Batu Arda Düzgün
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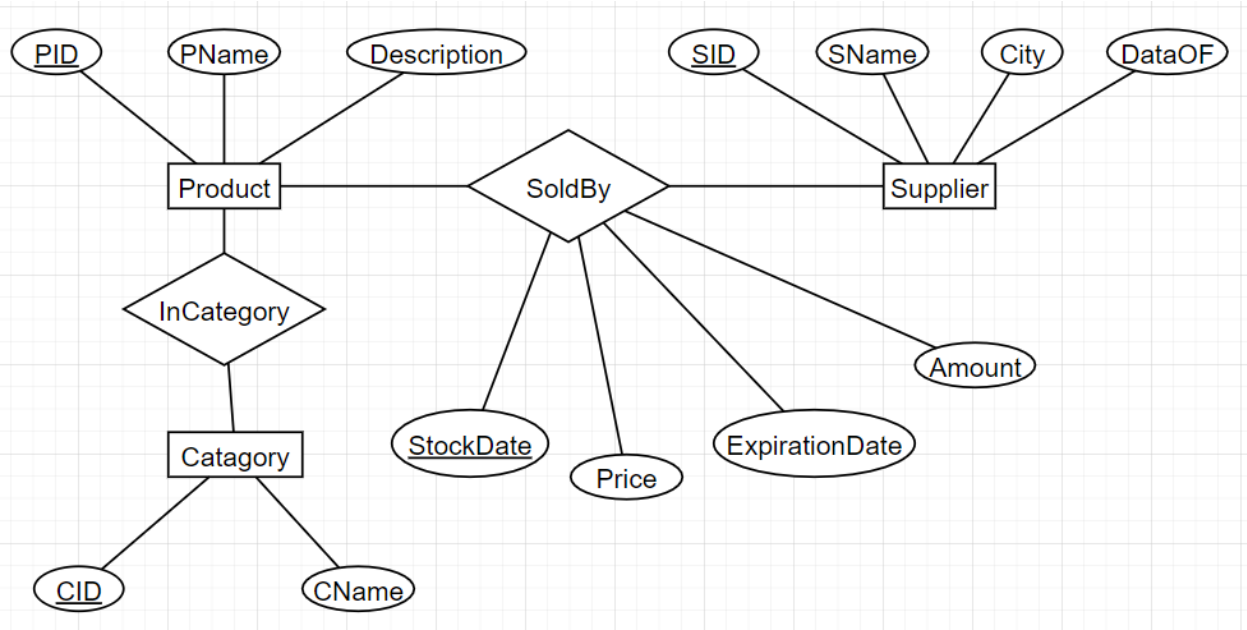
CS 281

Homework 1

1.)



2.)

$$\pi_{PName}((\sigma_{CName=\text{"Dairy"} \vee CName=\text{"}Vegetable\text{"}} \text{Category}) \bowtie \text{InCategory} \bowtie \text{Product})$$

3.)

$$\pi_{PName,Price,ExpirationDate,}((\sigma_{SID=\text{"836"}} SoldBy) \bowtie Product)$$

4.)

$$\rho(BarillaPID, \pi_{PID}((\sigma_{SName=\text{"}Barilla\text{"}} Supplier) \bowtie SoldBy)$$

$$\rho(FilizPID, \pi_{PID}((\sigma_{SName=\text{"}Filiz\text{"}} Supplier) \bowtie SoldBy)$$

$$\pi_{PName}((FilizPID \cap BarillaPID) \bowtie Product)$$

5.)

$$\pi_{PName,StockDate,Amount}((\sigma_{Price<50} SoldBy) \bowtie Product)$$

6.)

$$\pi_{PName,Amount}((\sigma_{ExpirationDate=GETDATE()} SoldBy) \bowtie Product)$$

(GETDATA() is the SQL function to get the current date)

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7.)

$$\rho(S1, Supplier)$$

$$\rho(S2, S1)$$

$$\rho(notOldest, \pi_{S1.SID,\ S1.SName,\ S1.City,\ S1.DataOF}(\sigma_{S1.DataOF < S2.DataOF}(S1 \times S2)))$$

$$\pi_{SName,\ City}(S1 - notOldest)$$

8.)

$$\rho(SupplierandCName, (\pi_{CID,\ PID}InCategory) \bowtie (\pi_{PID,\ SID}SoldBy)$$

$$\pi_{SName}(((\pi_{SID,\ CID}SupplierandCName)/(\pi_{CID}Category)) \bowtie Suplier)$$

9.)

$$\rho(temp, \sigma_{City=\text{Ankara" ∨ City="İ}stanbul\text{"}} Supplier)$$

$$\pi_{PName,\ StockDate,\ Price,\ amount}(temp \bowtie SoldBy \bowtie Product)$$

10.)

$$\rho(TA1, ((\sigma_{CName="Toy"}Category) \bowtie (\pi_{CID,\ PID}InCategory) \bowtie (\pi_{PID,\ PName}Product) \bowtie (\pi_{PID,\ SID,\ Price}SoldBy) \bowtie (\sigma_{SName="Adore"}Suplier))$$

$$\rho(TA2, TA1))$$

$$(notMostExpensive, \pi_{TA1.PID,\ TA1.PName,\ TA1.Price}(\sigma_{TA1.price<TA2.price}(TA1 \times TA2)))$$

$$\pi_{PName,\ Price}(\pi_{PID,\ PName,\ Price}TA1 - notMostExpensive)$$