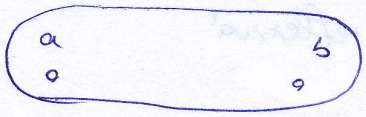
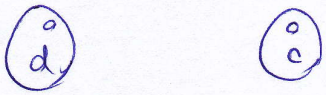


$\rightsquigarrow R_{15}$



$\forall (\forall n \in \mathbb{N}^*) \quad |\mathrm{Echiv}(\overline{1,n})| = |\mathrm{Part}(\overline{1,n})| = \sum_{k=1}^{n} S(n,k) = B(n)$ BELL

STIRLING

$\forall (\forall k \in \overline{1,n}) \quad S(n,k) = \frac{1}{k!} \cdot \left(\sum_{i=1}^{k} C_k^i (-1)^i \cdot (k-i)^n \right)$

Exerc. $A \to$ mult; $A \neq \emptyset$; $R \subseteq A^2$, $S \subseteq A^2$ ech. eq.:

$R, S \in \mathrm{Echiv}(A)$ $\begin{cases} \Rightarrow R \cap S \in \mathrm{Echiv}(A) \\ \Rightarrow R^{-1} \in \mathrm{Echiv}(A) \\ \not\Rightarrow R \cup S \in \mathrm{Echiv}(A) \\ \not\Rightarrow R \circ S \in \mathrm{Echiv}(A) \\ \not\Rightarrow R \setminus S \in \mathrm{Echiv}(A) \end{cases}$ $\longrightarrow$ mai mult $\Rightarrow R \setminus S \notin \mathrm{Echiv}(A)$

$R \in \mathrm{Echiv}(A) \rightarrow \begin{cases} \Delta_A \subseteq R \\ R \subseteq R^{-1} \ (\Leftrightarrow R = R^{-1}) \\ R^2 \subseteq R \end{cases}$

$\left.\begin{matrix} \Delta_A \subseteq R \\ \Delta_A \subseteq S \end{matrix}\right\} \Rightarrow \Delta_A \subseteq R \cap S$

$(R \cap S)^{-1} = R^{-1} \cap S^{-1} = R \cap S$ ($R = R^{-1}$, $S = S^{-1}$)

Fie $x, y, z \in A$, a.î. $(x,y), (y,z) \in R \cap S \Leftrightarrow \begin{cases} xRy \text{ și } yRz \Rightarrow \\ \text{și} \\ xSy \text{ și } ySz \Rightarrow \end{cases}$

$\Rightarrow \left.\begin{matrix} xRz \\ xSz \end{matrix}\right\} \Rightarrow (x,z) \in R \cap S$

$R \cap S$ tranzitivă $\Rightarrow R \cap S \in \mathrm{Echiv}(A)$