Group 4

J symbol (left-brace): {

Monadic case:

<u>Name</u>: *catalogue*
<u>Rank</u>: 1 (vector) – applies to a vector y
<u>Definition</u>: **{ y** returns all *combinations* of the *elements* in the *boxes* of y.

<u>Please also include *explanations* for your answers to some of the following questions</u>:
What is the catalogue of two boxed vectors (e.g., { 0 1;2 4)?
What is the catalogue of three boxed strings (e.g., { 'bcs';'aeo';'dnt')?

Dyadic case:

<u>Name</u>: *from*
<u>Rank</u>: 1 (left); _ (right) – applies to a vector on the left and the entire array on the right
<u>Definition (numeric x)</u>: **x { y** returns the *items* of y at the *positions* specified by x. If x is *positive*, then positions are counted from the *front* of y. If x is *negative*, then the positions are counted from the *back* of y.
<u>Definition (box x)</u>: **x { y** returns the sub-array of y indexed by position xi of axis i of y, where xi is the i-th element of x.

<u>Please also include *explanations* for your answers to some of the following questions</u>:
What is returned when x is positive?
What is returned when x is negative?
What is returned when x is zero?
What is returned when xi is greater than the length of the ith axis of y?
What is returned when x is a box?
What is returned when x is a list of boxes (e.g., (2 3;5 7) { i.10 10)?