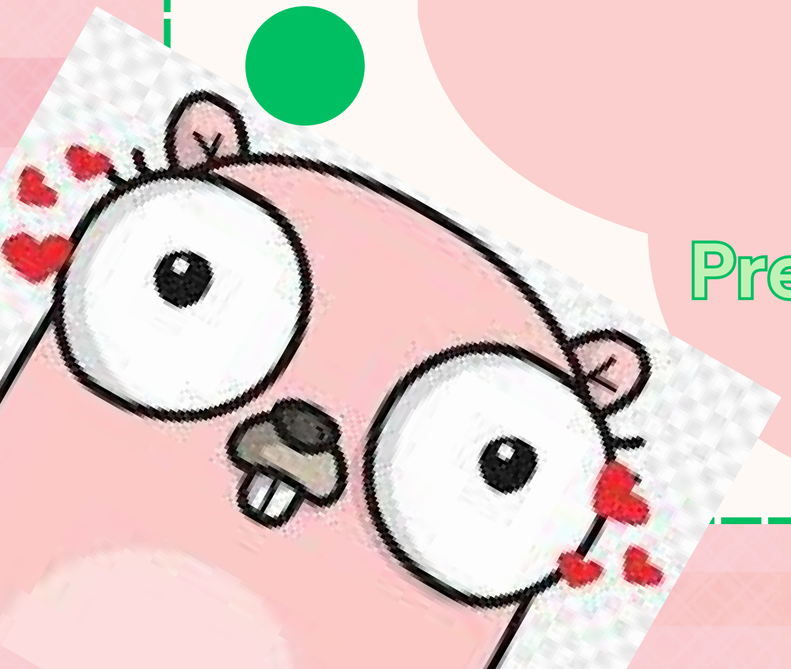
SQL JOINS

Presented By Alana Burgess and miss go gopher



OVERVIEW

- Join Overview
- Natural Join
- Outer Join
- Inner Join
- Secret Surprise

WHAT IS A JOIN?

1. Combine rows from two tables (or more!) using matching columns

2. Take this presentation as your join guide ;0

Beth Morrison

Today 8:33 PM

What did you say a definition of a join is

Delivered

Getting data from two related tables

Using a key (related data between the two)

Beth has notifications silenced

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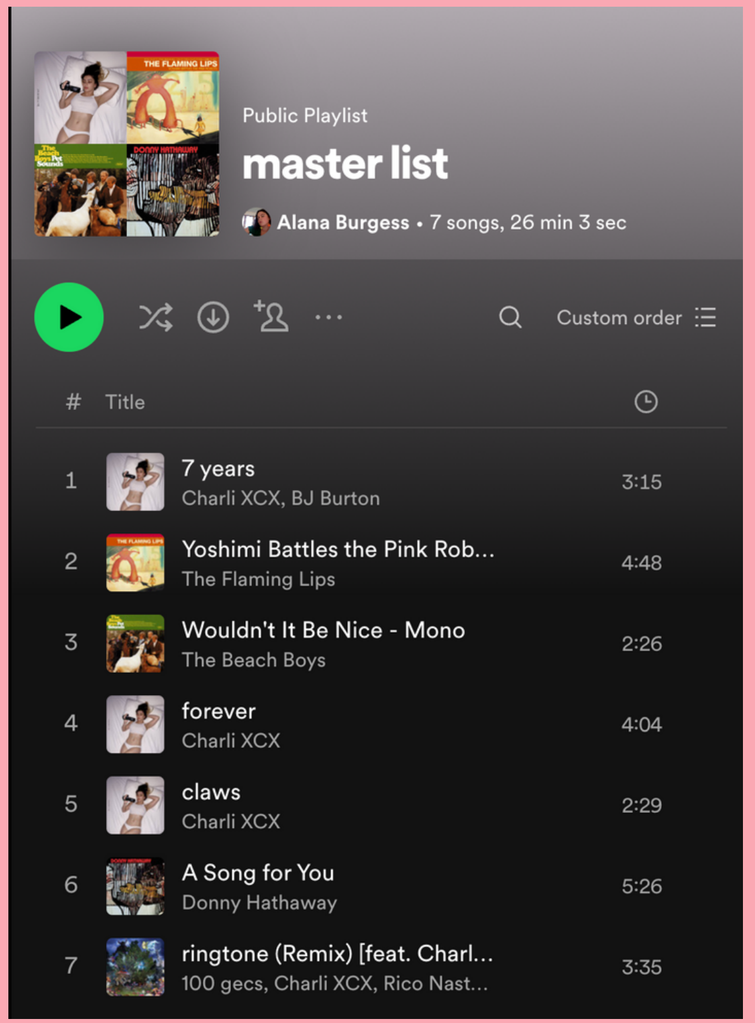

THE FLAMING LIPS
DONNY HATHAWAY
Public Playlist
master list
Alana Burgess • 7 songs, 26 min 3 sec
Custom order
Title
1 7 years Charli XCX, BJ Burton 3:15
2 Yoshimi Battles the Pink Rob... The Flaming Lips 4:48
3 Wouldn't It Be Nice - Mono The Beach Boys 2:26
4 forever Charli XCX 4:04
5 claws Charli XCX 2:29
6 A Song for You Donny Hathaway 5:26
7 ringtone (Remix) [feat. Charl... 100 gecs, Charli XCX, Rico Nast... 3:35

Public Playlist

BACHELORETTEEEEE

Alana Burgess • 21 songs, 1 hr 14 min

Custom order

#	Title	
1	7 years Charli XCX, BJ Burton	3:15
2	Yoshimi Battles the Pink Rob... The Flaming Lips	4:48
3	Love Like You (feat. Rebecc... Steven Universe, Rebecca Sugar	2:24
4	Escape (The Pina Colada So... Rupert Holmes	4:36
5	New Balance E Jhené Aiko	4:39
6	Let's Groove Earth, Wind & Fire	5:39
7	Chiquitita ABBA	5:27
8	You're My Best Friend Queen	2:51

Public Playlist

post-bells

Alana Burgess • 77 songs, 4 hr 32 min

Custom order

#	Title	
1	7 years Charli XCX, BJ Burton	3:15
2	forever Charli XCX	4:04
3	claws Charli XCX	2:29
4	Next Level Charli Charli XCX	2:38
5	Yoshimi Battles the Pink Rob... The Flaming Lips	4:48
6	So Hot You're Hurting My F... Caroline Polachek	3:04
7	God Only Knows - Mono The Beach Boys	2:53
8	This Will Be (An Everlasting ... Natalie Cole	2:52
9	Can't Get You out of My Head Kylie Minogue	3:51

Public Playlist

🔔🕊️○ wedding

Alana Burgess • 50 songs, 3 hr 7 min

Custom order

#	Title	
1	7 years Charli XCX, BJ Burton	3:15
2	Yoshimi Battles the Pink Rob... The Flaming Lips	4:48
3	A Song for You Donny Hathaway	5:26
4	Everytime - Spotify Singles Ethel Cain	3:55
5	Dreaming Of You Selena	5:15
6	I'll Never Love This Way Again Dionne Warwick	3:32
7	Slip Away Perfume Genius	2:45
8	melt Kehlani	3:31
9	You Are The Sunshine Of M... Stevie Wonder	2:58

Public Playlist

master list

Alana Burgess • 7 songs, 26 min 3 sec

Custom order

#	Title	
1	7 years Charli XCX, BJ Burton	3:15
2	Yoshimi Battles the Pink Rob... The Flaming Lips	4:48

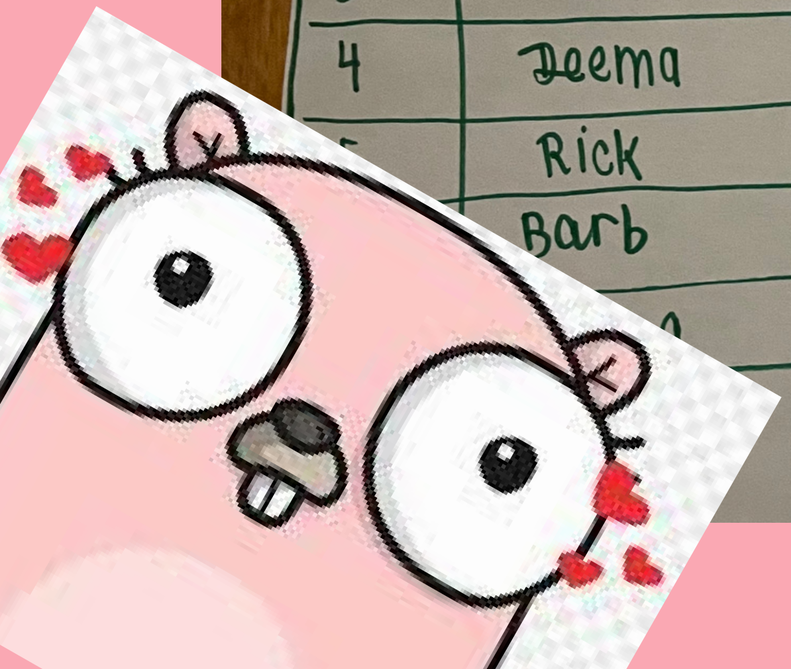
VET TABLES FOR ALANAS PET SITTING

OWNERS

ID	First_Name	LAST_Name	Address
1	Nancy	corner	Media
2	John	Donovan	Natick
3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
	Rick	Morrison	Lancaster
	Barb	Barton	Seattle
		Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
1	Ginger	Dog-mut	6
2	Sam	Dog	8
3	Luna	Dog	9
3	Taz	Dog	10
4	Pippi	Dog	5
5	Delta	Dog	6
6	Kitty	Cat	8
8	Freeman	Dog	0



