

Electronic Searches:

Keywords, Conditions, and Boolean Logic

About me

- Part of City of Seattle's Citywide Public Records Act (CPRA) Program
- Support over 70 Public Disclosure Officers throughout the City
- Background in eDiscovery for litigation
- Go-to person for training, assistance, and troubleshooting for our PDOs using eDiscovery software for search and review.

Email: Audrey.Hare@seattle.gov

In this presentation:

1. Electronic Storage
2. Search Terms
3. Boolean Logic
4. Conditions
5. Building queries
6. Q&A

Electronic Storage - Locations

Q: Where does your agency store electronic records?

A: In many different places!

For example

- Cloud storage
- Individual computers
- Network drives
- Internal databases/applications
- Third party applications

Electronic Storage - Search Tools

Q: How do I search different locations?

A: It depends!

- Different tools for different locations
- Different tools have different search options
- Know the scope and capabilities of your tools

You can use the techniques from this session with many tools!

Search Terms:

Words that you think will appear in documents that are responsive to a request, and not in tons of documents that aren't responsive to a request

Search Terms: Exact Words and Phrases

- Can be Keywords or Phrases
 - Keywords: Cats, Dogs
 - Phrases: “Animal Shelter” “Critter Care Guides”
- Search terms are EXACT
 - Cat does NOT return “cats”
 - “Animal Shelters” does NOT return “Animal Shelter”

Developing Good Search Terms

- Terms from request
- Terms from subject matter experts
- Commonly used abbreviations/acronyms
- Expanded abbreviations/acronyms
- Variations of terms

Wildcards (*)

- Adding asterisk (*) searches for all words BEGINNING with the letters
- Cat* returns cat and cats, but also:

Catherine	Catapult
Cathy	Catering
Category	Caterpillar
Catch	Catalog
Catching	Catheter

- Makes queries take longer, may cause errors if use too many
- Does NOT work with phrases! “cool cat*” (or “cool cat”*) = WRONG
- Can only be used at the END of a keyword! *cat or cat*y = WRONG

Good Wildcard Example:

Vaccine

Vaccinate

Vaccines

Vaccinates

Vaccination

Vaccinated

Vaccinations

Vaccinating

Vaccin* returns all these words!

Boolean Logic and Boolean Searches

What is a ghost's favorite kind of logic?

BoooOOOOooooolean logic

Boolean Logic:

- A set of rules that allows us to express requirements, which can then be compared to an object or situation to determine whether or not it fulfills the requirements.
- The answer to a Boolean expression is always True or False

Boolean Search:

- Uses Boolean logic to combine keywords or phrases to create the set of requirements that you want records to fulfill
- If the requirements are met, the expression is TRUE, and the record is included in the search results
- If the requirements are not met, the expression is FALSE, and the record is not included in the search results.

Parts of a Boolean Search

- Search Terms
- Operators
- Grouping punctuation “ ” and ()

“Animal Shelter” AND (Cats OR Dogs)

