

(1)

Item | $\{ \text{item} = \text{"meat"} \vee \text{item} = \text{"wheat"} \wedge \text{calories} > 20 \}$

(a)

FoodItem))

Temp ← stock \bowtie foodItem

(b)

Price, item | $\{ \text{item} = \text{"wheat"} \wedge \text{shop} = \text{"rezace"} \}$ Temp)

~~recipe.name ($\{ \text{Ingredient} = \text{foodItem} \}$)~~

(c)

~~recipe.name ($\{ \text{foodItem} = \text{Item} = \text{"meat"} \}$)~~

Meat ← $\{ \text{type} = \text{"meat"} \}$ foodItem)

recipe.name (Ingredient \bowtie Meat)

ARSH

$\pi_{\text{recipe.name}} (\text{recipe} \div (\sigma_{\text{type} = \text{"fruit"} \vee \text{type} = \text{"vegetable"}} (\text{Ingredient})))$

$\text{type } G_{\text{price avg}(\text{price})} (\text{FoodItem})$

$\text{name } G_{\text{sum}(\text{calories} \times \text{ounce})} ((\text{Recipes} \bowtie \text{Ingredient}) \bowtie \text{FoodItem})$

$\pi_{\text{name, city}} (\sigma_{\text{coach.name} \neq \text{null}} (\text{team} \bowtie \text{coach}))$

$$\text{JetsID} = \text{PI} \quad (6 \text{ teamID name = "Jets"} \quad (2)$$

$$\text{PI} \quad \text{homeTeam} \quad (6 \text{ awayTeam} = \text{JetsID} \wedge \text{year} \wedge 1984 \wedge \text{home score} \wedge \text{away score} \\ (\text{Game} \times \text{JetsID}) \vee$$

$$\text{PI} \quad \text{awayTeam} \quad (6 \text{ homeTeam} = \text{JetsID} \wedge \text{year} \wedge 1984 \wedge \text{away score} \wedge \text{home score} \\ (\text{Game} \times \text{JetsID})$$

$$G_{\text{count}} (6 \text{ away score} \wedge \text{home score}) - \quad (2)$$

$$G_{\text{count}} (6 \text{ away score} \wedge \text{home score})$$

ARSH

$$\text{Bills ID} = \pi_{\text{team ID}} (\sigma_{\text{name} = \text{"Bills"} \text{ Team}}) \quad (>$$

was

$$\pi_{\text{year}} \left(\sigma_{\text{count}} \left(\begin{aligned} &(\text{team ID} = \text{away Team} \wedge \text{away Score} > \text{home Score}) \wedge \\ &(\text{team ID} = \text{home Team} \wedge \text{home Score} > \text{away Score}) \end{aligned} \right) \right)$$

or

$$\pi_{\text{year}} \left(\text{Temp} \bowtie \left(\pi_{\text{count}} (\text{temp}) - \pi_{\text{temp2. count}} \left(\sigma_{\text{temp2. count} < \text{temp. count}} \right) \right) \right)$$

ARSA

(3)

(الف)

ا) نام تمام تولیدکننده (supplier) های نام محصولات

سپارش داده شده، اقلید می کند.

ب) نام Products های نام amount تولید حواله یابند

ج) $\min_{\text{amount}} \Pi_{\text{amount}}(p) - \Pi_{\text{pl. amount}}(p) \mid p_{\text{pl. amount}} \geq p_{\text{amount}}$

$$p_{p_1} (\Pi_{\text{amount}}(p_1) \times \Pi_{\text{amount}}(p_1))$$

$\Pi_{\text{name}, \text{price}}(\text{products} \times \text{min})$

AR54

TA \leftarrow $\sigma_{TA_0 \cdot TA_name = Student \cdot student_name}$ (TAs \times student) (4)

~~$\Pi_{student_name}(\sigma_{TA_0 \cdot TA_name = Student \cdot student_name})$~~ (W)
 ~~$\wedge student_concentration = TAs \cdot student$~~

student \leftarrow $\sigma_{TA_0 \cdot student_name = Student \cdot student_name}$ (TAs \times student)

$\Pi_{student_name}(\sigma_{TA_0 \cdot concentration = Student \cdot concentration})$ (TAs \times student)

$\Pi_{student_name(student)} - \Pi_{student_name(\sigma_{college_name = 'Brown' (entered)})}$ (4)

$r \bowtie \leftarrow (r \bowtie s) \cup \{(null, \dots, null)\}$ (5)

$r \bowtie \leftarrow (r \bowtie s) \cup (r \bowtie \pi_R(r \bowtie s)) \cup \{(null, \dots, null)\}$

$r \bowtie \leftarrow r \bowtie s \cup r \bowtie s$