# %SFTABLE

## Syntax

%SFTABLE(\_DATSRC =, \_OUT = SFTABLE, \_SL\_DS =, \_SL\_GROUP =, \_AVAL =, \_BASE =, \_PARAM\_LIST =, \_STATUS\_LIST =, \_AP =, \_BASE\_MATCH\_VAR =, \_PERCENT\_NEED = Y, \_PERCENT\_N = N1, \_PERCENT\_DEC = 1, \_OVERALL\_NEED = Y, \_OVERALL\_EXCLUDE = , \_TOTAL\_NEED = Y, \_MISSING\_NEED = Y);

# Required Arguments

**\_datsrc**

Specifies the source dataset, such as the original ADaM dataset e.g. ADLB, ADVS, or any dataset with PARAMCD and ABLFL exist.

**\_out**

default: SFTABLE  
Specifies the name of the output dataset.

**\_SL\_DS**

A dataset with subjects and their post-baseline grouping information of each analysis timepoint combination required for the table. Please refer to the study design and corresponding table shell to determine which analysis timepoint and grouping variable should be included in the dataset.

**\_SL\_GROUP**

To indicate which variable in **\_SL\_DS** and **\_datsrc** contains grouping information of each subject such as TRTxxP/A, TRTP/A, WGHTG1, etc. Avoid using numeric variables such as TRTxxP/AN, TRTP/AN, WGHTG1N.

**\_AVAL**

To indicate which variable in **\_datsrc** contains status information of the record, such as ANRIND, AVALCATz, AVAL, AVALC, etc.

**\_BASE**

To indicate which variable in **\_datsrc** contains baseline status information of the record, such as BNRIND, BASECATz, BASE, BASEC, etc.

**\_PARAM\_LIST**

A dataset containing list of parameters which using the same status category with **\_STATUS\_LIST**. All variables should be list in **\_AP** as well.

**\_STATUS\_LIST**

A “|” separated status list contains all possible status using by parameters in **\_PARAM\_LIST**, usually can be found on CRF, such as LOW|NORMAL|HIGH, Normal|Abnormal, NCS|Abnormal, CS, 1|2|3|4|5|6|7, etc.

**\_AP**

Specifies a space-separated list of analysis parameters existing in **\_datsrc**, which should be common across all subjects, such as the list of timepoint, test e.g. AVISITN AVISIT ATPTN ATPT PARAMN PARAMCD PARAM. It is recommended to list numeric variables first among the identical variables to facilitate automatic sorting, e.g. list AVISITN before AVISIT, PARAMN before PARAMCD.

**\_BASE\_MATCH\_VAR**

Specifies a space-separated list of analysis parameters used to define a baseline-applying region.

**\_PERCENT\_NEED**

default: Y

Specifies whether percentages computed based on **\_PERCENT\_N** is needed, takes value as Y or N.

**\_PERCENT\_N**

default: N1

If **\_PERCENT\_NEED** = Y, specifies which denominator to be used for computing the percentage, takes value as N1 (the number of subjects with non-missing values at both baseline and post-baseline visit) or N (the number of subjects in the treatment group).

**\_PERCENT\_DEC**

default: 1

To indicate decimal of percentage, default as 1.

**\_OVERALL\_NEED**

default: Y  
To indicate whether an “Overall” summary group is required, takes value as Y or N.

**\_TOTAL\_NEED**

default: Y  
To indicate whether status “Total” is required, takes value as Y or N.

**\_MISSING\_NEED**

default: Y  
To indicate whether status “Missing” is required, takes value as Y or N.

# Optional Arguments

**\_OVERALL\_EXCLUDE**

Specifies a “|” separated list of values of **\_SL\_GROUP**. Records whose **\_\_SL\_GROUP** values included in the list will be excluded from the summary “Overall”group, e.g. \_OVERALL\_EXCLUDE = PLB|DOSE 1. An “Overall” group is created by summarizing all existing groups’ information if **\_OVERALL\_EXCLUDE** is not specified.

# Details

The **%SFTABLE** macro is designed to enable users to generate and do all the typical dummy process in a shift table with minimal modifications to **\_datsrc**, such as ADaM datasets like ADVS or ADLB, etc. The macro generates a shift table and provides users the flexibility to indicate whether an overall summary group is required and whether the "Total" and "Missing" status should be provided. It produces two datasets as output: one of which is a combined shift table ready for output, and the other one with \_RAW suffix contains count data for every combination of statuses, analysis parameters and groups, in case a further check is required (by default, **SFTABLE** and **SFTABLE\_RAW**).

