

תרגיל 2

מגשים:

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אלגברה רלציונית:

.1

$$\pi_{name} (\sigma_{\text{educatedAt}='Hebrew University of Jerusalem' \wedge \text{birthYear}>1970} (members))$$

.2

$$\pi_{name,party} (\sigma_{\text{number}=1} (memberInKnesset) \bowtie members)$$

.3

$$\begin{aligned} R &= \sigma_{\text{party}='Meretz' \vee \text{party}='Likud'} (memberInknesset) \bowtie knessets \bowtie members \\ result &= \pi_{name,number} (\sigma_{\text{startYear}-\text{birthYear}>70} (R)) \end{aligned}$$

.4

$$\begin{aligned} R &= \sigma_{\text{gender}='female' \wedge \text{occupation} \neq 'politician'} (members) \\ A &= \pi_{uid,name} (\sigma_{\text{number}=23} (memberInknesset) \bowtie R) \\ B &= \pi_{uid,name} (\sigma_{\text{number}=24} (memberInknesset) \bowtie R) \\ result &= \pi_{name} (A \cap B) \end{aligned}$$

.5

$$\begin{aligned} &\rho_{R(n1,uid,p1,n2,uid2,p2)} (memberInknesset \times memberInknesset) \\ A &= \pi_{uid,name} (\sigma_{\text{birthPlace}='Jerusalem'} (members)) \\ B &= \pi_{uid,name} (\sigma_{n1 \neq n2 \wedge uid=uid2} (R) \bowtie members) \\ result &= \pi_{name} (A - B) \end{aligned}$$

.6

$$\begin{aligned} A &= \pi_{name,number} (members \bowtie \sigma_{\text{party}='Mapai'} (memberInKnesset)) \\ B &= \pi_{number} (\sigma_{\text{name}='David Ben-Gurion'} (members) \bowtie \sigma_{\text{party}='Mapai'} (memberInKnesset)) \\ result &= A \div B \end{aligned}$$

.7

$$\begin{aligned} R &= \pi_{number,uid,name,birthYear} (members \bowtie memberInknesset) \\ T &= \rho_{T1(number,uid,name,birthYear)} R \bowtie \rho_{T2(number,uid2,name2,birthYear2)} R \\ A &= \pi_{number,uid,name,birthYear} (\sigma_{\text{birthYear}>\text{birthYear2}} (T)) \\ result &= \pi_{number,name} (R - A) \end{aligned}$$