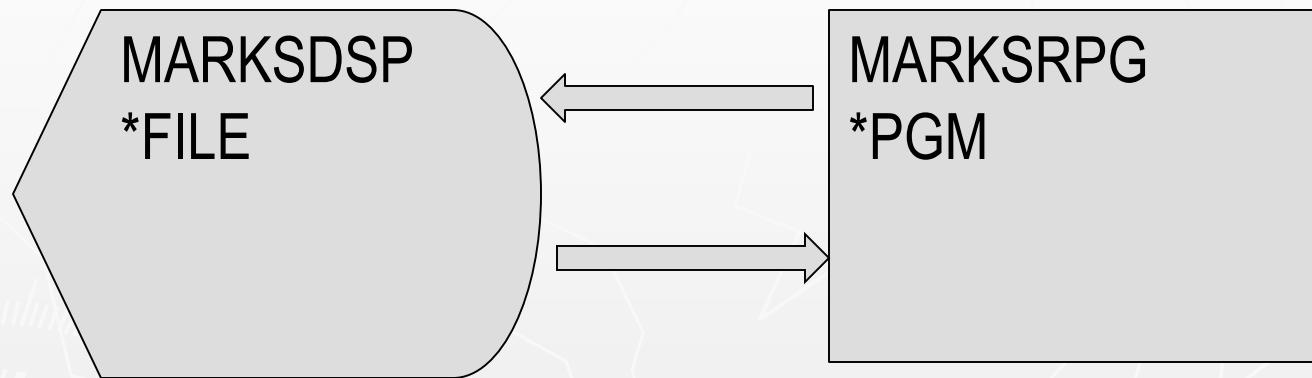
- ▶ ADDLIBLE – Add library List Entry
- ▶ RMVLIBLE – Remove Library List Entry
- ▶ EDTLIBL – Edit Library List
- ▶ CHGLIBL – Change Library List (USER PORTION)
- ▶ CHGCURLIB – Change Current Library

Display Files

Display Files and DDS

- DDS (Data Description Specifications) is used to generate:
 - Physical and logical files (database tables or views)
 - Display files
 - Printer files, ...
- Display Files
 - Source code type: DSPF
 - Generate object type: *file.dspf
 - hold screen design
 - Constants or literals
 - System constants (date, time, user)
 - (Named) fields – used as variables in RPG program

Display Files and Programs



Demo

LPEX / SEU Editor Commands

Command	Operation
I	Insert a line
D	Delete a line
C	Copy a line
M	Move a line
A	Paste After
B	Paste Before
CC, CC	Copy multiple lines
DD, DD	Delete multiple lines
MM, MM	Move multiple lines

RPG

Report Program Generator

F-spec

► How we define files

Item	Options
File Type	I/U/C
File Designation	F/P
File Addition	A or blank
File Format	E or F
Record Address Type	K or Blank
Device:	DISK/PRINTER/WORKST N

Operations on Screen Records

► EXFMT

- Write a screen record and waits for input (a Write / Read operation)

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;

Variables in RPG

- ▶ Named fields in a display file (such as MARKSDSP.dspf) can be used as variables in RPG language.

e.g. TESTOVERALL = (TEST1 + TEST2 + TEST3)/3;

- ▶ Declaring variables in RPG (will be covered in next few weeks)

e.g.

	FMARKSDSP	CF	E	WORKSTN
D	Minimum		S	3 0
	/ FREE			
			

Indicators

- ▶ Boolean variables – predefined
 - *IN00 - *IN24 are used to map 24 function keys in display file.
 - ***INLR** – **L**ast **R**ecord Indicator
 - ▶ How we end RPG programs
- ▶ Have the values:
 - '0' or *OFF
 - '1' or *ON

RPG Syntax

- ▶ Each program statement ends with a ";" – semicolon.
- ▶ Comment
 - e.g. **//** This is a comment
- ▶ IF Statements
 - OPERATOR: =, <, <=, <>, NOT, AND, OR
 - e.g.
IF Test1 < Test2;
 Minimum = Test1;
ELSE;
 Minimum = Test2;
ENDIF;

RPG Syntax

► Loops – DO While

- e.g.

```
DOW (a <= 5) AND (b +  
c = 0);  
    EXSR nextRecord;  
ENDDO;
```

► Loops – DO UNTIL

- e.g.

```
DOU X > 10;  
    Total = Total + Array(x);  
    X = X + 1;  
ENDDO;
```

RPG Syntax

► Select Statements – Case Structure

```
SELECT;  
  WHEN condition;  
    statements;  
  WHEN condition;  
    statements;  
  OTHER;  
    statements;  
ENDSL;
```

RPG Syntax - Subroutines

- ▶ Blocks of logic
- ▶ Execute a subroutine
 - e.g. **EXSR** GETGRADE
- ▶ Define a subroutine
 - e.g.

```
BEGSR GETGRADE;  
TOTALMARK = 90;  
LETGRADE = 'A+';  
ENDSR;
```

RPG Syntax

► At the end of program

```
*INLR = *ON;  
RETURN;
```

► *INLR = *ON;

- The standard way of ending an RPG program.

► RETURN;

- To return control to the operation system.

RPG Demo

About This Week

- ▶ Two labs released
 - Lab 3 & Lab 7
- ▶ Lab 2 due
- ▶ IBC233 review 1
 - https://scs.senecac.on.ca/~wei.song/ibc233/references/ibc233_review1-2.pdf
- ▶ Exercise
 - Playing with Library Lists:
https://scs.senecac.on.ca/~wei.song/ibc233/references/week3-library_lists-Excercise.pdf

Thank You!