VET TABLES FOR ALANAS PET SITTING

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3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
5	Rick	Morrison	Lancaster
6	Barb	Barton	Seattle
7	Alana	Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
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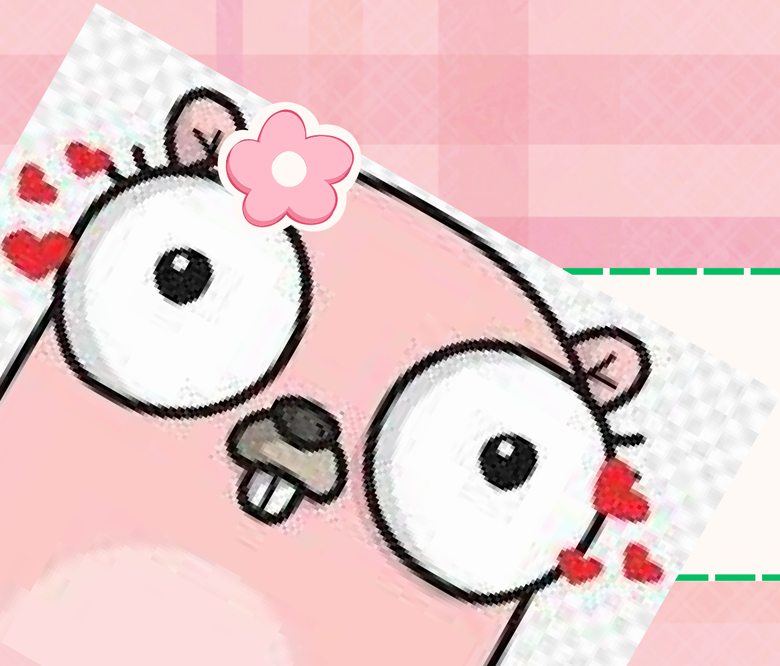
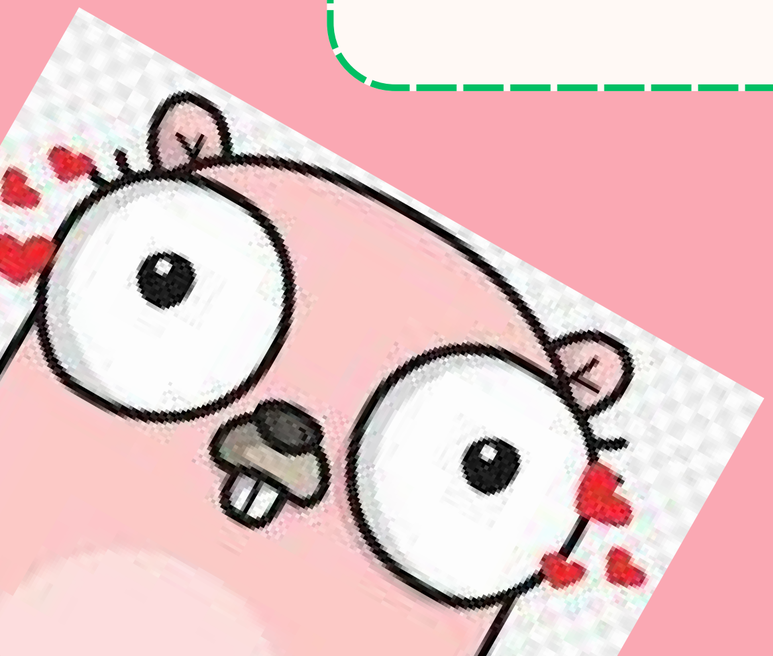


NATURAL JOIN

NATURAL JOIN

DEFINTION: JOINS TABLES BASED ON COMMON COLUMNS

```
SELECT *
FROM table 1
NATURAL JOIN table 2
```



VET TABLES FOR ALANAS PET SITTING

OWNERS

ID	First_Name	LAST_Name	Address
1	Nancy	corner	Media
2	John	Donovan	Natick
3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
5	Rick	Morrison	Lancaster
6	Barb	Barton	Seattle
7	Alana	Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
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2	Sam	Dog	8
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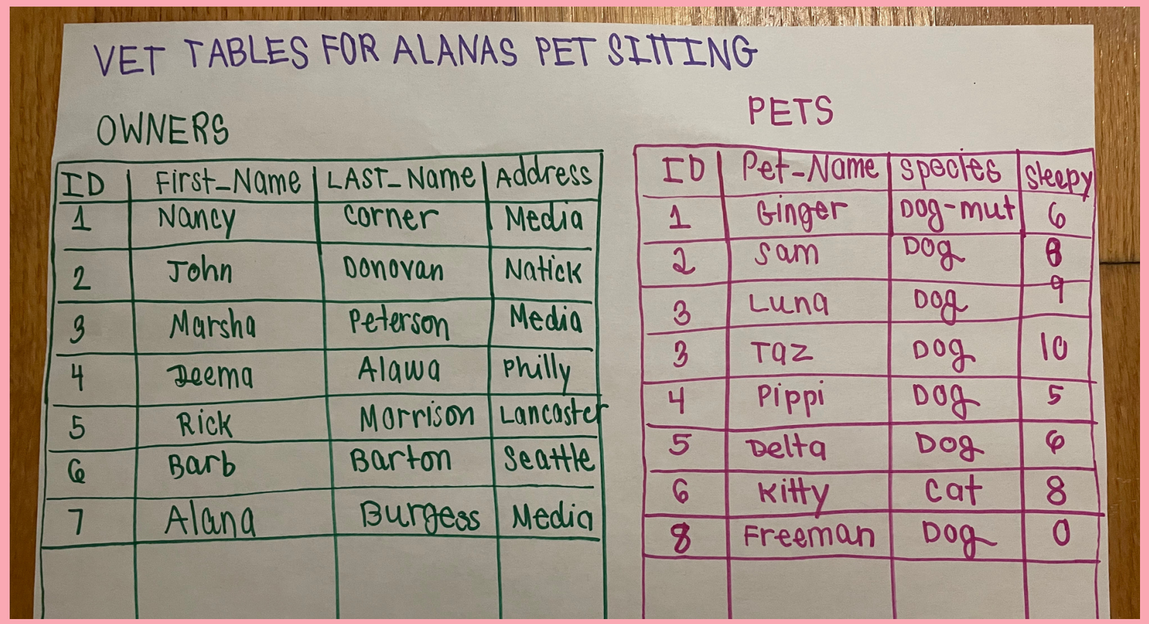
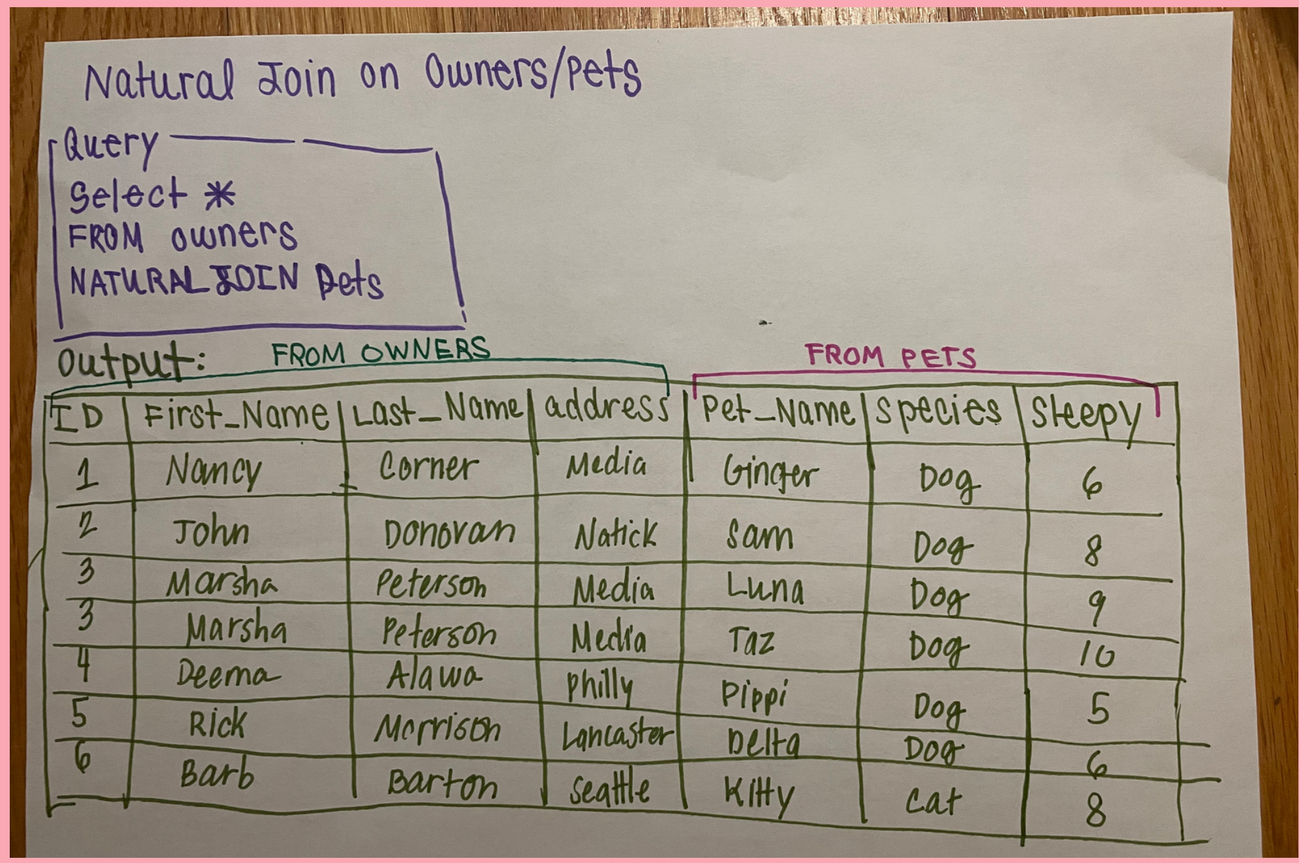
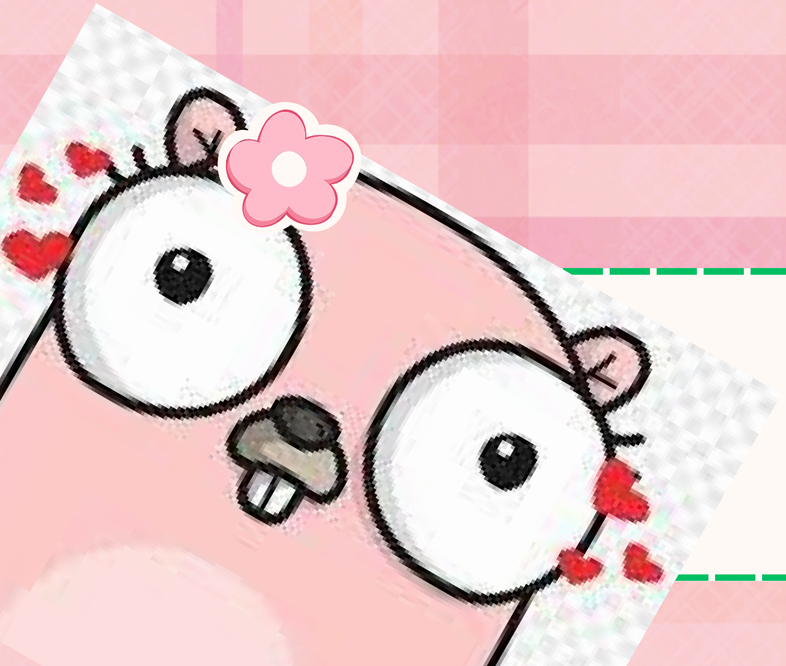
3	Taz	Dog	10
4	Pippi	Dog	5
5	Delta	Dog	6
6	Kitty	Cat	8
8	Freeman	Dog	0