The **\_SL\_DS** dataset contains post-baseline grouping information for each subject at every analysis timepoint. (see Example 1). This becomes crucial in scenarios where specific subjects might lack any post-baseline records in **\_datsrc**, resulting in a deficiency in grouping information for them.

Similarly, The **\_PARAM\_LIST** dataset contains all parameters/tests required in the shift table (see Example 1) in case of specific parameters/tests might lack any post-baseline records in **\_datsrc**. In that case, **%SFTABLE** macro will dummy them for you based on **\_PARAM\_LIST**.

**\_STATUS\_LIST** should be a “|” separated list of all possible statuses for the record with parameters/tests specified in **\_PARAM\_LIST** dataset, which is typically can be found on the corresponding CRF page or table shell, and the wording of statuses should be consistent with the status variable in \_**datsrc**.

**\_AP** specifies the list of variables which are common across all subjects, such as timepoint, parameter/test. \_**GROUP** specifies the variable of grouping information, which differs per subject, thus variables of **\_AP** and **\_GROUP** should be mutually exclusive. In addition, **\_AP** and **\_SL\_GROUP** should both be a subset of variables in **\_SL\_DS**.

It is often the case that there are several baseline records within a parameters/tests per study design, **\_BASE\_MATCH\_VAR** is a subset of **\_AP** to indicate which variables should be used to define a baseline-applying region (see Example 2).

Sometimes, an “Overall” summary group is required for summarizing all or most groups’ (usually groups with varying dose of active study drug) information. It is common to exclude the placebo group in such scenarios. **%SFTABLE** allows user to exclude specific group(s) by using the optional argument **\_OVERALL\_EXCLUDE** by specifying a “|” separated list of values of **\_SL\_GOURP** to be excluded from the “Overall” summary group. (see Example 1).

# Examples

## Example 1: Generate a shift table

%SFTABLE(\_DATSRC = LBSHIFT01, \_SL\_DS = ADSL01, \_SL\_GROUP = TRTA,   
 \_AVAL = ANRIND, \_BASE = BNRIND,   
 \_PARAM\_LIST = PARAM\_LIST, \_STATUS\_LIST = %str(Normal|Abnormal, NCS|Abnormal, CS),   
 \_AP = AVISITN AVISIT ATPTN ATPT PARCAT1 PARAMN PARAMCD PARAM,   
 \_BASE\_MATCH\_VAR = PARAM,   
 \_PERCENT\_NEED = Y, \_PERCENT\_N = N1, \_PERCENT\_DEC = 1,   
 \_OVERALL\_NEED = Y, \_OVERALL\_EXCLUDE = PLB,   
 \_TOTAL\_NEED = Y, \_MISSING\_NEED = Y);

In the example above, the ADSL01 dataset is utilized as **\_SL\_DS** dataset, containing post-baseline grouping information for each subject at every analysis timepoint. The PARAM\_LIST dataset is utilized as **\_PARAM\_LIST**, containing all parameters required for the shift table. To handle the presence of commas in the status wording**, \_STATUS\_LIST** is specified using the macro quote %str. Given that there is only one baseline record within each parameter, **\_BASE\_MATCH\_VAR** is specified as PARAM only (specifying PARAMN or PARAMCD alone would also suffice if they are included in **\_PARAM\_LIST**). An summary group “Overall” is presented by summarizing all existing group in **\_SL\_GROUP**, excluding group PLB which is specified by optional argument **\_OVERALL\_EXCLUDE**.

\_SL\_DS:  
A table with numbers and days

Description automatically generated

\_PARAM\_LIST:  
A table with numbers and letters

Description automatically generated

SFTABLE (result):  
A screenshot of a computer

Description automatically generated

## Example 2: Multiple baseline record within parameters/tests

In many study designs, multiple baseline records are gathered. The **%SFTABLE** macro identifies these baseline records through the ABLFL variable. It offers users the flexibility to define a baseline-applying region using the **\_BASE\_MATCH\_VAR** required argument. **\_BASE\_MATCH\_VAR** allows users to specify which variables should be considered when defining the baseline-applying region, such as analysis timepoint, parameters/tests, BASETYPE, etc. It's important to note that **\_BASE\_MATCH\_VAR** should be a subset of **\_AP**.

