SAS Querying Guidelines

## Keywords, Symbols, and Operators

Keywords should be uppercase. Examples include: DATA, PROC SQL, RUN, SELECT, DISTINCT, TOP, JOIN, ON, IN, NOT

In general, un-needed keywords and symbols should be excluded: Examples include: OUTER, AS

Parenthesis should be excluded from table joins and always included when using OR.

Operators should be surrounded by spaces. Not-equal should be denoted with <> rather than != as <> works in both SAS and pass-through SQL.

## Table and Column Aliases

When possible, use an acronym for the table aliased. (e.g. INNER JOIN LN10\_LON **LN10**; LEFT JOIN LN16\_LON\_DLQ\_HST **LN16**)

## System Functions

Functions should be uppercase. Examples include: ISNULL, COALESCE, SUM, DATEADD

## Data Sets

Data set names should be uppercase and describe the data the set it contains. (e.g. LN10\_DATA)

## Object References

Query object references (column and table names) should match the case of the database design. Since table names and attributes are uppercase in the data model, everything should be uppercase.

Always include the table alias along with the column name. (e.g SELECT **LN10**.BF\_SSN, **LN10**.LN\_SEQ FROM LN10\_LON **LN10**)

## Magic Numbers

Magic numbers should be avoided but AES uses them so when referring to a specific value, include a comment that indicates the meaning behind the value. (e.g. WHERE LC\_STA\_LON16 = 1 **-- Active**)

## Query Formatting

When formatting a query, readability by the team is a high priority. Generally this means indenting and putting each item on its own line when a statement has multiple arguments. If a data step has multiple arguments, each item must be indented and placed on its own line. Single argument data steps may be written as a single line.

## Example Data Step

DATA LEGEND.SingleArg; SET SingleArg; RUN;

DATA LEGEND.MultiArg;

SET MultiArg;

WHERE

VALUE = “Active” /\*Gets only active records\*/

;

RUN;

Example Query

PROC SQL;

CONNECT TO DB2 (DATABASE=&DB);

CREATE TABLE INITIAL\_POPULATION AS

SELECT

DB.\*

FROM

POPULATION\_IN PIN

JOIN CONNECTION TO DB2

(

SELECT DISTINCT

PD10.DF\_SPE\_ACC\_ID,

RTRIM(PD10.DM\_PRS\_1) || ' ' || RTRIM(PD10.DM\_PRS\_LST) AS BRW\_NAME,

PD10.DM\_PRS\_1,

PD10.DM\_PRS\_LST,

PD30.DX\_STR\_ADR\_1,

PD30.DX\_STR\_ADR\_2,

PD30.DM\_CT,

PD30.DC\_DOM\_ST,

PD30.DF\_ZIP\_CDE,

PD30.DM\_FGN\_CNY,

PD32H.DX\_ADR\_EML AS HOME\_EML,

AY10.LN\_ATY\_SEQ,

PD10.DF\_PRS\_ID

FROM

PKUB.PD10\_PRS\_NME PD10

JOIN PKUB.AY10\_BR\_LON\_ATY AY10

ON PD10.DF\_PRS\_ID = AY10.BF\_SSN

JOIN PKUB.PD30\_PRS\_ADR PD30

ON PD10.DF\_PRS\_ID = PD30.DF\_PRS\_ID

AND PD30.DI\_VLD\_ADR <> 'Y'

AND PD30.DC\_ADR = 'L'

LEFT JOIN PKUB.PD32\_PRS\_ADR\_EML PD32H

ON PD10.DF\_PRS\_ID = PD32H.DF\_PRS\_ID

AND PD32H.DC\_ADR\_EML = 'H'

AND PD32H.DI\_VLD\_ADR\_EML = 'Y'

AND PD32H.DC\_STA\_PD32 = 'A'

WHERE

DAYS(AY10.LD\_ATY\_REQ\_RCV) = DAYS(CURRENT\_DATE) - 1

FOR READ ONLY WITH UR

) DB

ON DB.BF\_SSN = PIN.DF\_PRS\_ID

;

DISCONNECT FROM DB2;

QUIT;

/\*export to Excel spreadsheet\*/

PROC EXPORT

DATA = DCR\_DATA

OUTFILE = "Q:\Support Services\Test Files\DCR AI-12"

DBMS = EXCEL

REPLACE;

SHEET = "A";

RUN;

DATA DCR; SET DUSTER.DCR; RUN;

DATA DCR (DROP = BR\_DATE\_OF\_BIRTH LD\_BIL\_DU\_LON);

SET DCR;

BR\_DATE\_OF\_BIRTH = PUT(BR\_DATE\_OF\_BIRTH,MMDDYY10.);

IF WEEKDAY(LD\_BIL\_DU\_LON) = 1 THEN EFF\_DATE = '';

ELSE IF WEEKDAY(LD\_BIL\_DU\_LON) = 7 THEN

DO;

EFF\_DATE = PUT(LD\_BIL\_DU\_LON,MMDDYY10.) + 1;

APP\_DATE = PUT(LD\_BIL\_DU\_LON,MMDDYY10.) + 2;

END;

ELSE EFF\_DATE = PUT(LD\_BIL\_DU\_LON,MMDDYY10.);

RUN;

PROC PRINT NOOBS SPLIT='/' DATA=DEMO WIDTH=UNIFORM WIDTH=MIN LABEL;

FORMAT

DF\_SPE\_ACC\_ID $10.

LN\_SEQ BEST2.

LD\_LON\_GTR MMDDYY10.

;

VAR

DF\_SPE\_ACC\_ID

LN\_SEQ

LD\_LON\_GTR

;

LABEL

DF\_SPE\_ACC\_ID = 'Account Number'

LN\_SEQ = 'Loan Sequence Number'

LD\_LON\_GTR = 'Guarantee Date'

;

RUN;

PROC PRINT NOOBS SPLIT = '/' DATA = DEMO WIDTH = UNIFORM WIDTH = MIN LABEL;

PROC PRINT

NOOBS SPLIT = '/'

DATA = DEMO

WIDTH = UNIFORM

WIDTH = MIN

LABEL;

FORMAT

DM\_PRS\_1 DF\_SPE\_ACC\_ID $10.

LN\_SEQ BEST2.

DD\_BRT LD\_LON\_GTR MMDDYY10.

;

FORMAT

DM\_PRS\_1

DF\_SPE\_ACC\_ID $10.

LN\_SEQ BEST2.

DD\_BRT

LD\_LON\_GTR MMDDYY10.

;

FORMAT

DM\_PRS\_1 $10.

DF\_SPE\_ACC\_ID $10.

LN\_SEQ BEST2.

DD\_BRT MMDDYY10.

LD\_LON\_GTR MMDDYY10.

;

PROC PRINTTO PRINT=REPORT2 NEW; RUN;

PROC PRINTTO

PRINT = REPORT2

NEW;

RUN;

OPTIONS

ORIENTATION = LANDSCAPE

PS = 39

LS = 127

;

OPTIONS ORIENTATION=LANDSCAPE PS=39 LS=127;

FILE 'T:\SAS\CSV OUTPUT.txt' DELIMITER=',' DSD DROPOVER LRECL=32767;

FILE

'T:\SAS\CSV OUTPUT.txt'

DELIMITER = ','

DSD

DROPOVER

LRECL = 32767

;