VET TABLES FOR ALANAS PET SITTING
OWNERS
ID | First_Name | LAST_Name | Address
1 | Nancy | Corner | Media
2 | John | Donovan | Natick
3 | Marsha | Peterson | Media
4 | Deema | Alawa | Philly
5 | Rick | Morrison | Lancaster
6 | Barb | Barton | Seattle
7 | Alana | Burgess | Media
PETS
ID | Pet_Name | species | Sleepy
1 | Ginger | dog-mut | 6
2 | Sam | Dog | 8
3 | Luna | Dog | 9
3 | Taz | Dog | 10
4 | Pippi | Dog | 5
5 | Delta | Dog | 6
6 | Kitty | Cat | 8
8 | Freeman | Dog | 0

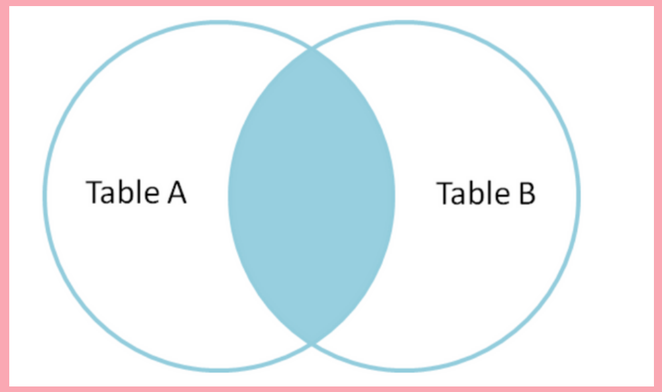

Natural Join on Owners/Pets
Query
Select *
FROM owners
NATURAL JOIN Pets
Output:
FROM OWNERS
FROM PETS
ID | First_Name | Last_Name | address | Pet_Name | Species | Sleepy
1 | Nancy | Corner | Media | Ginger | Dog | 6
2 | John | Donovan | Natick | Sam | Dog | 8
3 | Marsha | Peterson | Media | Luna | Dog | 9
3 | Marsha | Peterson | Media | Taz | Dog | 10
4 | Deema | Alawa | Philly | Pippi | Dog | 5
5 | Rick | Morrison | Lancaster | Delta | Dog | 6
6 | Barb | Barton | Seattle | Kitty | Cat | 8

OLD WHITE GUY BREAK!!!!!



INNER JOIN

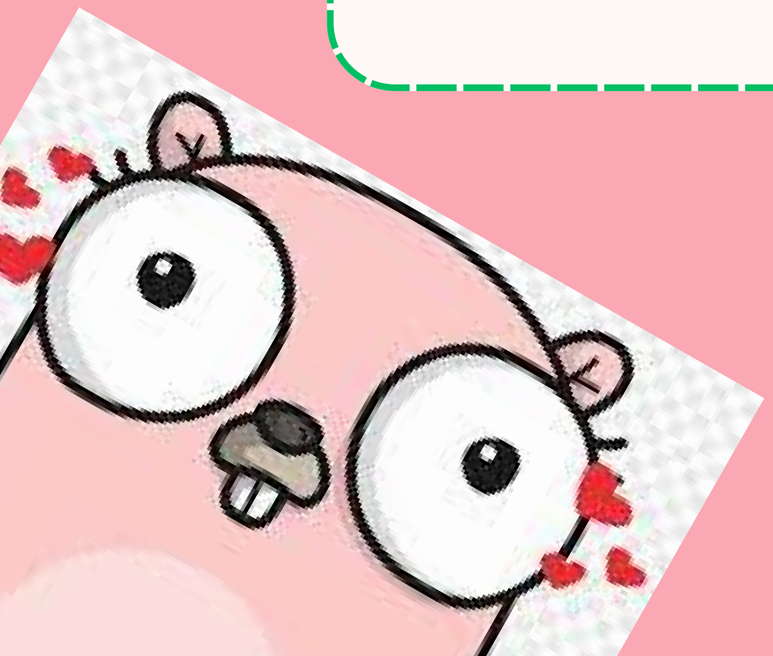
INNER JOIN



DEFINITION: ALL ROWS FROM BOTH TABLE AS LONG AS CONDITION IS MET

```
SELECT table1.column1,table1.column2,table2.column1,....
FROM table1
INNER JOIN table2
ON table1.matching_column = table2.matching_column;
```

table1: First table.
table2: Second table
matching_column: Column common to both the tables.



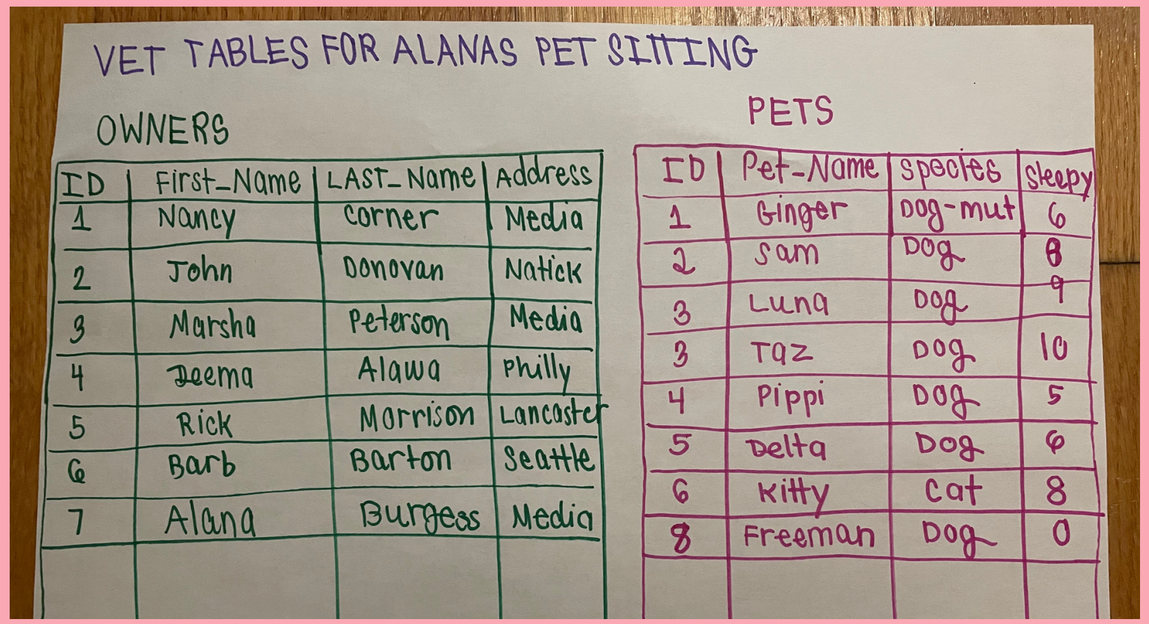
VET TABLES FOR ALANAS PET SITTING

OWNERS

ID	First_Name	LAST_Name	Address
1	Nancy	corner	Media
2	John	Donovan	Natick
3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
5	Rick	Morrison	Lancaster
6	Barb	Barton	Seattle
7	Alana	Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
1	Ginger	Dog-mut	6
2	Sam	Dog	8
3	Luna	Dog	9
3	Taz	Dog	10
4	Pippi	Dog	5
5	Delta	Dog	6
6	Kitty	Cat	8
8	Freeman	Dog	0