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Operators

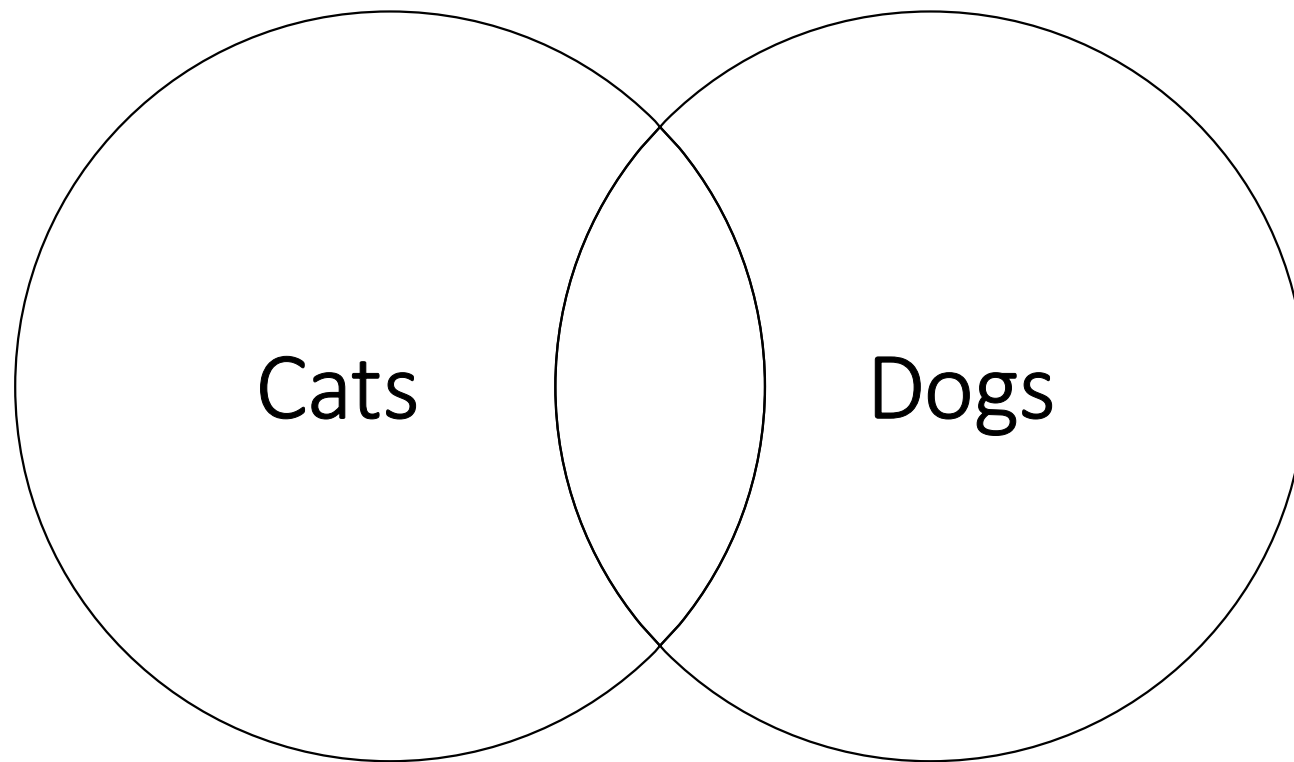
Classic Boolean Operators

