**Lab objectives:**

**- Embed SQL statements in two RPGLE programs**

**- Provide related RPGLE code for the embedded SQL statements**

**Requirements to pass the lab:**

**Successfully run the PhoneSQL program after copying supplied code and then adding the embedded SQL code and related RPGLE code that was given out in class. Be able to set the overflow line at 30 before running your program.**

**Successfully run the ProvSQL SQL cursor program after copying supplied code and then adding the embedded SQL code and related RPGLE code that was given out in class.**

PhoneSQL

Input: CUSTOMER21 (accessed by RPGLE read statement)

Graphical user interface, application, table

Description automatically generated

CONTACTF21 (accessed through embedded SQL statement)

Graphical user interface, text, application

Description automatically generated

Output: Two Pages

Graphical user interface, text

Description automatically generated

Text

Description automatically generated

Long and short field names available to use with CONTACTF21

Graphical user interface, text, application

Description automatically generated

// \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// CUSTOMER21 READ BY NATIVE LANGUAGE (ILE RPG)

// CONTACTF21 ROW RETRIEVED WITH EMBEDDED SQL

// DETAIL REPORT LINE INCLUDES INFORMATION FROM CUSTOMER21 AND CONTACTW

// SUMMARRY REPORT INFORMATION RETRIEVED WITH EMBEDDED SQL STATEMENTS

DCL-F PHNREPORT PRINTER OFLIND(\*IN01) ;

DCL-F CUSTOMER21 DISK(\*EXT) KEYED USAGE(\*INPUT)

RENAME(CUSTOMER21:CUSTR);

// data structure for host variables from CONTACTF21

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

// Standalone fields for indicator variables

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DCL-S Dummy Zoned(1);

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

//\* \*\*\* M A I N R O U T I N E \*\*\*

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

EXSR SummaryInfo;

WRITE NEWPAGE;

READ CUSTOMER21;

DOW NOT %EOF;

EXSR SQLSelect;

IF \*IN01 = \*ON;

Write NEWPAGE;

\*IN01 = \*OFF;

ENDIF;

Write RPTLINE;

READ CUSTOMER21;

ENDDO;

Write SUMMARY;

\*INLR = \*ON;

RETURN;

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// S Q L S E L E C T S U B R O U T I N E

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

BEGSR SQLSelect ;

// A row from the contacts table that has the same customer number as t

// read from the CUSTOMER21 file is retrieved to find out the last date

// phone number, comments and the salesperson number.

// The call back interval is added to the last date called to determin

// next date to call. Since null values may be stored in the last dat

// indicator variables are used.

ErrorMsg = ' ';

ENDSR ; (USE BACK PAGE IF NEEDED)

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// S U M M A R Y I N F O S U B R O U T I N E

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

BEGSR SummaryInfo;

// D E T E R M I N E T O T A L S F O R CONTACTF21 & CUSTOMER21

// D E T E R M I N E N U M B E R O F U N K N O W N LAST DATE CALLED

// D E T E R M I N E O L D E S T & M O S T R E C E N T LAST DATE CALLED

// D E T E R M I N E T H E U S E R S E R V E R & T I M E S T A M P

// SYSIBM/SYSDUMMY1 from dytem registrar,Don't need check SQLCODE

ENDSR; (Use back page for instructor code if needed)

PHNREPORT (code available in BCI433LIB/LAB92021)

A R NEWPAGE

A 2 6'User:'

A 1 1'Timestamp:'

A 3 3'Server:'

A 1105'Page:'

A 1112PAGNBR

A TIMESTAMP Z 1 12

A USER 10 2 12

A SERVER 10 3 12

A 2 48'P H O N E L O G R E P O R T'

A 5 12'Sales'

A 6 13'ID'

A 5 2'Customer'

A 5 24'Customer Name'

A 6 3'Number'

A 6 70'Called'

A 5 54'Telephone'

A 5 69'Last Date'

A 5 83'Oldest Call'

A 6 86'Date'

A 5 97'Next Call'

A 6100'Date'

A 7131'\*'

A R RPTLINE SPACEB(1)

A CSTNUM R 5 0 3REFFLD(CUSTOMER21/CSTNUM +

A BCI433LIB/CUSTOMER21)

A SLSNUM R 12REFFLD(CONTACTF21/SLSNUM +

A BCI433LIB/CONTACTF21)

A CSTNAM R 19REFFLD(CUSTOMER21/CSTNAM +

A BCI433LIB/CUSTOMER21)

A TELEPHONE R 52REFFLD(CONTACTF21/TELEPHONE +

A BCI433LIB/CONTACTF21)

A EDTWRD('0( )& - ')

A PHNLDC R 69REFFLD(CONTACTF21/PHNLDC +

A BCI433LIB/CONTACTF21)

A HIGHLIGHT 8 85

A NEXTCDATE L 98

A ERRORMSG 15 112

A R SUMMARY SPACEB(3)

A 12'S U M M A R Y I N F O R M A T I -

A O N'

