Lab 1

The Keyboard

screen frozen: reset key (left control key) or esc key

Tab key: next prompt

Field exit key (plus key in the numeric keypad): allows you to remove any characters to the right of the cursor position on the current prompt and go to the next prompt, to right justify

Function Keys: F1- help key, F3- exit key, F4- shows you how to use the command, F5- refresh, F9- retrieve your previous command, F12- cancel, F13 ~ F24- shift key

CALL BCI433LIB/INTROLAB: run a program

Edit Codes: extra meaningful punctuation, commas, a decimal point, a positive or negative sign, the suppression of leading zeroes

Never Ending Programs

Option1: 1. Shift and Esc 2. Type a “2”, option2: 1. Shift and Esc 2. Type a ‘1’, 3. Sign in again 4. Type WRKACTJOB, look for your id with the never ending program 5. option 4 to stop

DSPLIBL: show Library Lists

ADDLIBLE BCI433LIB: add library

CALL NOTINLIST: object that is not in any of the libraries, not be run, not be found

CALL INLSTTWICE: object that is in two of the libraries, run the first encountered one

CALL BCI433LIB/INLSTTWICE: the version that is in BCI433LIB will be run

System Values: system value that allows you to see the system libraries placed in everyone’s library list

DSPSYSVAL allows you to see this

CHGSYSVAL allows system administrators to adjust this

STRJOB: insure that your name is printed, found in QGPL

Writing programs in Client Access

1. CALL STRJOB 2. CRTSRCPF QCLLESRC: source physical file has been created 3. WRKMBRPDM QCLLESRC: work with the program members that contain source code 4. press F6: create a new member or use option 2 5. supply a name and a source type

CLLE- a command language program

RPGLE- an RPG program (usually a business application)

PF- a physical file (a table or data file)

LF- a logical file (a view or index to a data file or table)

CMD- a user created CLLE command

6. Compile it with option 14 7. DSPMSGL: Check for errors, compile listing 8. WRKSPLF: \*PGM object 9. WRKOBJPDM YOURLIBNAME: see a new program object with a successful compile 10. CALL PROGNAME: Run your program

Printing control:

How to 1) 1. WRKSPLF 2. Option 5 3. type a B 4. exit (F3)

How to 2) 1. WRKSPLF 2. Option 2 3. change the spooled file attributes (Output Queue PRT01, Library QGPL) 4. SIGNOFF

Lab 2

1. Rdi, workspace, IBM i, develp CLLE and RPGLE programs

2. Library lists, initial commands, user profile

3. remote systems view, work area, GUI, view, commands log, show, properties view

4. Steps to set up a connection for BCI433: Objects -> Properties -> Initial Library List -> Type in BCI433LIB -> Add -> Type Call STRJOB -> OK

6. When you compile, program refers to a file that is located in a library

7. on Library List in the Remote Systems view and running the Add Library List command (temporary, step 4 is permanent solution)

8. data file, by entering DDS code, compiling that code, in a source physical file- QDDSSRC

9. Client Access, enter data records with the UPDDTA (update data)

10. view this data with the “RUNQRY \*N Filename” in Client Access

11. RDi, view data in a physical file with the Show in Table option, a \*file.pf-dta

12. Students\*pgm.rpgle is not a data file- it is a compiled program. Students.pf inside of QDDSSRC is not a data file- it is source code

13. CREATE TABLE instead of entering DDS code

Lab 3

A display file (DDS code, DSPF type)

Once compiled, can be used by different programming languages that want to take advantage of the interactive screens allowing data entry and data display, use Screen Designer GUI in RDi

sample

Ind Field Name L T D U P Functions

A 90 TEST1 3 S 0 B 5 32 RANGE(0 100)

Indicator 90: to view this field called TEST1, If off, not be visible

L: length, T or Type; field type, D or Decimal, U or Usage: input only (I) , output only (O) or both input and output (B), P or position: line 5 at column 32, RANGE function

more partial DDS code

A R RECORD2

A CA03(03 'EXIT')