VET TABLES FOR ALANAS PET SITTING
OWNERS
ID | First_Name | LAST_Name | Address
1 | Nancy | Corner | Media
2 | John | Donovan | Natick
3 | Marsha | Peterson | Media
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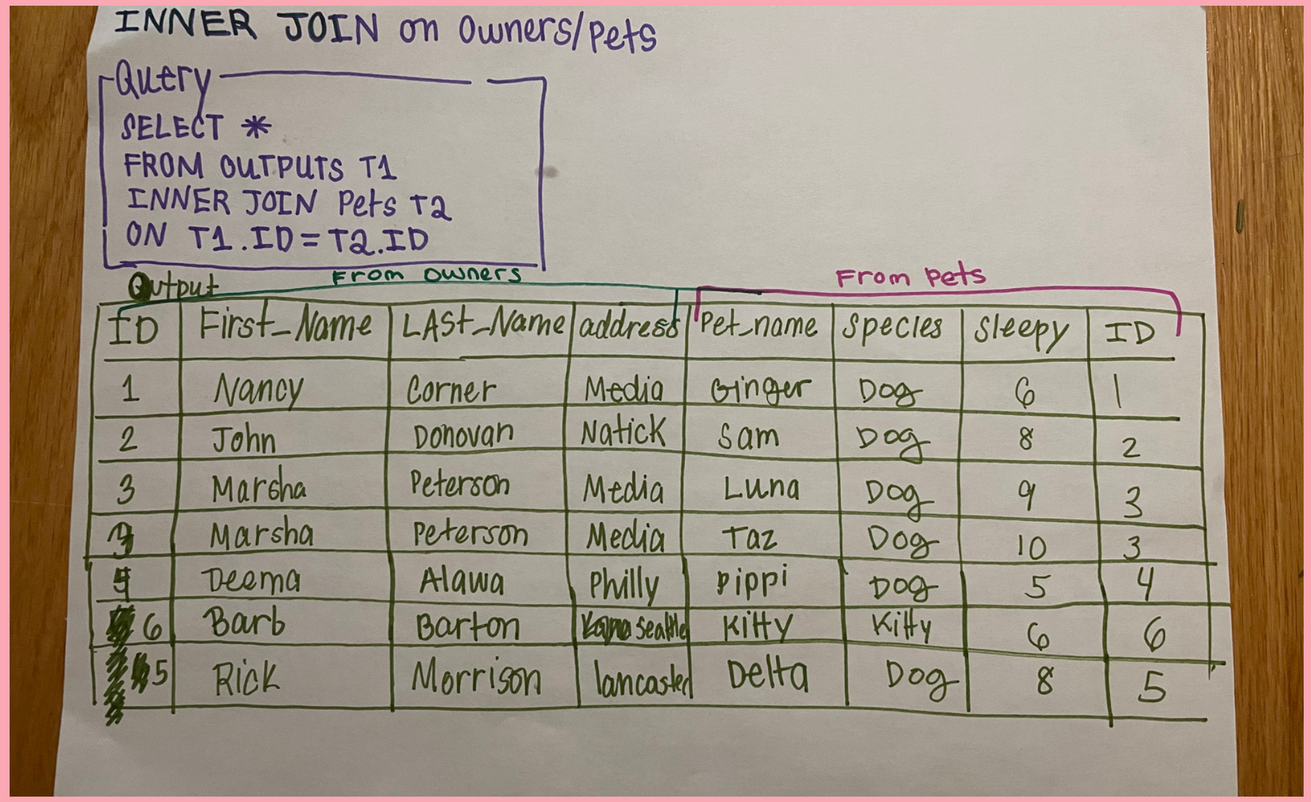
5 | Rick | Morrison | Lancaster
6 | Barb | Barton | Seattle
7 | Alana | Burgess | Media
PETS
ID | Pet_Name | Species | Sleepy
1 | Ginger | Dog-mut | 6
2 | Sam | Dog | 8
3 | Luna | Dog | 9
3 | Taz | Dog | 10
4 | Pippi | Dog | 5
5 | Delta | Dog | 6
6 | Kitty | Cat | 8
8 | Freeman | Dog | 0

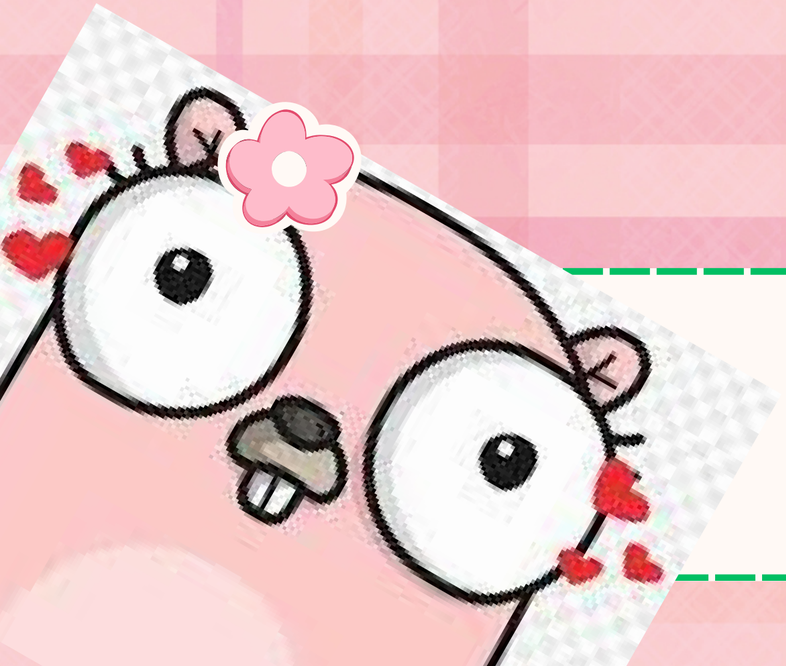

INNER JOIN on Owners/Pets
Query
SELECT *
FROM OUTPUTS T1
INNER JOIN Pets T2
ON T1.ID = T2.ID
Output
From Owners
From Pets
ID | First_Name | LAST_Name | address | Pet_name | Species | Sleepy | ID
1 | Nancy | Corner | Media | Ginger | Dog | 6 | 1
2 | John | Donovan | Natick | Sam | Dog | 8 | 2
3 | Marsha | Peterson | Media | Luna | Dog | 9 | 3
3 | Marsha | Peterson | Media | Taz | Dog | 10 | 3
4 | Deema | Alawa | Philly | Pippi | Dog | 5 | 4
6 | Barb | Barton | Kapa seattle | Kitty | Kitty | 6 | 6
5 | Rick | Morrison | lancaster | Delta | Dog | 8 | 5

steve-dad

Girls just wanna have fun!

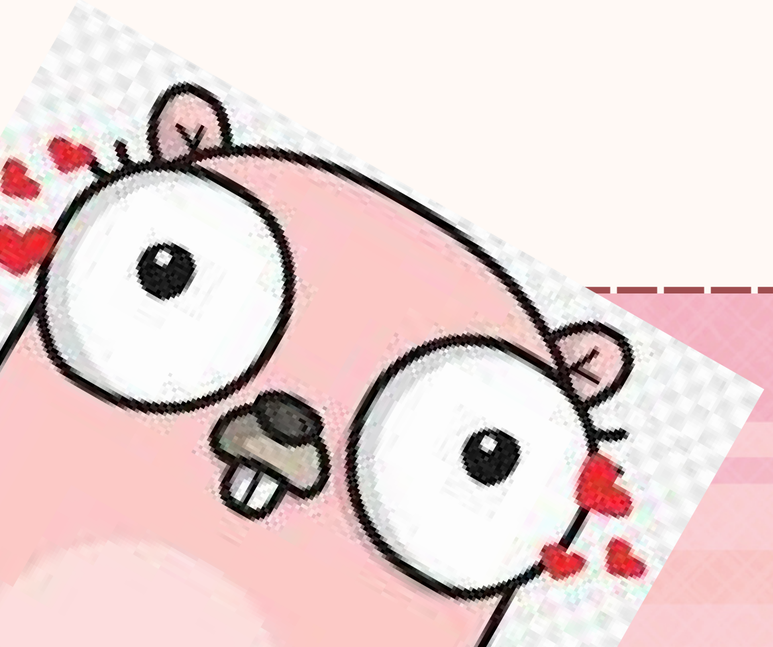
OLD WHITE GUY BREAK!!!!!

steve-dad



OUTER JOIN

TYPES!



