These can save time when doing homework print then cut and paste into your homework, or cut and paste and do the work in word.

Banzhaf method

if the number of players are no more than 5 you must write all the coalitions

If there are **3 players** there are $2^3 - 1 = 7$ coalitions

$\{P_1\}$	$\{P_1, P_2\}$	$\{P_1, P_2, P_3\}$
$\{P_2\}$	$\{P_1, P_3\}$	
$\{P_3\}$	$\{P_2, P_3\}$	

If there are **4 players** there are $2^4 - 1 = 15$ coalitions

$\{P_1\}$	$\{P_1, P_2\}$	$\{P_1, P_2, P_3\}$	$\{P_1, P_2, P_3, P_4\}$
$\{P_2\}$	$\{P_1, P_3\}$	$\{P_1, P_2, P_4\}$	
$\{P_3\}$	$\{P_1, P_4\}$	$\{P_1, P_3, P_4\}$	
$\{P_4\}$	$\{P_2, P_3\}$	$\{P_2, P_3, P_4\}$	
	$\{P_2, P_4\}$		
	$\{P_3, P_4\}$		

If there are **5 players** there are $2^5 - 1 = 31$

$\{P_1\}$	$\{P_1, P_2\}$	$\{P_1, P_2, P_3\}$	$\{P_1, P_2, P_3, P_4\}$	$\{P_1, P_2, P_3, P_4, P_5\}$
$\{P_2\}$	$\{P_1, P_3\}$	$\{P_1, P_2, P_4\}$	$\{P_1, P_2, P_3, P_5\}$	
$\{P_3\}$	$\{P_1, P_4\}$	$\{P_1, P_2, P_5\}$	$\{P_1, P_2, P_4, P_5\}$	
$\{P_4\}$	$\{P_1, P_5\}$	$\{P_1, P_3, P_4\}$	$\{P_1, P_3, P_4, P_5\}$	
$\{P_5\}$	$\{P_2, P_3\}$	$\{P_1, P_3, P_5\}$	$\{P_2, P_3, P_4, P_5\}$	
	$\{P_2, P_4\}$	$\{P_1, P_4, P_5\}$		
	$\{P_2, P_5\}$	$\{P_2, P_3, P_4\}$		
	$\{P_3, P_4\}$	$\{P_2, P_3, P_5\}$		
	$\{P_3, P_5\}$	$\{P_2, P_4, P_5\}$		
	$\{P_4, P_5\}$	$\{P_3, P_4, P_5\}$		

Shapley-Shubik method

If there are **3 players**
These are the list of coalition $3! = 6$ coalitions

$<P_1, P_2, P_3>$	$<P_2, P_1, P_3>$	$<P_3, P_1, P_2>$
$<P_1, P_3, P_2>$	$<P_2, P_3, P_1>$	$<P_3, P_2, P_1>$

If there are **4 players**
These are the list of coalitions $4! = 24$ coalitions

$<P_1, P_2, P_3, P_4>$	$<P_2, P_1, P_3, P_4>$	$<P_3, P_1, P_2, P_4>$	$<P_4, P_1, P_2, P_3>$
$<P_1, P_2, P_4, P_3>$	$<P_2, P_1, P_4, P_3>$	$<P_3, P_1, P_4, P_2>$	$<P_4, P_1, P_3, P_2>$
$<P_1, P_3, P_2, P_4>$	$<P_2, P_3, P_1, P_4>$	$<P_3, P_2, P_1, P_4>$	$<P_4, P_2, P_1, P_3>$
$<P_1, P_3, P_4, P_2>$	$<P_2, P_3, P_4, P_1>$	$<P_3, P_2, P_4, P_1>$	$<P_4, P_2, P_3, P_1>$
$<P_1, P_4, P_2, P_3>$	$<P_2, P_4, P_1, P_3>$	$<P_3, P_4, P_1, P_2>$	$<P_4, P_3, P_1, P_2>$
$<P_1, P_4, P_3, P_2>$	$<P_2, P_4, P_3, P_1>$	$<P_3, P_4, P_2, P_1>$	$<P_4, P_3, P_2, P_1>$