A OVERLAY

A 11 18'Tests:'

A 13 18'Final Mark:'

A 15 18'Final Grade:'

A 22 3'F3=Exit'

A TESTOVRALL 3Y 0O 11 32EDTCDE(1)

A NUMGRADE 3Y 0O 13 32EDTCDE(1)

A LETGRADE 2A O 15 33

CA03- that enables the pressing of function key F3, when F3 is pressed indicator 03 will be turned on

OVERLAY- to allow RECORD2 to overlay a screen record

EDTCODE(1): show with commas, a decimal point and suppressed leading zeros

RPGLE

FileName Type Designation Format Device

FMARKSDSP C F E WORKSTN

(C)ombined, (I)nput, (O)utput and (U)pdate, (F)ull Procedural, (E)xternally Described

EXFMT- write a screen record, pause

DOW- a loop

ENDDO

DOU- the loop, at least once

WRITE- have a screen record display, no pause, useful when showing a screen record, overlaying a second record

EXSR GETGRADE- control, subroutine, subroutine has a BEGSR and ENDSR

\*IN01 ~ \*IN99- in RPGLE indicators are referred to by an asterisk and a number

99 indicators: default setting is \*OFF or '0'

\*INLR = \*ON- end all your RPGLE programs

RETURN- return control to the operating system

User Profiles describes the user to the system, includes User’s password, Initial Program, Initial Menu

Current Library: Determines the one unique user’s personal library on a library list, gets the same system and user libraries from QSYSLIBL and QUSRLIBL

If not indicated, the objects are stored in QGPL

User class or special authorities: determines the level of access to system resources

CHGUSRPRF --> USER CLASS --> F1

Initial running program setting fault: signoff --> user (DT433A11), password, Menu: main, Current library: DT433A11 --> signin

Special authority (SPCAUT)

\*ALLOBJ- All object authority

\*SECADM- Security administrator authority

\*SAVSYS- Save system authority

\*IOSYSCFG- Input/output (I/O) system configuration authority

\*JOBCTL- Job control special authority

\*AUDIT- Audit authority

\*SERVICE- Service special authority

\*SPLCTL- Spool control special authority

Maximum Allowed Storage – The number of Kilobytes of storage allotted to the user

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TAXDSP.dspf

A R GETVALUE

A 2 4USER

A 2 29'Property Tax Calculator'

A 2 65DATE

A EDTCDE(Y)

A 3 4SYSNAME

A 3 65TIME

A 5 19'Property Value:'

A VALUE 7S 0B 5 35

A 99 DSPATR(RI)

A 6 19'Owner Type:'

A OWNERTYPE 1A B 6 35VALUES('R' 'C')

A 99 DSPATR(PR)

A 7 19'(C-Commercial R-Residential)'

A R SHOWTAX CA03(03 'Exit')

A OVERLAY

A 11 15'The Tax charged on a'

A PROPTYPE 11A O 11 36

A 11 48'property is:'

A TAXAMT 8 2O 11 61EDTCDE(1)

----------------------------------------------------------------------------

TAXRPG.rpgle

FTAXDSP CF E WORKSTN

/FREE

EXFMT GETVALUE;

DOW NOT(\*IN03);

EXSR DETERMINETAX;

//\*IN99 = \*ON;

WRITE GETVALUE;

EXFMT SHOWTAX;

//\*IN99 = \*OFF;

IF \*IN03 = \*OFF;

EXSR CLEAR;

EXFMT GETVALUE;

ENDIF;

ENDDO;

\*INLR = \*ON;

RETURN;

BEGSR DETERMINETAX;

SELECT;

WHEN (OWNERTYPE = 'C');

PROPTYPE = 'Commercial';

SELECT;

WHEN (VALUE >= 500000);

TAXAMT = .025 \* VALUE + 150;

WHEN (VALUE >= 375000);

TAXAMT = .02 \* VALUE + 90;

WHEN (VALUE >= 250000);

TAXAMT = .016 \* VALUE + 75;

WHEN (VALUE >= 1);