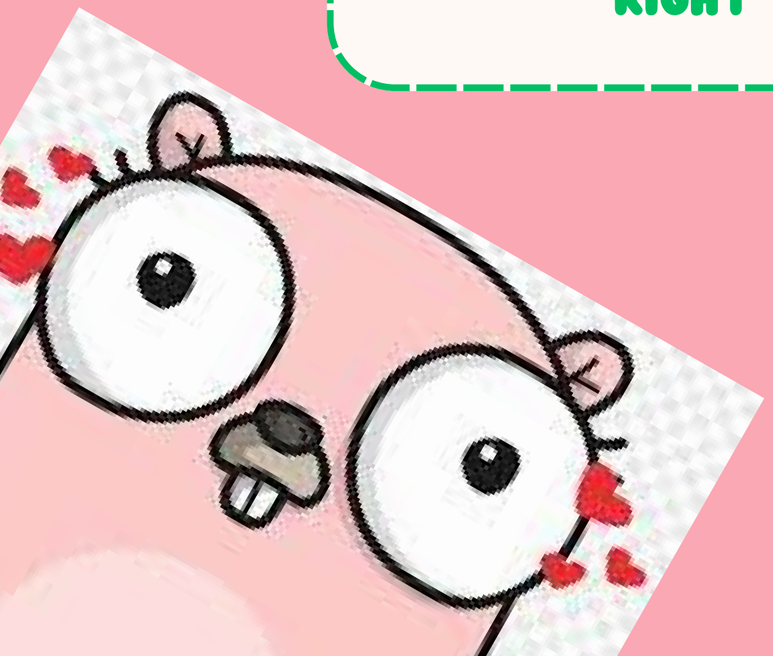
1 ! Left Outer Join

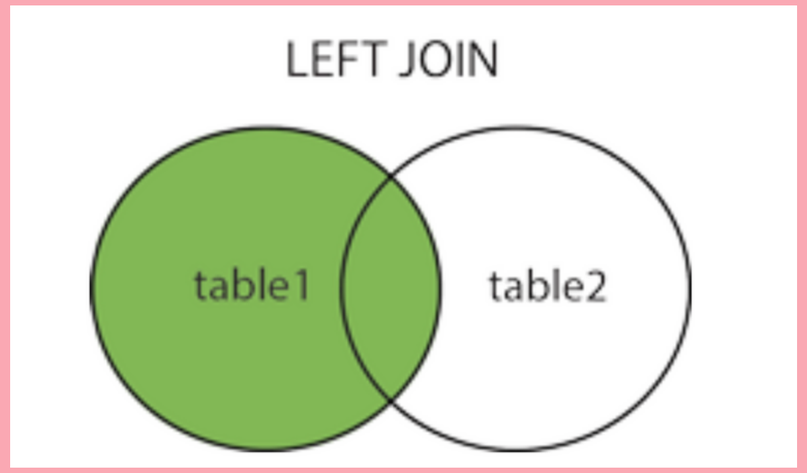
2 ! Right Outer Join

3! Full Outer Join

1! LEFT OUTER JOIN

DEFINITION:
INFORMATION FROM LEFT TABLE AND MATCHING INFORMATION FROM RIGHT TABLE





NULL:
MATCHING BUT INFO NOT FOUND ON RIGHT

```
SELECT column_name(s)
FROM table1
LEFT JOIN Table2
ON Table1.Column_Name=table2.column_name;
```

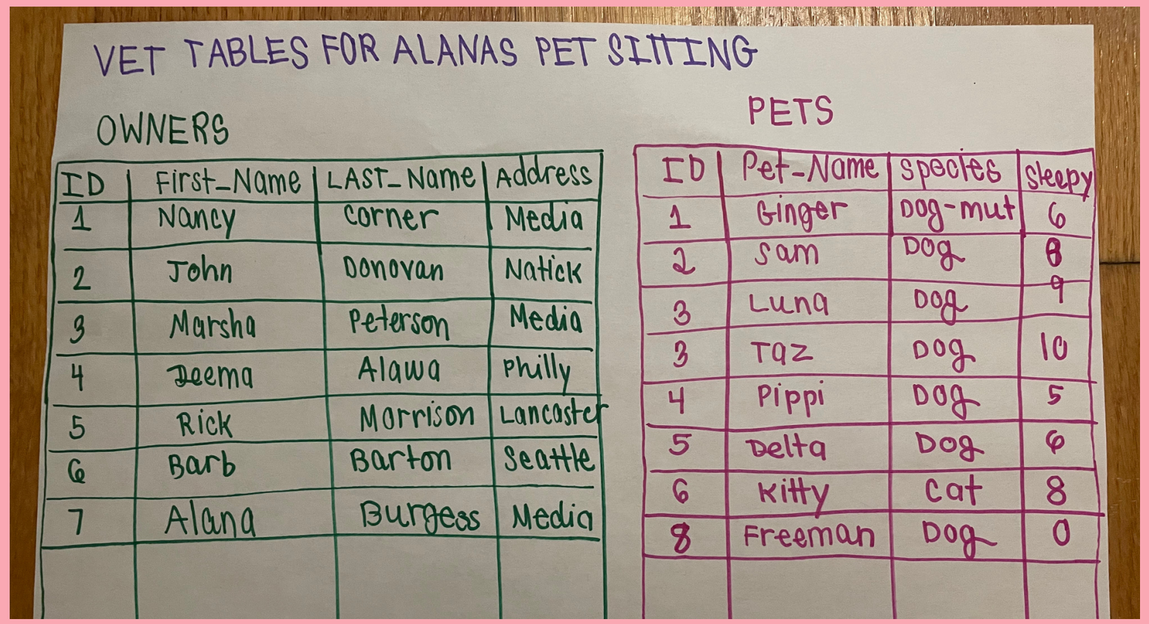
VET TABLES FOR ALANAS PET SITTING

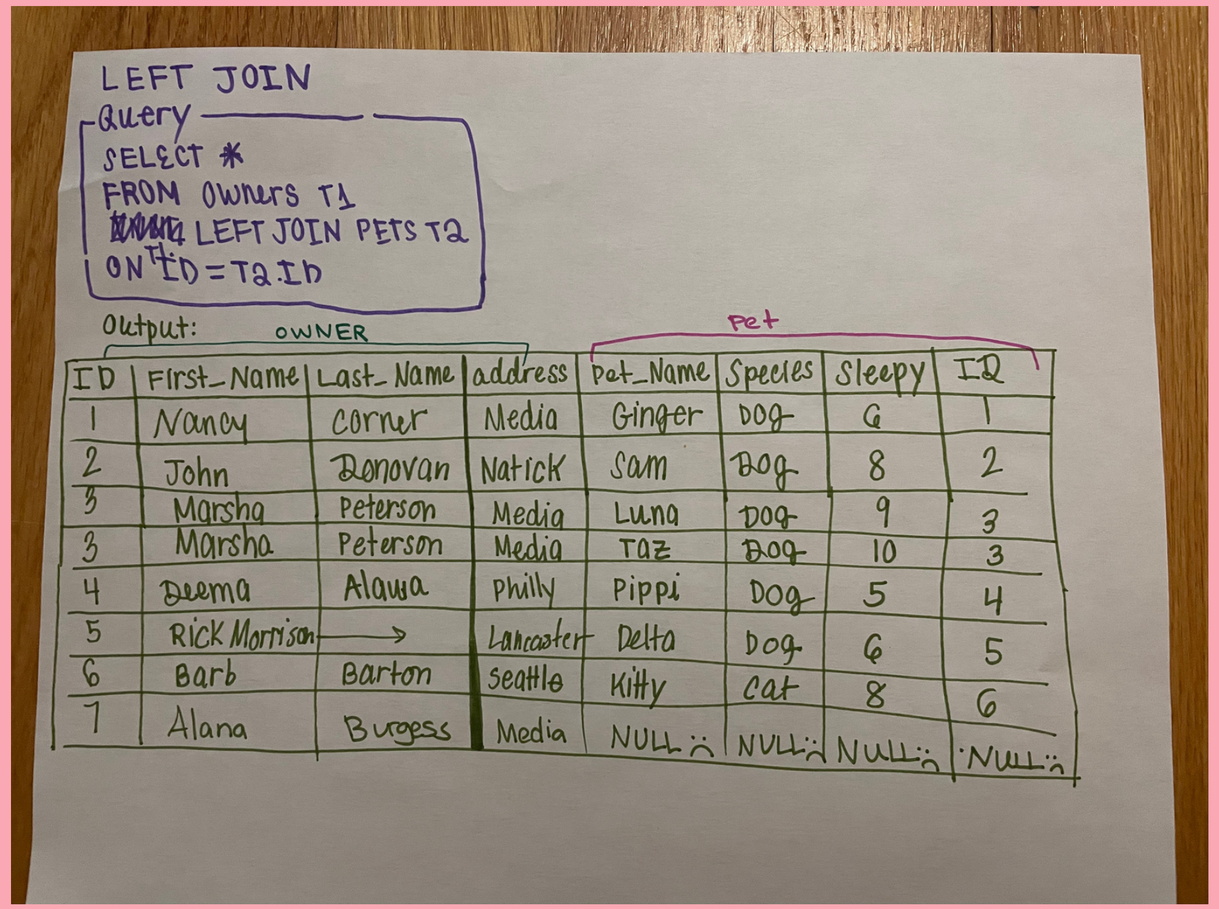
OWNERS

ID	First_Name	LAST_Name	Address
1	Nancy	corner	Media
2	John	Donovan	Natick
3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
5	Rick	Morrison	Lancaster
6	Barb	Barton	Seattle
7	Alana	Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
1	Ginger	Dog-mut	6
2	Sam	Dog	8
3	Luna	Dog	9
3	Taz	Dog	10
4	Pippi	Dog	5
5	Delta	Dog	6
6	Kitty	Cat	8
8	Freeman	Dog	0

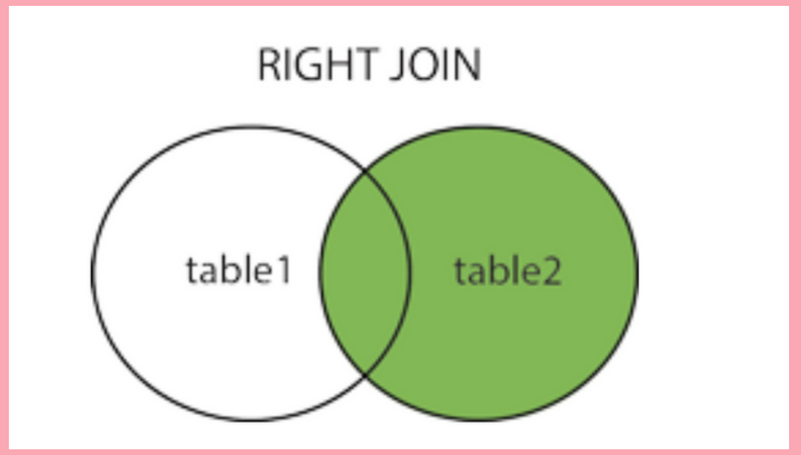

VET TABLES FOR ALANAS PET SITTING
OWNERS
ID | First_Name | LAST_Name | Address
1 | Nancy | Corner | Media
2 | John | Donovan | Natick
3 | Marsha | Peterson | Media
4 | Deema | Alawa | Philly
5 | Rick | Morrison | Lancaster
6 | Barb | Barton | Seattle
7 | Alana | Burgess | Media
PETS
ID | Pet_Name | Species | Sleepy
1 | Ginger | Dog-mut | 6
2 | Sam | Dog | 8
3 | Luna | Dog | 9
3 | Taz | Dog | 10
4 | Pippi | Dog | 5
5 | Delta | Dog | 6
6 | Kitty | Cat | 8
8 | Freeman | Dog | 0