- AND
- OR
- NOT

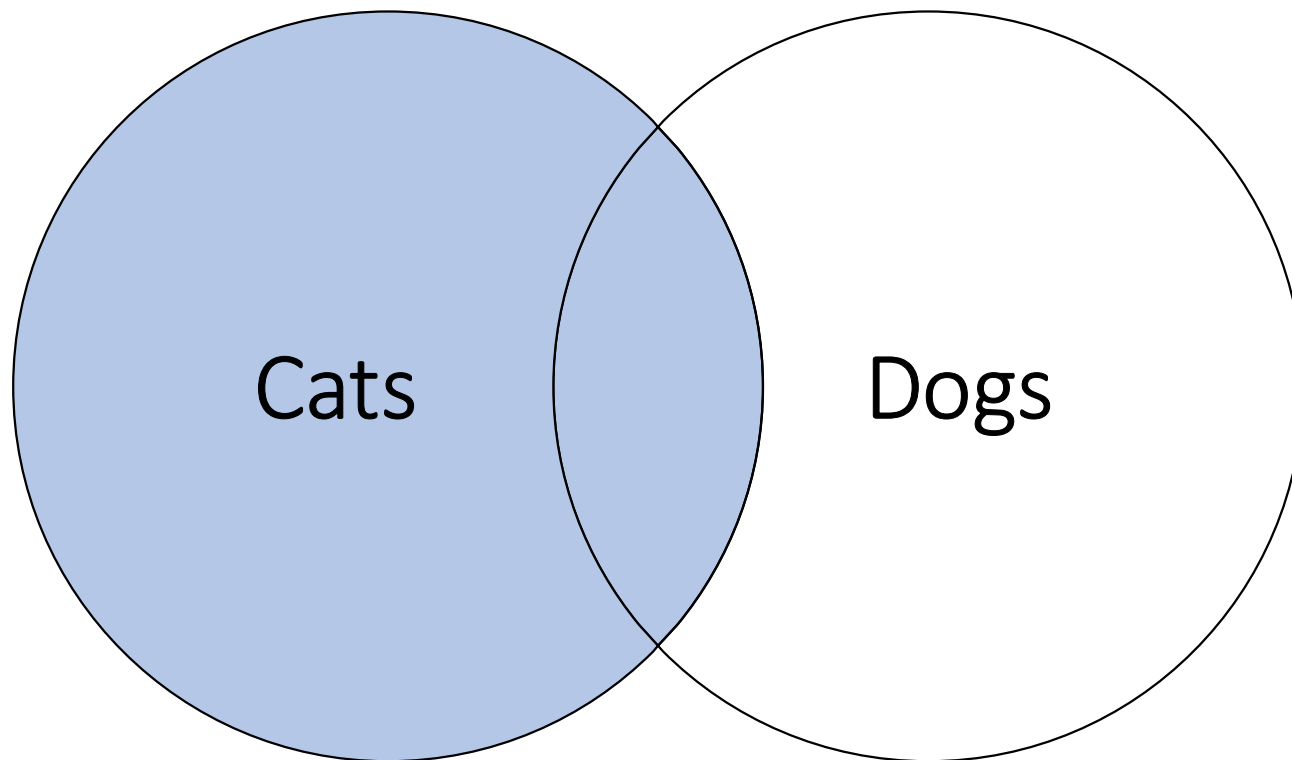
Special Operator for Text Searches

- NEAR(n)

