



# Getting Data into BUGS

# Formats

- BUGS almost uses the S format for data
  - i.e. the same as R and S-PLUS
  - same format for initial values as well
- There are two ways of setting out the data
  - they can be used together for the same data
- R users can write the data to a file using the `bugsData()` function in the BRugs package

# Lists

- Data can be supplied in a list
  - a type of S object
- Each piece of data either as a constant, a vector or an array
  - separated by commas
- Missing values: NA
- Constant: N=5
- Vector:  $v=c(0,1,2,NA,4)$ 
  - `c()`: combine

# Arrays

- Arrays are more complicated
- Supplied as a **structure**
- Contains a vector of values, and a vector giving the length of the dimensions:
- `Arr=structure(.Data = c(data), .Dim=c(dims))`
  - e.g. `Arr=structure(.Data=c(1,2,3,4,5,6), .Dim=c(3,2))`
  - Written as 

	1	2	3
	4	5	6
  - fills first dimension first
    - opposite to S!

# Rectangular Format

- Data can be in the form of a rectangle
  - i.e. several rows of equal length
  - e.g. each row is a data point, with several measurements on each one
- BUGS has a format for this:

```
A[]    B[]    C[]    D[,1]    D[,2]
  1      2      3      4      5
  1      2      7     24     3.5
END
```