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Workshop 2 7BF

Apaita App asked you to deliver a document with the queries and the result tables as follows

1. Based on the table "Apartment" shows as follows:

Apartment ID	Number	Block	Owner	Area	Rooms
1	101	1	Chad Smith	45	2
2	102	3	Neal Peart	60	3
3	103	1	Alex Van Halen	75	3
4	304	2	Eddie Van Halen	30	1
5	305	3	David Lee Roth	50	2
6	306	1	Sammy Hagar	70	3
7	207	2	Michael Anthony	40	2
8	308	3	Gary Cherone	55	2
9	409	1	Wolfgang Van Halen	65	3
10	310	2	Valerie Bertinelli	80	3

a) Show the number of the apartments with more than 50 Area

→ $\sigma_{Area > 50}(Apartment)$

Number
102
103
306
308
409
310

b) Show the number and Owner of the apartment with more than 2 rooms and less than 4 Rooms

→ $\sigma_{Rooms > 2 \wedge Rooms < 4}(Apartment)[Number, Owner]$

Number	Owner
102	Neil Pearl
103	Alex Van Halen
306	Sammy Hagar
409	Wolfgang Van Halen
310	Valerie Bertinelli

c) Show the number, owner, and area of the apartments with more than 40 area and less than 70

→ $\sigma_{Area > 40 \wedge Area < 70}(Apartment)[Number, Owner, Area]$

Number	Owner	Area
107	Chad Smith	45
102	Neil Pearl	60
305	David Lee Roth	50
308	Gary Cherone	55
409	Wolfgang Van Halen	65

d) Show all rows of the table Apartment where the Owner contains the word "Van Halen"

→ $\sigma_{Owner\ like\ 'Van\ Halen'}(Apartment)$

ApartmentID	Number	Block	Owner	Area	Rooms
3	103	1	Alex Van Halen	75	3
4	304	2	Eddie Van Halen	80	1
9	409	1	Wolfgang Van Halen	65	3

e) Using the public service table, show the number of the apartments with more than 60 Area with all the PublicServices available.

ServiceID	Name
1	"weather"
2	"Electricity"
3	"Gas"

→ $\sigma_{Area > 60}(Apartment) \times PublicService$

Number	Public Service
103	Weather, Electricity, Gas
306	Weather, Electricity, Gas
409	Weather, Electricity, Gas
310	Weather, Electricity, Gas

2. Based on table Owner

a) Show the name of the owners withe more than 50 age

→ $\Pi_{name}(\sigma_{age > 50}(Owner))$

Name
Chad Smith
Alex Van Halen
Eddie Van Halen
David Lee Roth
Sammy Hagar
Michael Anthony
Valerie Bertinelli

b) Show the name and Age of the owners with more than 1 children and less than 3

→ $\Pi_{Name, Age}(\sigma_{1 < Children < 3}(Owner))$

Name	Age
Chad Smith	50
Eddie Van Halen	58
Valerie Bertinelli	65

c) Show Name, Age and Children of the owner with more than 40 and less than 60 years

→ $\Pi_{Name, Age, Children}(\sigma_{40 < Age < 60}(Owner))$

Name	Age	Children
Chad Smith	50	2
Neil Peart	45	1
Alex Van Halen	60	3
Eddie Van Halen	58	2
David Lee Roth	55	1

d) Show all rows of the table owner where there is a ar or ar substring in the name and called Owners

→ $\sigma_{Name\ Like\ \%ar\%}(Owner)$

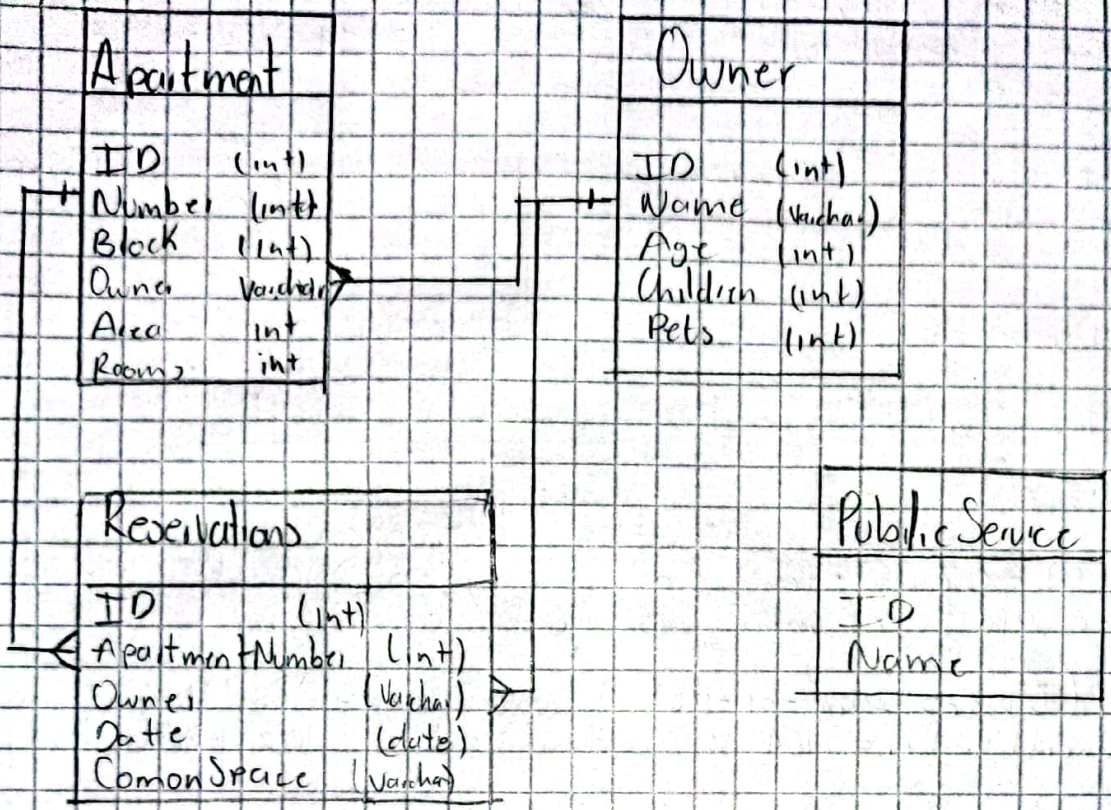
OwnerID	Name	Age	Children	Pets
6	Sammy Hagar	65	2	1
8	Gary Cherone	40	1	6

e) Show the name with more than 1 pet and less than 2 children

→ $\Pi_{Name}(\sigma_{Pets > 1 \wedge Children < 2}(Owner))$

Name
Michael Anthony

4. ER Diagram


Apartment
ID (int)
Number (int)
Block (int)
Owner Varchar
Area int
Rooms int
Owner
ID (int)
Name (Varchar)
Age (int)
Children (int)
Pets (int)
Reservations
ID (int)
ApartmentNumber (int)
Owner (Varchar)
Date (date)
ComonSpace (Varchar)
Public Service
ID
Name