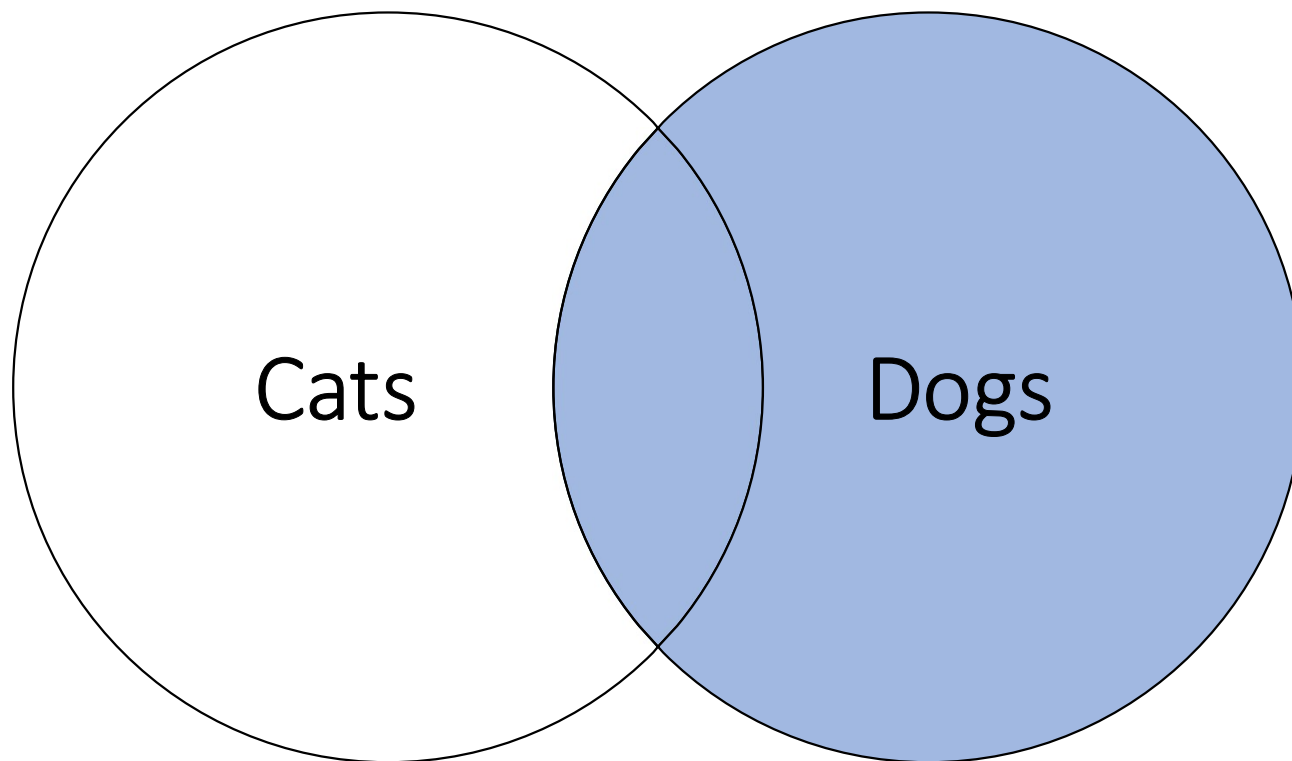
Example Set of Records



Cats



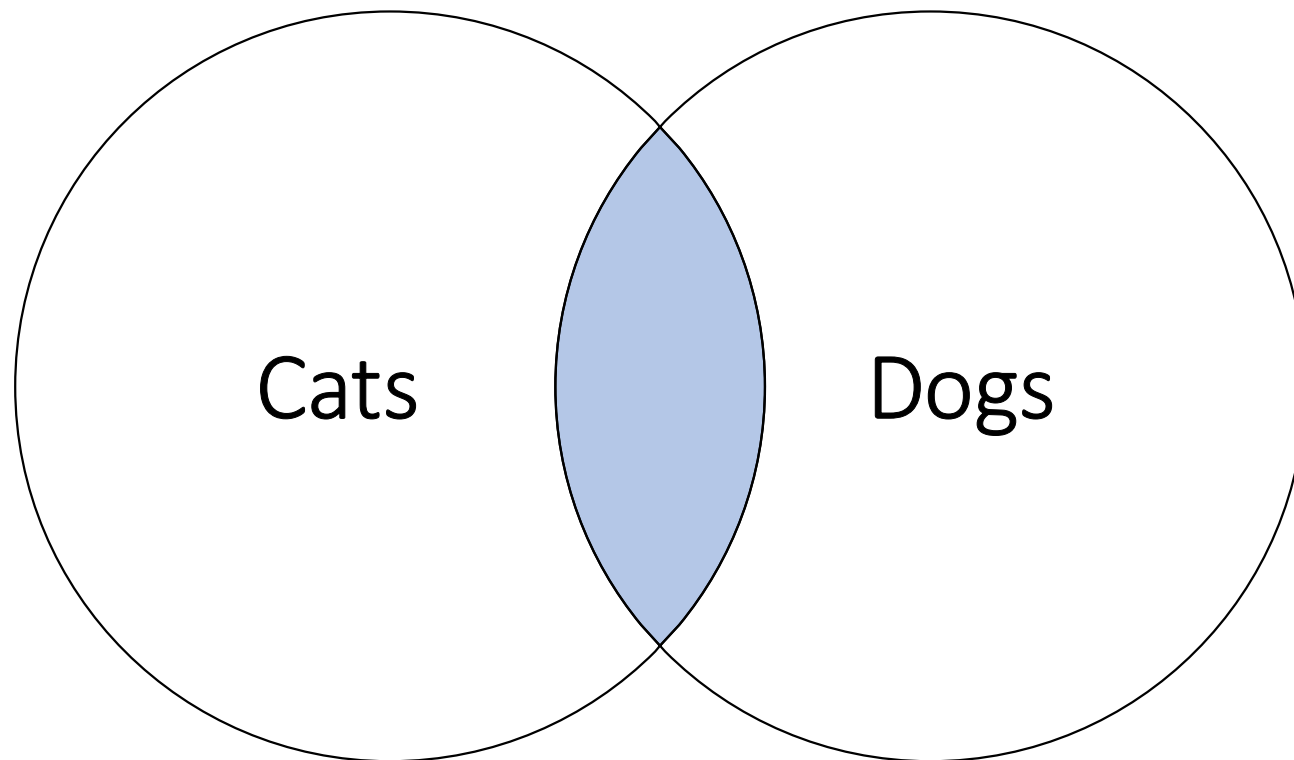
