# YASAI 2.6 Release Notes

YASAI 2.6 contains the following new features and bug fixes

1. If a blank or empty value is passed to SIMOUTPUT, YASAI now treats it as a missing value, rather than a 0. The sample size for the particular output will be reduced accordingly.

2. Some bugs relating to differing sample sizes have been corrected. If an output has a positive sample size in one scenario but a zero sample size in another scenario, YASAI no longer crashes.

3. There is now a GENLOGNORMAL($m$, $s$) random number generator for lognormal distributions. It is equivalent to exp(GENNORMAL($m$, $s$)).

4. We have made every effort to make YASAI compatible with Macintosh Excel 2016. We have made it possible to run simulations and fixed the problems with disappearing or indefinitely replicating interface buttons. However, simulations run very slowly compared to other versions of Excel for reasons we still do not understand, and there may be some residual interface issues.

5. There is a new function SIMPARAMETER that simplifies testing combinations of parameters. The general behavior of this function was suggested some time ago by Dr. Dan Stratila.

We henceforth deprecate continued use of the PARAMETER function and recommend using SIMPARAMETER instead.

The general form of SIMPARAMETER is

=SIMPARAMETER(*ListOfValues*, *Name*, *Group*)

- *ListOfValues* is the only required argument, and specifies either a cell range or a list of comma-separated values in enclosed in braces. This range or list contains the possible values of the parameter.

- *Name* is optional and provides a name for the parameter. If *Name* is omitted, YASAI uses the cell address of the formula.

- *Group* is optional, and should be a whole number between 1 and 20. If *Group* is omitted, it is treated as if it were 1.

Parameters in the same group vary together in "lock step", whereas YASAI tries all possible combinations of values between different groups. To illustrate, consider the following

1. SIMPARAMETER({1, 5, 7}, "Bill")

   A single parameter "Bill" takes the values 1, 5, and 7

2. SIMPARAMETER({1, 5, 8, 9}, "Fred")
   SIMPARAMETER({0.1, 0.2, 0.3, 0.4}, "Jim")

   Fred=1  Jim=0.1
   Fred=5  Jim=0.2
   Fred=8  Jim=0.3
   Fred=9  Jim=0.4


3. SIMPARAMETER({1, 2}, "A", 1)
   SIMPARAMETER({50, 60, 70}, "B", 2)

   A=1  B=50
   A=2  B=50
   A=1  B=60
   A=2  B=60
   A=1  B=70
   A=2  B=70


4. SIMPARAMETER({1, 2}, "A", 1)
   SIMPARAMETER({1000, 3000}, "Aprime", 1)
   SIMPARAMETER({50, 60, 70}, "B", 2)

   A=1  Aprime=1000  B=50
   A=2  Aprime=3000  B=50
   A=1  Aprime=1000  B=60
   A=2  Aprime=3000  B=60
   A=1  Aprime=1000  B=70
   A=2  Aprime=3000  B=70


5. SIMPARAMETER({1, 2}, "F", 1)
   SIMPARAMETER({3, 4}, "G", 2)
   SIMPARAMETER({5, 6}, "H", 3)

   F=1  G=3  H=5
   F=2  G=3  H=5
   F=1  G=4  H=5
   F=2  G=4  H=5
   F=1  G=3  H=6
   F=2  G=3  H=6
   F=1  G=4  H=6
   F=2  G=4  H=6

- For simplicity, we recommend that all calls to SIMPARAMETER with the same value of *Group* have *ListOfValues* arguments that are the same size. For example, if a parameter in group 2 can take 4 values, then all other parameters in group 2 should take 4 values. If you violate this restriction, YASAI will still run, but some parameters may have complicated "wrap-around" behavior.

- For simplicity, we recommend not mixing calls to SIMPARAMETER and the old PARAMETER function in the same workbook. If you do so, however, parameters specified by PARAMETER are treated as being in group 1.

In the simulation dialog box, YASAI guesses the number of scenarios you wish to run, based on the rules above. In general, this guess is $G_1 \times G_2 \times \cdots \times G_{20}$, where $G_i$ is the number of values in group $i$, unused groups being considered to have size 1. YASAI presents this guess in the "Default:" field of the simulation dialog box. If you specify a smaller number of scenarios $n$ in "Set To:", YASAI will only simulate the first $n$ scenarios.