

Missing Values in SAS

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Topics

- Introduction
- Missing values
- Missing system option
- Assign missing values
- Tests for a missing value
- Summary

Question

```
if myvar = . then put "I am missing" ;
```

```
if myvar = "" then put "I am missing" ;
```

```
if myvar = " " then put "I am missing" ;
```

Missing Values

```
data _null_ ;

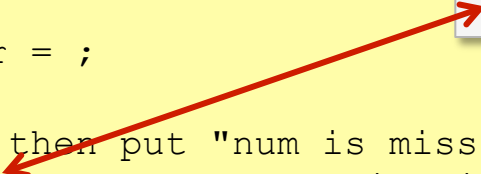
    length char $ 10 ;

    num = . ;
    char = put( num, 8.-L);

    put num = / char = ;

    if missing(num) then put "num is missing";
    if missing(char) then put "char is missing";
run;
```

num=.
char=.
num is missing



Default Value is a Missing Value

```
data _null_;
```

```
    num_3 = w;
```

```
    put w = / num_1 = / num_2 = / num_3 = ;
```

```
run;
```

```
81    data _null_;
```

```
82
```

```
83    num_3 = w;
```

```
84
```

```
85    put w = / num_1 = / num_2 = / num_3 = ;
```

```
86
```

```
87    run;
```

NOTE: Variable w is uninitialized.

NOTE: Variable num_1 is uninitialized.

NOTE: Variable num_2 is uninitialized.

w=.

num_1=.

num_2=.

num_3=.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

Missing Codes

```
data _null_ ;
```

```
num = .B ;
```

```
if ( num
```

```
if missi
```

```
run;
```

```
65 data _null_ ;
```

```
66
```

```
67 num = .B ;
```

```
68
```

```
69 if ( num = . ) then put "num is missing";
```

```
70 if missing( num ) then put "missing() thinks num  
is missing";
```

```
71 run;
```

```
missing() thinks num is missing
```

```
NOTE: DATA statement used (Total process time):
```

```
real time 0.00 seconds
```

```
cpu time 0.00 seconds
```

Missing System Option

```
option missing = 'w';
```

- Single Character
- “Format” of missing values
- Only applicable to output

Missing System Option – Example I

```
option missing = '';

data _null_ ;

    length char $ 10 ;

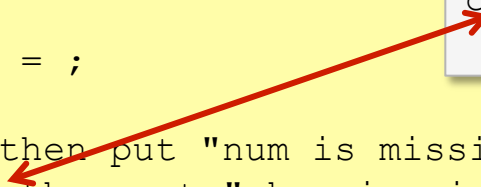
    num = . ;
    char = put( num, 8.-L);

    put num = / char = ;

    if missing(num) then put "num is missing";
    if missing(char) then put "char is missing";
run;

option missing = '.';
```

num=
char=
num is missing
char is missing



Missing System Option – Example II

```
data work.missing ;
  num_1 = .;
  num_2 = .B;
run;

option missing =

data _null_;
  set work.missing;

  put num_1 = / num_2 = ;

  num_3 = w;
run;

option missing =
```

```
96
97   option missing = 'w';
98
99   data _null_;
100     set work.missing ;
101
102     put num_1 = / num_2 = ;
103
104     num_3 = w;
105 run;
```

NOTE: Variable w is uninitialized.

num_1=w

num_2=B

NOTE: There were 1 observations read from the data set WORK.MISSING.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.00 seconds

Assign Missing Values

```
data _null_;

    call missing( num_1, num_2, w );
    num_3 = w;

    put num_1 = / num_2 = / num_3 = ;
run;
```

```
122 data _null_;
123
124     call missing( num_1, num_2, w );
125     num_3 = w;
126
127     put num_1 = / num_2 = / num_3 = ;
128
129 run;

num_1=.
num_2=.
num_3=.
NOTE: DATA statement used (Total process time):
      real time           0.05 seconds
      cpu time            0.01 seconds
```

Tests for Missing Values

Function	Types	Description
missing()	Numeric Character	Tests if a <u>single</u> variable is missing.
nmiss()	Numeric	Number of variables in the specified list with a missing value
n()	Numeric	Number of variables in the specified list with a non-missing value
cmiss()	Numeric Character	Number of variables in the specified list with a missing value

Introduced in SAS 9.2

```
if missing( cats(char_1 , char_2 ) ) then put "all of them are missing";
```

Summary

- Missing values are valid values in SAS
- Conversion of missing values
- SAS System Option
- Assign missing values
 - “Period” notation
 - Missing Codes
 - CALL MISSING()
- Testing for missing values
 - MISSING()
 - NMISS()
 - N()
 - CMISS()
- Consistent inconsistency

Questions & Comments

- Introduction
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- Missing system option
- Assigning missing values
- Testing for a missing value
- Conclusion

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THE END