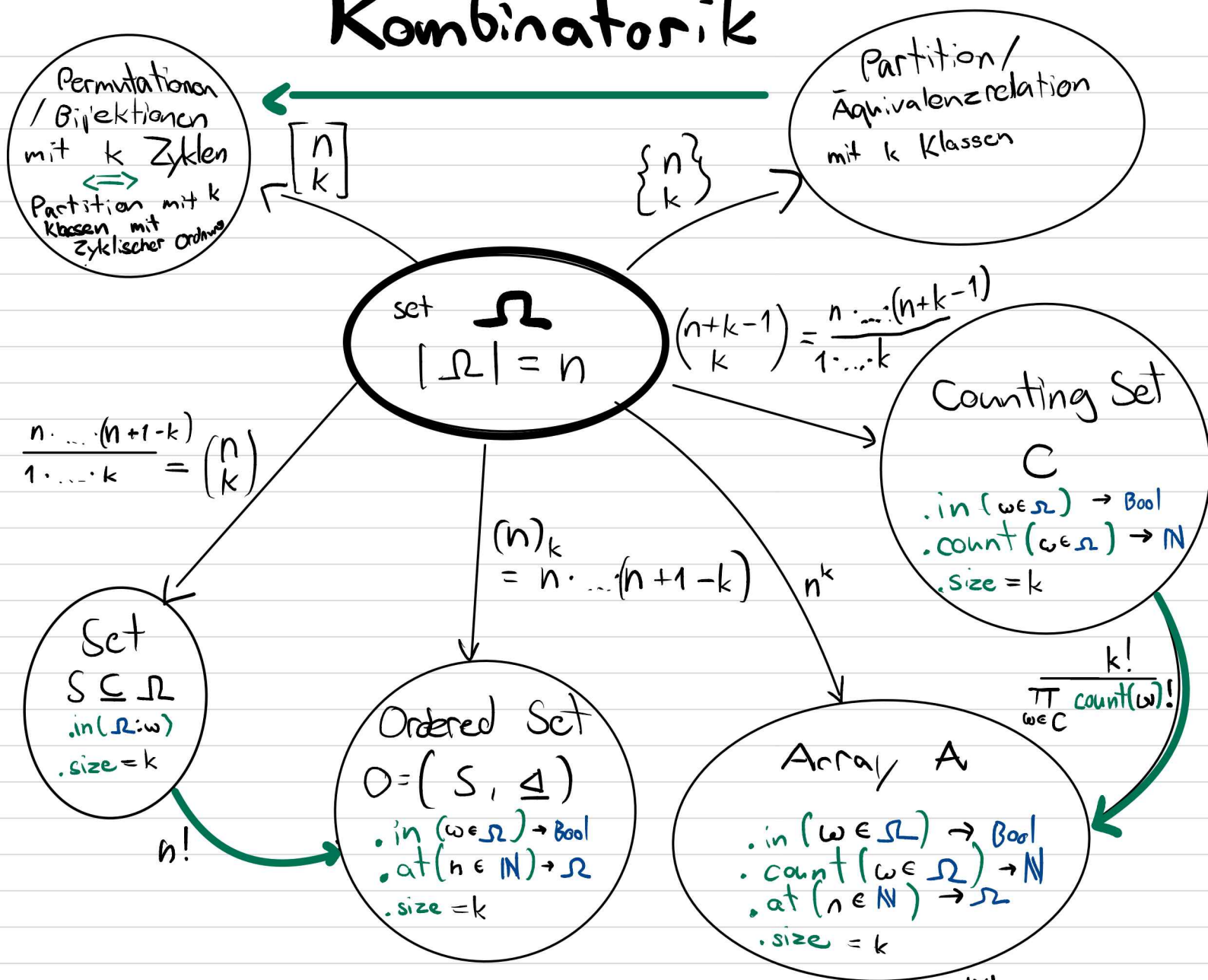


Kombinatorik



$$\mathcal{F} = \{ f \mid f: X \rightarrow Y \}, \quad |\mathcal{F}| = |Y|^{|X|}$$

$$\begin{aligned} |\mathcal{F}_{\text{bijektiv}}| &= |X|! = |Y|! = \# \text{ Ordnungsrelationen von } A \\ |\mathcal{F}_{\text{injektiv}}| &= (Y)_{|X|} \\ |\mathcal{F}_{\text{surjektiv}}| &= |Y|! \cdot \left\{ \frac{|X|}{|Y|} \right\} \end{aligned}$$

$$|\mathcal{P}(A)| = 2^{|A|} = |\mathcal{F}(A, \{0,1\})| = \sum_{k=0}^n \binom{n}{k}$$

Partiten von A = # Äquivalenzrelationen von A = $B_{|A|} = \sum_{k=0}^n \{k^n\}$

$\{k^n\} = \{k-1^n\} + k \cdot \{k-1^{n-1}\}$

$\left[\begin{matrix} n \\ k \end{matrix} \right] = \left[\begin{matrix} n-1 \\ k-1 \end{matrix} \right] + (n-1) \cdot \left[\begin{matrix} n-1 \\ k \end{matrix} \right]$

$\binom{n}{k} = \binom{n-1}{k-1} + \binom{n-1}{k}$

	[1]					[2]					[3]					[4]				
0			1						1							1				
1			1	1				0	1					0	1					
2		1		2	1			0	1	1				0	1	1				
3		1	3		3	1		0	2	3	1			0	1	3	1			
4		1	4	6	4	1		0	6	11	6	1		0	1	7	6	1		
5	1	5	10	10	5	1	0	24	50	35	10	1	0	1	15	25	10	1		