LEFT JOIN
Query
SELECT *
FROM Owners T1
LEFT JOIN PETS T2
ON T1.ID = T2.ID
Output:
OWNER
Pet
ID | First_Name | Last_Name | address | Pet_Name | Species | Sleepy | ID
1 | Nancy | Corner | Media | Ginger | Dog | 6 | 1
2 | John | Donovan | Natick | Sam | Dog | 8 | 2
3 | Marsha | Peterson | Media | Luna | Dog | 9 | 3
3 | Marsha | Peterson | Media | Taz | Dog | 10 | 3
4 | Deema | Alawa | Philly | Pippi | Dog | 5 | 4
5 | Rick Morrison | → | Lancaster | Delta | Dog | 6 | 5
6 | Barb | Barton | Seattle | Kitty | Cat | 8 | 6
7 | Alana | Burgess | Media | NULL | NULL | NULL | NULL

2! RIGHT OUTER JOIN

DEFINITION:
INFORMATION FROM RIGHT TABLE AND MATCHING INFORMATION FROM LEFT TABLE

Beth Morrison



NULL:
MATCHING BUT INFO NOT FOUND ON LEFT

```
SELECT column_name(s)
FROM table1
RIGHT JOIN table2
ON table1.column_name = table2.column_name;
```

VET TABLES FOR ALANAS PET SITTING

OWNERS

ID	First_Name	LAST_Name	Address
1	Nancy	corner	Media
2	John	Donovan	Natick
3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
5	Rick	Morrison	Lancaster
6	Barb	Barton	Seattle
7	Alana	Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
1	Ginger	Dog-mut	6
2	Sam	Dog	8
3	Luna	Dog	9
3	Taz	Dog	10
4	Pippi	Dog	5
5	Delta	Dog	6
6	Kitty	Cat	8
8	Freeman	Dog	0

Right Join

Query

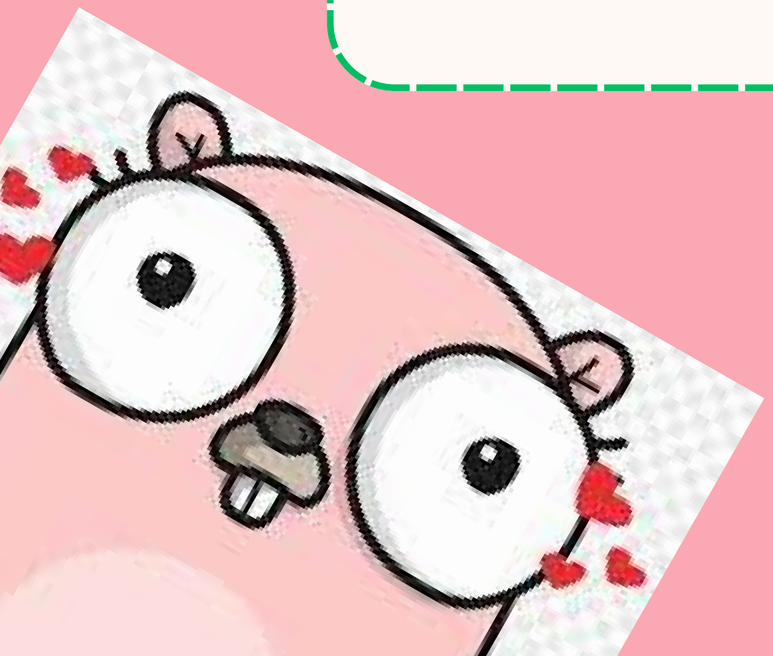
```
SELECT *
FROM owners T1
RIGHT JOIN Pets T2
ON T1.ID = T2.ID
```

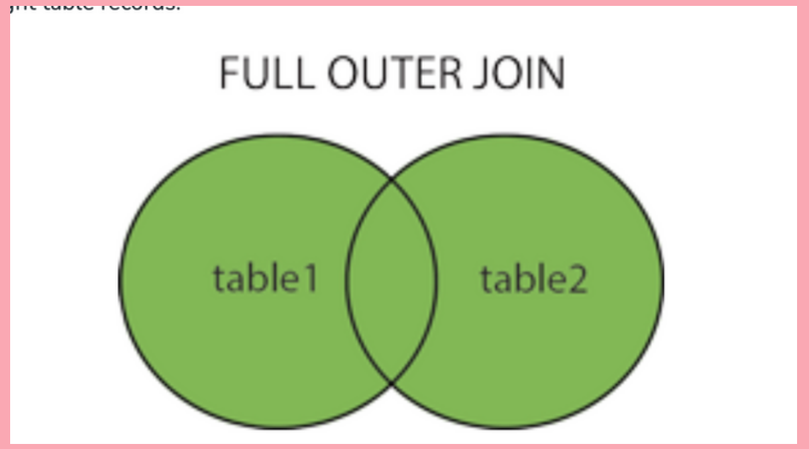
output

owner				pet			
ID	First_Name	Last_Name	address	pet_Name	Species	Sleepy	ID
1	Nancy	corner	Media	Ginger	Dog	6	1
2	John	Donovan	Natick	Sam	Dog	8	2
3	Marsha	Peterson	Luna	Media	Dog	9	3
3	Marsha	Peterson	Taz	Media	Dog	10	3
4	Deema	Alawa	Philly	Pippi	Dog	5	4
5	Rick	Morrison	Lancaster	Delta	Dog	6	5
6	Barb	Barton	Seattle	Kitty	Cat	8	6
Null	NULL	NULL	NULL	Freeman	Dog	0	8

3! FULL OUTER JOIN

DEFINITION:
INFORMATION THAT MATCHES IN LEFT OR RIGHT TABLE





NULL:
MATCHING BUT INFO NOT FOUND (EITHER TABLE)

Syntax:

```
SELECT column_name
FROM table1
FULL OUTER JOIN table2
ON table1.columnName = table2.columnName
WHERE condition;
```

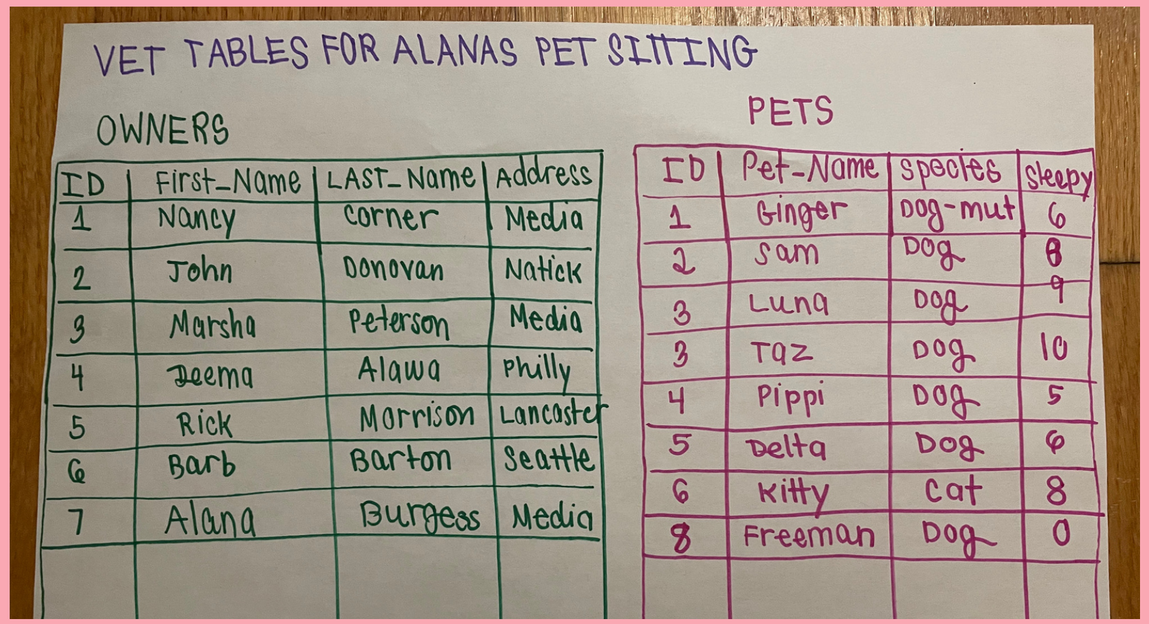
VET TABLES FOR ALANAS PET SITTING

OWNERS

ID	First_Name	LAST_Name	Address
1	Nancy	corner	Media
2	John	Donovan	Natick
3	Marsha	Peterson	Media
4	Deema	Alawa	Philly
5	Rick	Morrison	Lancaster
6	Barb	Barton	Seattle
7	Alana	Burgess	Media

PETS

ID	Pet-Name	species	Sleepy
1	Ginger	Dog-mut	6
2	Sam	Dog	8
3	Luna	Dog	9
3	Taz	Dog	10
4	Pippi	Dog	5
5	Delta	Dog	6
6	Kitty	Cat	8
8	Freeman	Dog	0