TAXAMT = .0125 \* VALUE;

OTHER;

TAXAMT = 0;

ENDSL;

WHEN (OWNERTYPE = 'R');

PROPTYPE = 'Residential';

SELECT;

WHEN (VALUE >= 500000);

TAXAMT = .02 \* VALUE + 100;

WHEN (VALUE >= 375000);

TAXAMT = .015 \* VALUE + 70;

WHEN (VALUE >= 250000);

TAXAMT = .014 \* VALUE + 50;

WHEN (VALUE >= 1);

TAXAMT = .01 \* VALUE;

OTHER;

TAXAMT = 0;

ENDSL;

ENDSL;

ENDSR;

// initialize

BEGSR CLEAR;

VALUE = 0;

OWNERTYPE = ' ';

TAXAMT = 0;

ENDSR;

----------------------------------------------------------------------------

SYSVALRPG.clle

PGM

DSPLIBL

EDTLIBL

DSPLIBL

DSPSYSVAL QSYSLIBL

DSPSYSVAL QUSRLIBL

DSPSYSVAL QMODEL

ENDPGM

----------------------------------------------------------------------------

SYSVALRPG2.clle

PGM

DSPLIBL

EDTLIBL

DSPLIBL

DSPSYSVAL QSYSLIBL

DSPSYSVAL QUSRLIBL

DSPSYSVAL QMODEL

ENDPGM

----------------------------------------------------------------------------

STARTUP.clle

PGM

CALL STRJOB

ADDLIBLE BCI433LIB

MONMSG MSGID(CPF2103)

DSPSYSLVL OUTPUT(\*DISPLAY)

ENDPGM

----------------------------------------------------------------------------

STUDENT.rpgle

FSTUDACCTS IP E DISK

----------------------------------------------------------------------------

STUDENT.pf

A UNIQUE

A R STUDENTSR TEXT('STUDENTS REGISTER')

A STUDENTNO 9S 0 COLHDG('STUDENT' 'NUMBER')

A FIRSTNAME 15 COLHDG('FIRST NAME')

A LASTNMAE 20 COLHDG('LAST NAME')

A BIRTHDATE L

A PHONE 10S 0 COLHDG('PNONE' 'NUMBER')

A ADDRESS 30 COLHDG('STREET' 'ADDRESS')

A CITY 15

A PROVINCE 2 COLHDG('PROV' 'CODE')

A

A POSTALCODE 6 COLHDG('POSTAL' 'CODE')

A FEESOWED 7P 2 COLHDG('FEES' 'OWED')

A FINESOWED 7P 2 COLHDG('FINES' 'OWED')

A K STUDENTNO

PGM

DCLF TAXDSP

SNDRCVF

DOWHILE (\*IN = 0)

CALLSUBR DETERMINETAX

SNDRCVF

CHGVAR &IN99 '0'

CHGVAR &VALUE 0

CHGVAR &OWNERTYPE ' '

CHGVAR &TAXAMT 0

ENDDO

SUBR DETERMINETAX

SELECT

WHEN (OWNERTYPE = 'C')

&PROPTYPE 'Commercial'

SELECT

WHEN (VALUE >= 500000)

&TAXAMT .025 \* VALUE + 150

WHEN (VALUE >= 375000)

&TAXAMT .02 \* VALUE + 90

WHEN (VALUE >= 250000)

&TAXAMT .016 \* VALUE + 75

WHEN (VALUE >= 1)

&TAXAMT .0125 \* VALUE

ENDSELECT

WHEN (OWNERTYPE = 'R')

&PROPTYPE 'Residential'

SELECT

WHEN (VALUE >= 500000)

&TAXAMT .02 \* VALUE + 100

WHEN (VALUE >= 375000)

&TAXAMT .015 \* VALUE + 70

WHEN (VALUE >= 250000)

&TAXAMT .014 \* VALUE + 50

WHEN (VALUE >= 1)

&TAXAMT .01 \* VALUE

ENDSELECT

ENDSELECT

ENDSUBR

ENDPGM