

Random variable	values	Events
X	0	All $S's$ are together
	1	All $S's$ are not together
Y	0	$2I's$ and $2N's$ are together
	1	$2I's$ and $2N's$ are not together
Z	0	All $A's$ together
	1	Only $2A's$ are together
	2	No $2A's$ are together