For instance, if a study design anticipates only one baseline record for each parameter/test, then **\_BASE\_MATCH\_VAR** should be defined solely as PARAM (specifying PARAMN or PARAMCD alone would also suffice if they are included in **\_PARAM\_LIST**). On the other hand, if a study design comprises two analysis periods (e.g., APERIODC = "Period 1", "Period 2"), each with its own baseline record, then **\_BASE\_MATCH\_VAR** should be set as "APERIODC PARAM". This ensures proper identification and utilization of baseline records in the analysis.

In the example below, a standard shift table is initially generated. Subsequently, a dummy multiple baseline scenario is created to demonstrate the flexibility that **\_BASE\_MATCH\_VAR** offers.

data ADSL01;  
 set ADS22.ADSL;  
 length AVISITN 8. AVISIT $50;  
 if SAFFL = "Y";  
 AVISITN = 13; AVISIT = "Day 13";  
 keep SUBJID AVISITN AVISIT TRT01A;  
run;

data ADEG01;  
 set ADS22.ADEG;  
 if PARAMCD = "INTP";  
run;  
data PARAM\_LIST;  
 PARAMCD = "INTP"; output;  
run;  
%SFTABLE(\_DATSRC = ADEG01, \_SL\_DS = ADSL01, \_SL\_GROUP = TRT01A,   
 \_AVAL = AVALC, \_BASE = BASEC,   
 \_PARAM\_LIST = PARAM\_LIST, \_STATUS\_LIST = NORMAL|ABNORMAL,   
 \_AP = AVISITN AVISIT PARAMCD,   
 \_BASE\_MATCH\_VAR = PARAMCD,   
 \_PERCENT\_NEED = Y, \_OVERALL\_NEED = N, \_TOTAL\_NEED = Y, \_MISSING\_NEED = Y);

\_SL\_DS:

A table with black text

Description automatically generated

SFTABLE (result):

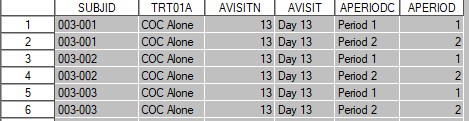
A grey rectangular table with black numbers

Description automatically generated

data ADSL01;  
 set ADS22.ADSL;  
 length AVISITN 8. AVISIT $50;  
 if SAFFL = "Y";  
 AVISITN = 13; AVISIT = "Day 13";  
 APERIODC = “Period `1”; APERIOD = 1;  
 output;  
 APERIODC = “Period `2”; APERIOD = 2;  
 output;  
 keep SUBJID APERIOD APERIODC AVISITN AVISIT TRT01A;  
run;

data ADEG01;  
 set ADS22.ADEG;  
 if PARAMCD = "INTP";  
 APERIODC = "Period 1"; APERIOD = 1;  
 output;  
 APERIODC = "Period 2"; APERIOD = 2;  
 select(AVALC);  
 when("NORMAL") AVALC = "ABNORMAL";  
 when("ABNORMAL") AVALC = "NORMAL";  
 other;  
 end;  
 select(BASEC);  
 when("NORMAL") BASEC = "ABNORMAL";  
 when("ABNORMAL") BASEC = "NORMAL";  
 other;  
 end;  
 output;  
run;  
data PARAM\_LIST;  
 PARAMCD = "INTP"; output;  
run;  
%SFTABLE(\_DATSRC = ADEG01, \_SL\_DS = ADSL01, \_SL\_GROUP = TRT01A,   
 \_AVAL = AVALC, \_BASE = BASEC,   
 \_PARAM\_LIST = PARAM\_LIST, \_STATUS\_LIST = NORMAL|ABNORMAL,   
 \_AP = APERIOD AEPRIODC AVISITN AVISIT PARAMCD,   
 \_BASE\_MATCH\_VAR = APERIOD PARAMCD,   
 \_PERCENT\_NEED = Y, \_OVERALL\_NEED = N, \_TOTAL\_NEED = Y, \_MISSING\_NEED = Y);

\_SL\_DS:



SFTABLE (result):

