DB תרגיל 2: אלגברה רלציונית ו- SQL

מגישים: אביאל שרון ועדי קלאורה

סימונים:

$A := authors$

$C := conferences$

$I := institutions$

$huji :=$ Hebrew University of Jerusalem

.1

$$\rho_{RES(name)}\left(\Pi_{name}\left(\sigma_{institution=huji}(A)\right)\right)$$

.2

$$\rho_{RES(name,institution)}\left(\Pi_{name,institution}\left(\sigma_{country=israel}(A \bowtie I)\right)\right)$$

.3

סימון:

$$Cond := (area=ai \vee subarea=db) \wedge country=israel \wedge adjusted\ count \geq 2$$

$$\rho_{RES(name,institution)}\left(\Pi_{name,institution}\left(\sigma_{cond}(A \bowtie C \bowtie I)\right)\right)$$

.4

סימון:

C_v: $institution=huji \wedge subarea=vision$

C_{ml}: $institution=huji \wedge subarea=ml$

3

$$\rho_{V(name)}\left(\Pi_{name}\left(\sigma_{C_V}(A \bowtie C)\right)\right)$$ .10

$$\rho_{M2(name)}\left(\Pi_{name}\left(\sigma_{C_{M2}}(A \bowtie C)\right)\right)$$

$$\rho_{RES(name)}\left(V \cap M2\right)$$

$$\rho_{V(year,name)}\left(\Pi_{year,name}\left(\sigma_{C_V}(A \bowtie C)\right)\right)$$.?

$$\rho_{M2(year,name)}\left(\Pi_{year,name}\left(\sigma_{C_{M2}}(A \bowtie C)\right)\right)$$

[redacted]

$$\rho_{RES(y,n)}\left(V \cap M2\right)$$

C_{NV} := area ≠ systems ∨ year ≥ 1990 : הסבר .5

$$\rho_{ALL(name)}\left(\Pi_{name}(A)\right)$$

$$\rho_{NV(name)}\left(\Pi_{name}\left(\sigma_{C_{NV}}(A \bowtie C)\right)\right)$$

$$\rho_{RES(name)}\left(ALL - NV\right)$$

C_{N1} := name = Noam Nisan ∧ area = AI : הסבר .6

3) $\rho_{Denominator(conference)}\left(\Pi_{conference}\left(\sigma_{con}\left(A \bowtie C\right)\right)\right)$

$\rho_{Numerator(name,conference)}\left(\Pi_{name,conference}\left(A\right)\right)$

$\rho_{RES(name)}\left(Numerator \div Denominator\right)$

$cond_i := institution = huji \wedge$ (.7)

$conference = focs \wedge$

$year \geq 2000 \wedge$

$year \leq 2020$.

(ρPossible) $\rho_{Possible(name,count,year)}\left(\Pi_{name,count,year}\left(\sigma_{cond}\left(A\right)\right)\right)$

$\rho_{NW(year,name)}\left(\Pi_{year,name}\left(\sigma_{(n_1 \neq n_2) \wedge (c_1 < c_2) \wedge (y_1 = y_2)}\left(\rho_{R(n_1,c_1,y_1,n_2,c_2,y_2)}\left(P \times P\right)\right)\right)\right)$

$\rho_{REJ(y,n)}\left(\left(\Pi_{year,name}\left(P\right)\right) - NW\right)$