VET TABLES FOR ALANAS PET SITTING
OWNERS
ID | First_Name | LAST_Name | Address
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2 | John | Donovan | Natick
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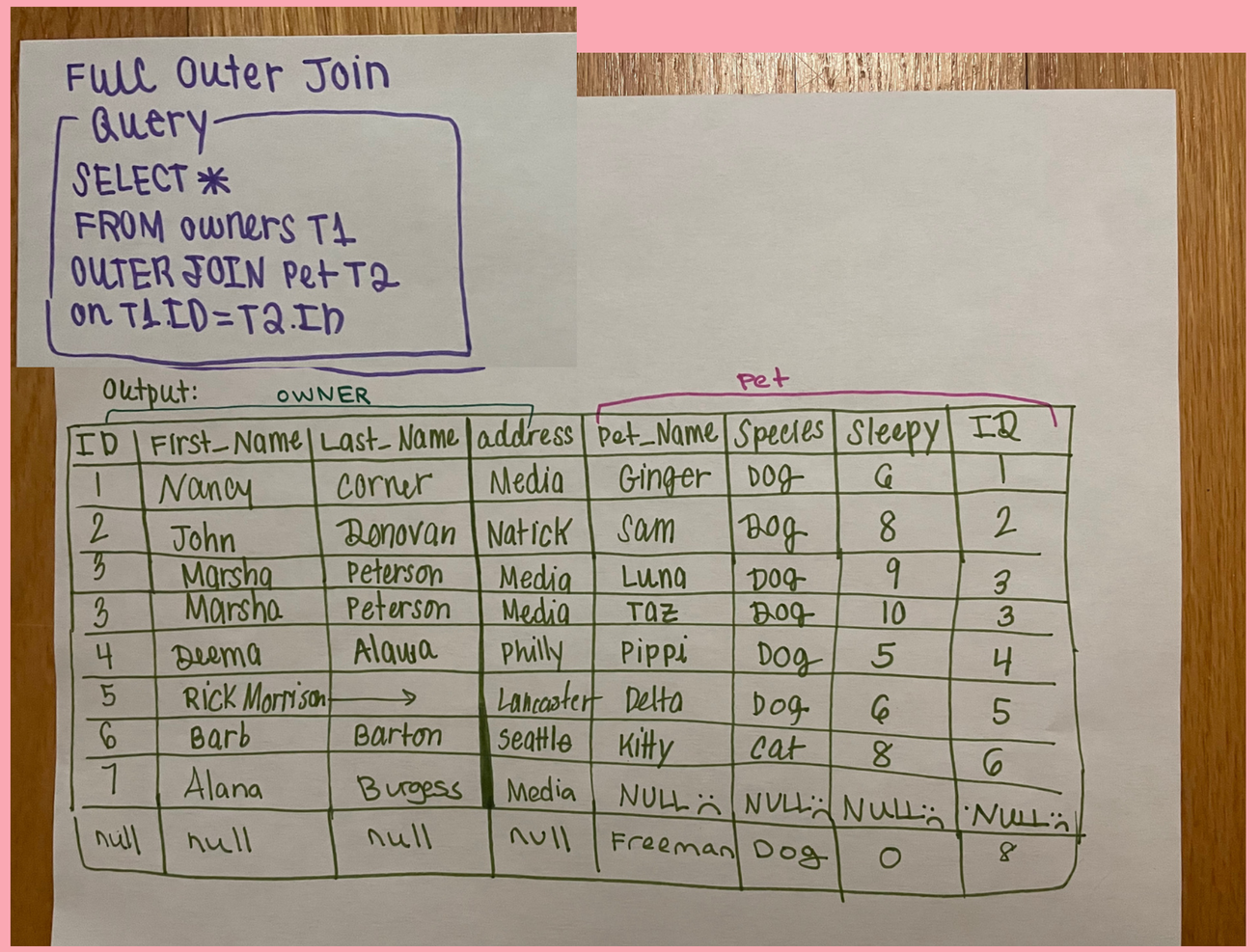
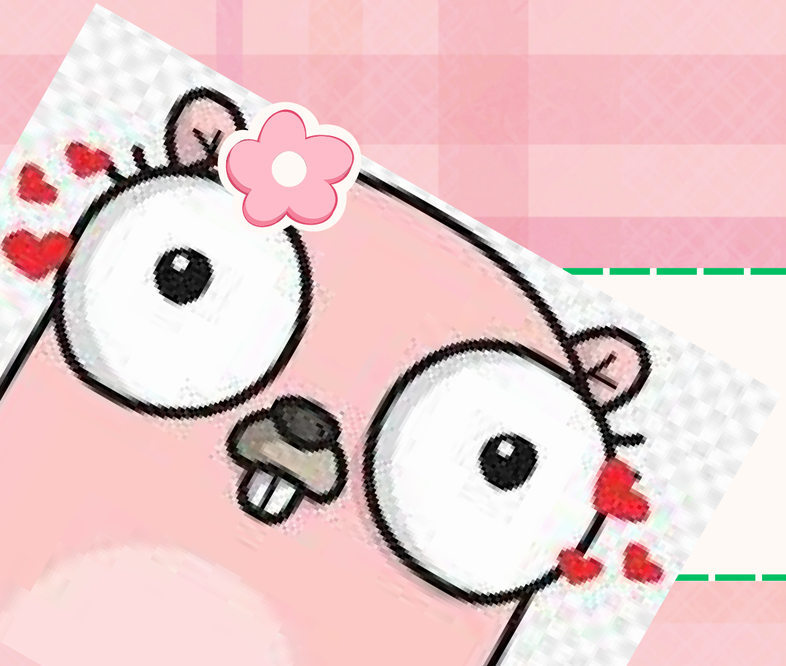
4 | Deema | Alawa | Philly
5 | Rick | Morrison | Lancaster
6 | Barb | Barton | Seattle
7 | Alana | Burgess | Media
PETS
ID | Pet_Name | Species | Sleepy
1 | Ginger | Dog-mut | 6
2 | Sam | Dog | 8
3 | Luna | Dog | 9
3 | Taz | Dog | 10
4 | Pippi | Dog | 5
5 | Delta | Dog | 6
6 | Kitty | Cat | 8
8 | Freeman | Dog | 0

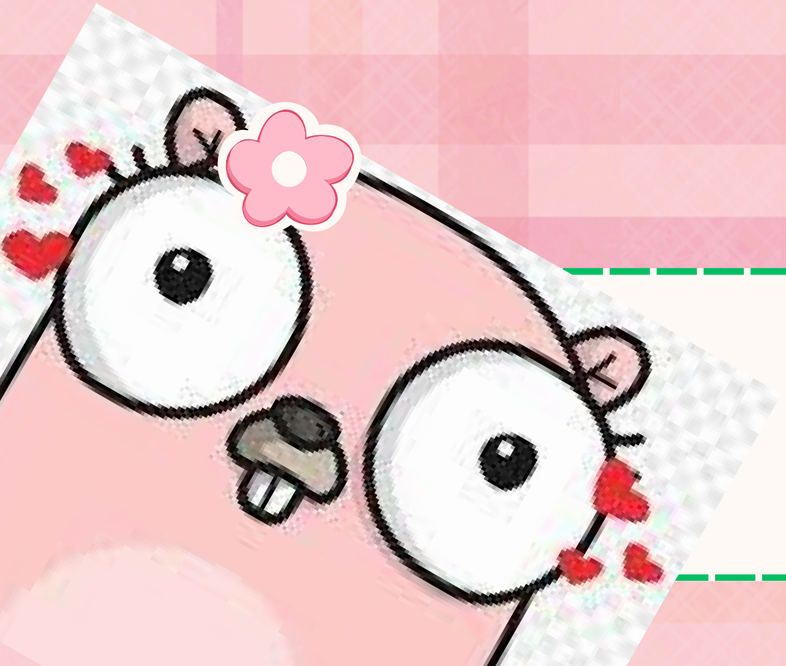

Full Outer Join
Query
SELECT *
FROM owners T1
OUTER JOIN Pet T2
on T1.ID=T2.ID
Output:
OWNER
Pet
ID | First_Name | Last_Name | address | Pet_Name | Species | Sleepy | ID
1 | Nancy | Corner | Media | Ginger | Dog | 6 | 1
2 | John | Donovan | Natick | Sam | Dog | 8 | 2
3 | Marsha | Peterson | Media | Luna | Dog | 9 | 3
3 | Marsha | Peterson | Media | Taz | Dog | 10 | 3
4 | Deema | Alawa | Philly | Pippi | Dog | 5 | 4
5 | Rick Morrison | → | Lancaster | Delta | Dog | 6 | 5
6 | Barb | Barton | Seattle | Kitty | Cat | 8 | 6
7 | Alana | Burgess | Media | NULL | NULL | NULL | NULL
null | null | null | null | Freeman | Dog | 0 | 8

COMPARISON!

	What is null		
Natural	isn’t one		
Inner	none		
Outer	both/either		
Left	right columns		
Right	left columns		



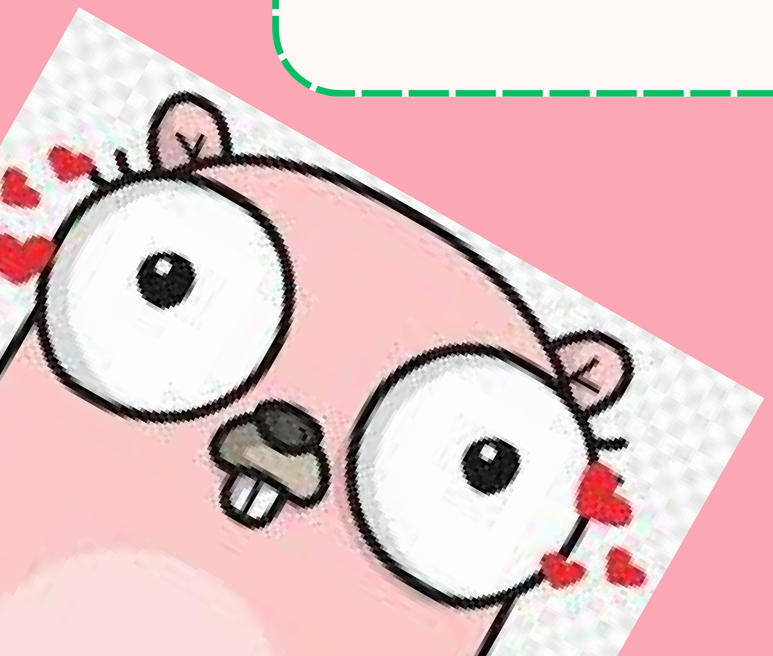
BUT THERE'S MORE...



