

We start with γ and add the permutations for the A's & B's in emotions

$\gamma =$

SUBJECT ID	Emotion	Subclass
1	B	2
1	B	1
1	B	3
1	A	4
1	A	1
1	A	5
1	A	3
1	A	2

Permutation of 1:3
Permutation of 1:5
generate

$\gamma \left[\text{order}(\text{subclass}, \text{emotion}), \right]$

	SUBSID	subclass	emotion	Actor	meanAmp
pairs	1	1	A	x	10
	1	1	B	y	20
pairs	1	2	A	z	30
	1	2	B	w	40
pairs	1	3	A	g	50
	1	3	B	h	60
no matching B records	1	4	A		
	1	5	A		

Discard

Get the first row in each pair

	subclass	emotion	ACTOR.A	meanAmp.A
1	1	A	x	10
1	2	A	z	30
1	3	A	w	50

Get 2nd row of each pair, but just Actor & mean Amp

	ACTOR.B	meanAmp.B
1	y	20
1	w	40
1	h	60

	subclass	emotion	ACTOR.A	meanAmp.A	ACTOR.B	meanAmp.B
1	1	A	x	10	y	20
1	2	A	z	30	w	40
1	3	A	w	50	h	60

Result

This same approach generalizes for all SUBJECTID values done together.

Have to generate the permutations by subjectID

Reorder by subjectID, subclass and emotion

Then discard in one subset operation

Have to create logical vector to SUBJECT ID