

SAS Base Programming for SAS[®]9 Syntax Reference Guide

Copyright: September 4, 2018 Last Modified: September 4, 2018

SAS LIBNAME Statement

LIBNAME *libref*'SAS-data-library'<options>;

Browsing a SAS Library

PROC CONTENTS DATA=libref. _ALL_ <NODS>;
RUN;

Creating a SAS Data Set

PROC IMPORT DATAFILE= "filename" **or** **TABLE=**
"tablename"
 OUT=<libref.SAS-data-set>
 <DBMS=identifier>
 <SAS-data-set-options>
 <REPLACE>;
 <GETNAMES= yes | no>;
 <GUESSINGROWS=number-of-rows>;
 <DATAROW= row-number>;
RUN;

Reading a SAS Data Set

DATA *output-SAS-data-set(s)*;
 SET *input-SAS-data-set*;
 <...more SAS statements...>;
RUN;

Accessing Microsoft Excel Data with the XLSX Engine

LIBNAME <libref>**XLSX** <physical-path-and-filename.xlsx><options>;

Selecting Variables – Data Set Options

(DROP=variables)
(KEEP=variables)
(RENAME=old-variable-name=new-variable-name)

Selecting Observations – Data Set Options

(IN=variable)

Examining SAS Data Set Descriptor Portion

PROC CONTENTS DATA=SAS-data-set;
RUN;

Error Handling

PUT *specification(s)*;
PUTLOG 'message';

Creating New Variables

new-variable=expression;
LENGTH *variables* <\$> *length* ...;

Modifying Variables

RETAIN *variable* <initial-value>;

Subsetting Data

IF *expression* **THEN DELETE**;
WHERE *expression*;

Subsetting Variables

DROP *variable(s)*;
KEEP *variable(s)*;

Conditional Processing

IF *expression* **THEN** *statement*;
 ELSE *statement*;

DO;

SAS statements;
END;

DO *index-variable=specification-1* <, ...*specification-n*>;
 ...*more SAS statements*...

END;

DO UNTIL(*expression*);
 ...*more SAS statements*...

END;

DO WHILE(*expression*);
 ...*more SAS statements*...

END;

Operators in Expressions

Operator	Meaning
= or eq	equal to
^= or ne	not equal to
> or gt	greater than
< or lt	less than
>= or ge	greater than or equal to
<= or le	less than or equal to
AND or &	and, both. If both expressions are true, then the compound expression is true.
OR or	or, either. If neither expression is true, then the compound expression is true.
0	false
1	true
.	false

Applying Formats

FORMAT *variable(s)* *format-name*...;

Creating User-Defined Formats

PROC FORMAT LIBRARY=libref **or**
LIBRARY=FMTLIB;
 VALUE *format-name*;
RUN;

Titles and Footnotes

TITLE <n> 'text';
FOOTNOTE <n> 'text';

Labels

LABEL *variable1*=*label1* *variable2*=*label2*'...;

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Combining SAS Data Sets

One-to-One Reading:

```
DATA output-SAS-data-set;
```

```
  SET SAS-data-set-1;
```

```
  SET SAS-data-set-2;
```

```
RUN;
```

Concatenating:

```
DATA output-SAS-data-set;
```

```
  SET SAS-data-set-1 SAS-data-set-2;
```

```
RUN;
```

Match-Merging:

```
DATA output-SAS-data-set;
```

```
  MERGE SAS-data-set-1 SAS-data-set-2;
```

```
  BY <DESCENDING> variable(s);
```

```
RUN;
```

Sorting Data

```
PROC SORT DATA=SAS-data-set
```

```
  <OUT=SAS-data-set>;
```

```
  BY <DESCENDING> BY-variables(s);
```

```
RUN;
```

Producing Detail Reports

```
PROC PRINT DATA=SAS-data-set
```

```
  <NOOBS LABEL SPLIT='split-character'>;
```

```
  VAR variable(s);
```

```
  SUM variable(s);
```

```
  BY variable(s);
```

```
  ID variable(s);
```

```
RUN;
```

Data Summarization and Validation Procedures

```
PROC MEANS DATA=SAS-data-set
```

```
  <keyword-statistics> <options>;
```

```
  CLASS variable(s);
```

```
  VAR variable(s);
```

```
RUN;
```

```
PROC FREQ DATA=SAS-data-set <options>;
```

```
  TABLES variable(s) <LIST> <CROSSLIST>
```

```
  <NOFREQ>;
```

```
  TABLES variable1* variable2 <LIST>
```

```
  <CROSSLIST> <NOFREQ>;
```

```
  <NOPERCENT> <NOROW> <NOCOL>;
```

```
  <COMPRESS>;
```

```
  <FORMCHAR (1,2,7) = 'formchar-string'>;
```

```
  <NLEVELS>;
```

```
  <NOPRINT>;
```

```
  <ORDER=DATA|FORMATTED|FREQ|INTERNAL>;
```

```
  <PAGE>;
```

```
RUN;
```

Creating Output

```
ODS open-destination;
```

```
ODS close-destination CLOSE;
```

```
ODS EXCEL <(<ID=>identifier)> <action>;
```

```
ODS EXCEL <(<ID=>identifier)> <option(s)>;
```

ODS HTML

```
  BODY = body-file-specification;
```

```
  CONTENTS=contents-file-specification
```

```
  FRAME=frame-file-specification;
```

```
ODS HTML CLOSE;
```

```
ODS PDF <(<ID=>identifier)> <action>;
```

```
ODS RTF <(<ID=>identifier)> <action>;
```

Functions

```
function-name (argument-1(<, argument-n>);
```

```
CATX (separator, string-1<,...string-n>)
```

```
CEIL(argument)
```

```
COMPBL(source)
```

```
COMPRESS (source<, characters><, modifier(s)>)
```

```
DAY(date)
```

```
DATDIF (start_date, end_date, basis)
```

```
DATE ()
```

```
FIND (string, substring<, modifiers><, startpos>)
```

```
FLOOR(argument)
```

```
INDEX (source, excerpt)
```

```
INT(argument)
```

```
INTCK ('interval', from, to)
```

```
INTNX ('interval', start-from, increment, <'alignment'>)
```

```
LEFT(argument)
```

```
LOWCASE(argument)
```

```
MDY (month, day, year)
```

```
MONTH(date)
```

```
PROPCASE (argument<, delimiter(s)>)
```

```
QTR(date)
```

```
RIGHT(argument)
```

```
ROUND (argument, round-off-unit)
```

```
SCAN (argument, n<<, delimiters>>)
```

```
SUBSTR (argument, position <, n>)
```

```
TIME ()
```

```
TODAY ()
```

```
TODAYDATE ()
```

```
TRANWRD (source, target, replacement)
```

```
TRIM(argument)
```

```
UPCASE(argument)
```

```
WEEKDAY(date)
```

```
YEAR(date)
```

```
YRDIF (start_date, end_date, basis)
```