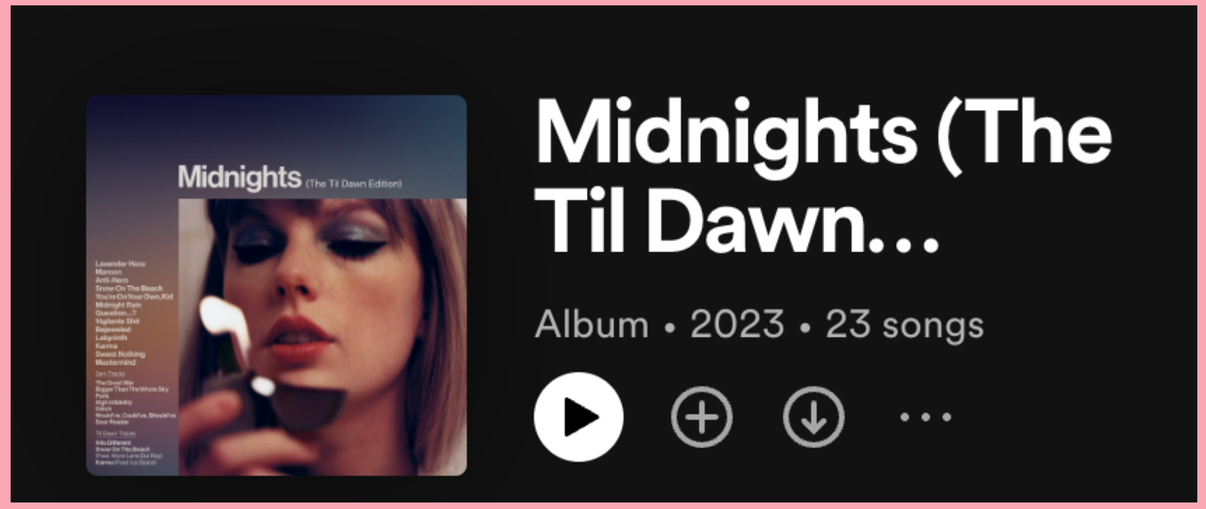
VIEWS

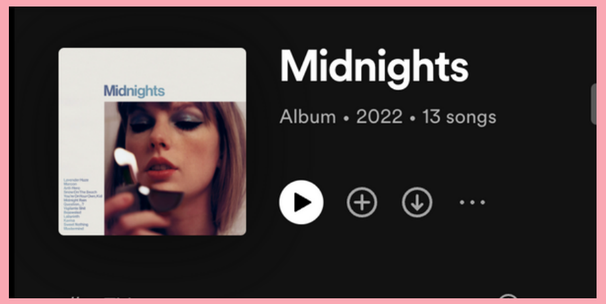
VIEWS!

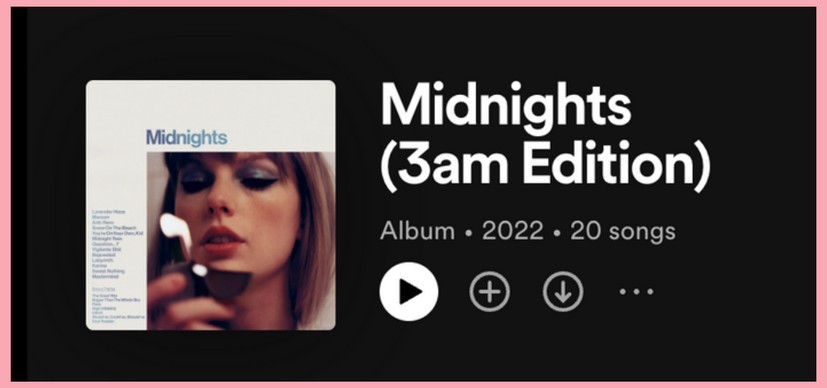
DEFINITION: "VIRTUAL TABLE" WITH INFORMATION FROM ONE MULTIPLE TABLES

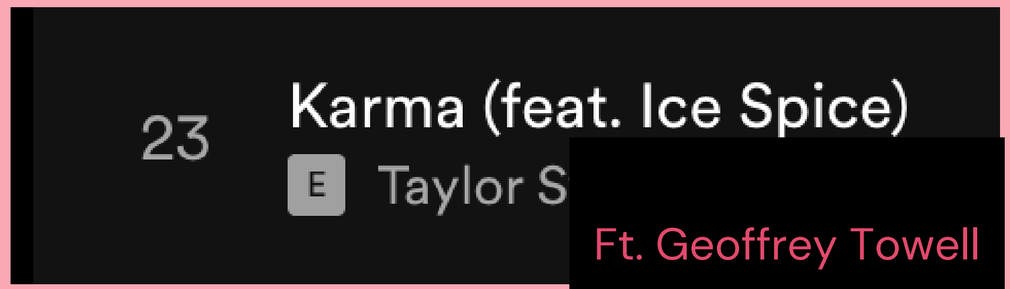


```
CREATE VIEW view_name AS
SELECT column1, column2.....
FROM table_name
WHERE condition;
```



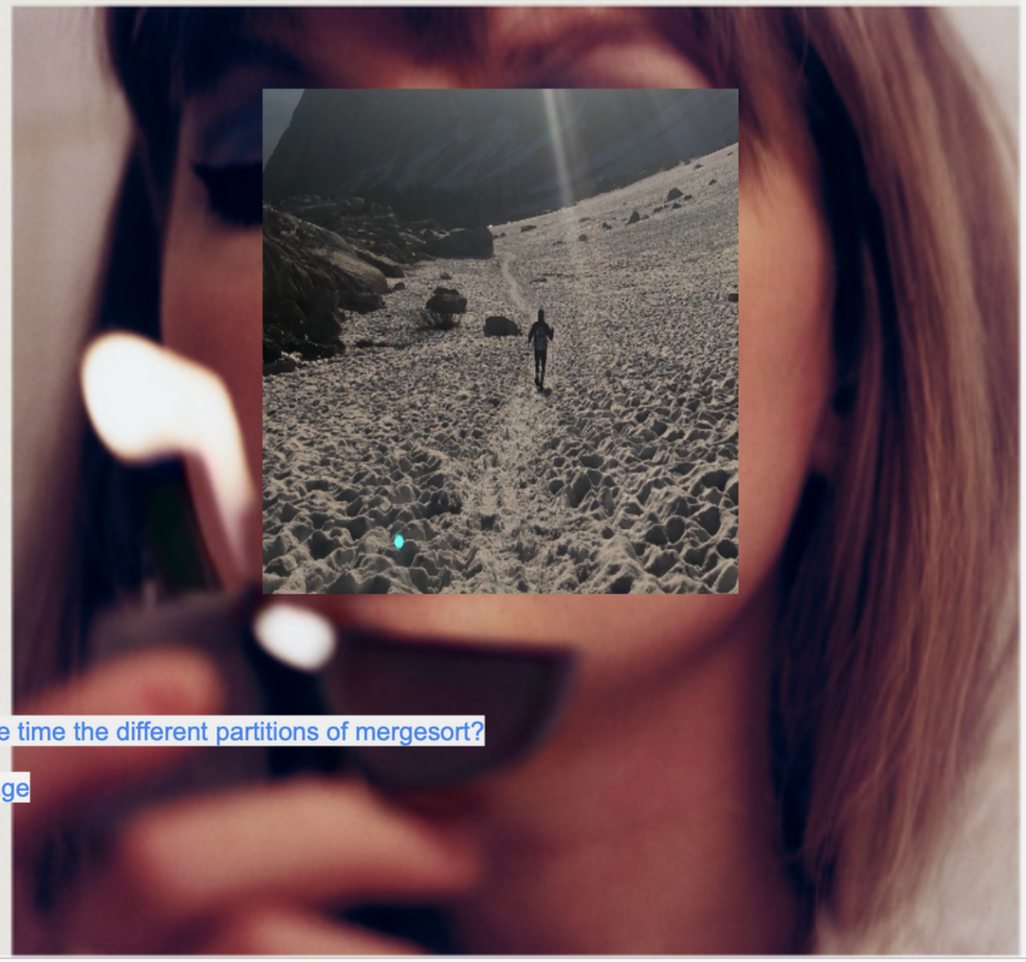






Ft. Geoffrey Towell

Midnights (Geoffs Version)



Algorithm Haze
Go gopher blue
Our-Hero
Points off On The font…
'Here is an extension, Kid
Midnight grading
Question...? How can we time the different partitions of mergesort?
Vigilante Programming.
Bejeweled Model language
Labyrinth (Recursively)
SSH Comet
Sweet PEZ….
My Unix Daemons

OLD (ish) WHITE GUY BREAK!!!!!

SHE A BADDIE, SHE KNOW SHE A 10

```
CreateView Ultimate_MIdnights
Select *
midnight T1
Full OUTER JOIN midnight(3AM) T2
ON T1.~~midnight~~ name =T2.name
Full OUTER JOIN nightnight(up till dawn) T3
ON T2.name = T3.name
Full OUTER JOIN nightnight(Geoffs version)T4
ON T4.name = T3.name
Full OUTER JOIN nighnight_vault T5
ON T4.name = T5.name
```

Where name <> “Snow On the Beach”