

$$1a) R\phi := \rho_{\text{ATENEO} \leftarrow \text{CODICE}} \pi_{\text{CODICE}} \sigma_{\text{CITA} = 'Pavia'} \cup N$$

$$R1 := \rho_{\text{FACOLTA} \leftarrow \text{CODICE}} \pi_{\text{CODICE}} \sigma_{\text{NOME} = 'Impegnie'} (R\phi \bowtie FA)$$

$$\pi_{\text{CORSO, NOME}} (DO \bowtie \rho_{\text{CF} \leftarrow \text{RiferimentoOrganismo}} \sigma_{\text{CITA} = 'Hondara'} (R1 \bowtie SD))$$

$$1b) R\phi := \pi_{\text{CODICE, ATENEO}} (\sigma_{\text{NOME} = 'Impegnie'} FA); R1 := \rho_{\text{CI} \leftarrow \text{CODICE}} R\phi$$

$$R2 := \pi_{\text{CODICE, ATENEO}} (\sigma_{\text{CI} \neq \text{CODICE}} (R\phi \bowtie R1))$$

$$R3 := \rho_{\substack{\text{ATENEO} \leftarrow \text{CODICE} \\ \text{NOMEA} \leftarrow \text{NOME}}} (\pi_{\text{CODICE, NOME}} \cup N)$$

$$\pi_{\text{CODICE, N-ISCritti, ATENEO, NOMEA}} (R2 \bowtie R3 \bowtie FA)$$

$$1c) R\phi := \pi_{\text{CORSO, DATA}} (\sigma_{\text{VOTO} = '30L'} ES); R1 := \rho_{\text{D} \leftarrow \text{DATA}} R\phi$$

$$CO \bowtie \rho_{\text{CODICE} \leftarrow \text{CORSO}} (R\phi - \pi_{\text{DATA, CORSO}} (\sigma_{\text{DATA} > D} (R1 \bowtie R\phi)))$$

$$1d) R\phi := \pi_{\text{CORSO, DATA}} \sigma$$

$$1d) R\phi := \pi_{\text{FACOLTA, CITTA}} (SD); R1 := \rho_{\text{CI} \leftarrow \text{CITA}} R\phi; R2 := \rho_{\text{C2} \leftarrow \text{CI}} R1; R3 := \rho_{\text{C3} \leftarrow \text{C2}}$$

$$R4 := \sigma_{\text{C1} < \text{C2} \wedge \text{C1} < \text{C3} \wedge \text{C2} < \text{CITA}} (R\phi \bowtie R1 \bowtie R2)$$

$$R5 := \sigma_{\text{C3} < \text{C1} \wedge \text{C3} < \text{C2} \wedge \text{C3} < \text{CITA}} (R4 \bowtie R3)$$

$$R6 := (\pi_{\text{FACOLTA}} R4) - (\pi_{\text{FACOLTA}} R5)$$

$$R4 \bowtie R6 \bowtie \rho_{\text{FACOLTA} \leftarrow \text{CODICE}} (\pi_{\text{CODICE, NOME}} FA)$$