A 2'CONTACTF21 Total Records:'

A SPACEB(2)

A CONTACTT 5 0 27EDTCDE(1)

A 44'Oldest Last Callback Date:'

A OLDESTDATE L 71

A 2'CUSTOMER21 Total Records:'

A SPACEB(1)

A CUSTOMERT 5 0 27EDTCDE(1)

A 39'Most Recent Last Callback Date:'

A MOSTRECENT L 71

A 2'Total Records with an Unknown Last-

A Callback Date:'

A SPACEB(2)

A UNKNOWNT 5 0 52EDTCDE(1)

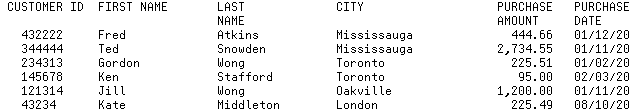
ProvSQL

INPUT (from three tables)

Manitoba Customers



Ontario Customers



Quebec Customers

CUSTOMER ID FIRST NAME LAST CITY PURCHASE PURCHASE

NAME AMOUNT DATE

111111 Jacques Trembley Montreal 122.33 01/01/20

122222 Sarah Singh Dorval 233.66 12/31/19

133333 Rene Lemieux Quebec City 336.66 01/16/20

222222 Sandy Thomas Lachine 445.54 12/14/19

**CALL PROVSQL 400.66**

OUTPUT:Text

Description automatically generated

PROGRAM:

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

//\* THIS PROGRAM USES A CURSOR TO LOAD A TEMPORARY RESULT TABLE FROM 3

//\* SEPARATE TABLES, ONTARIO, QUEBEC AND MANITOBA. A NUMBER IS PASSED

//\* TO THE PROGRAM TO DETERMINE WHICH RECORDS ARE INCLUDED FROM THE 3 TABLES

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

DCL-F PROVREPORT PRINTER OFLIND(\*IN01) ;

DCL-S ProvinceH Char(10);

DCL-S EndOfFile IND;

DCL-S TotalRecords PACKED(5:0) ;

// LowLimit is passed to the program

// All Host Variables available under a single name

C/EJECT

C\* \*\*\* M A I N R O U T I N E \*\*\* \*

/FREE

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

EXSR PrepareFiles;

Write StartOfRpt;

Write ColHeading;

EXSR GetRow;

Write NewProv;

ProvinceH = Province;

DOW NOT EndOfFile;

IF \*IN01 = \*ON;

Write StartOfReport;

Write ColHeading;

\*IN01 = \*OFF;

ENDIF;

// Province may change

TotalAmt = TotalAmt + Purchase;

TotalRecords= TotalRecords + 1;

EXSR GetRow;

ENDDO;

Write TotalPurch;

EXSR WRAPUP;

Write LessThan;

\*INLR = \*ON;

RETURN;

// O P E N F I L E S S U B R O U T I N E

BEGSR PrepareFiles;

// S E T U P T H E T E M P O R A R Y R E S U L T S T R U C T U R E

// A T E M P O R A R Y R E S U L T T A B L E I S C R E A T E D

ENDSR;

// G E T R O W S U B R O U T I N E

BEGSR GETROW;

ENDSR;

// W R A P U P S U B R O U T I N E

BEGSR WRAPUP;

ENDSR;

PROVREPORT (code available in BCI433LIB/LAB92021)

A R STARTOFRPT

A 2 39'C u s t o m e r s >='

A LOWLIMIT 7 2 2 60EDTCDE(1 $)

A R COLHEADING SPACEB(2)

A 4'Province'

A 19'Customer ID'

A 36' Full Name'

A 62'City'

A 83'Purchase'

A 100'Purchase'

A 84'Amount'

A SPACEB(1)

A 102'Date'

A R NEWPROV SPACEB(1)

A PROVINCE 10 3

A R CUSTDETAIL

A CUSTID R 20

A REFFLD(ONTARIO/CUSTID BCI433LIB/ONT-

A ARIO)

A SPACEB(1)

A FULLNAME 31 28

A CITY R 60REFFLD(ONTARIO/CITY BCI433LIB/ONTAR-

A IO)

A PURCHASE R 83REFFLD(ONTARIO/PURCHASE BCI433LIB/O-

A NTARIO)

A EDTCDE(1)

A PDATE R 99

A REFFLD(ONTARIO/PDATE BCI433LIB/ONTA-

A RIO)

A R LESSTHAN SPACEB(2)

A 46'C u s t o m e r s <'

A LOWLIMIT 7 2 70EDTCDE(1 $)

A 6'Ontario'

A SPACEB(2)

A 23'Quebec'

A 39'Manitoba'

A ONTTOTAL 3 0 8SPACEB(2)

A EDTCDE(1)

A QUETOTAL 3 0 24EDTCDE(1)

A MANTOTAL 3 0 40EDTCDE(1)

A R TOTALPURCH SPACEB(2)

A 67'Total Amount:'

A TOTALAMT 8 2 82EDTCDE(1 $)