Dogs



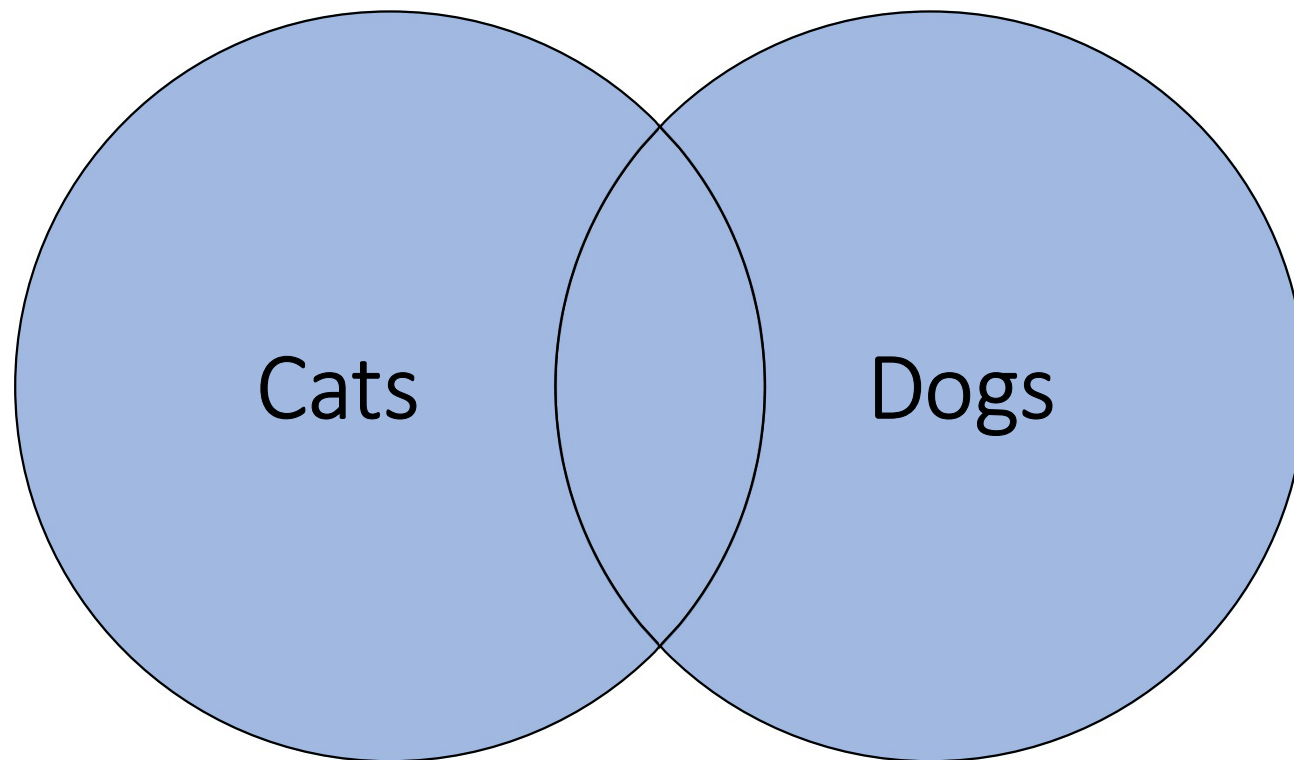
Cats

Dogs

Cats AND Dogs



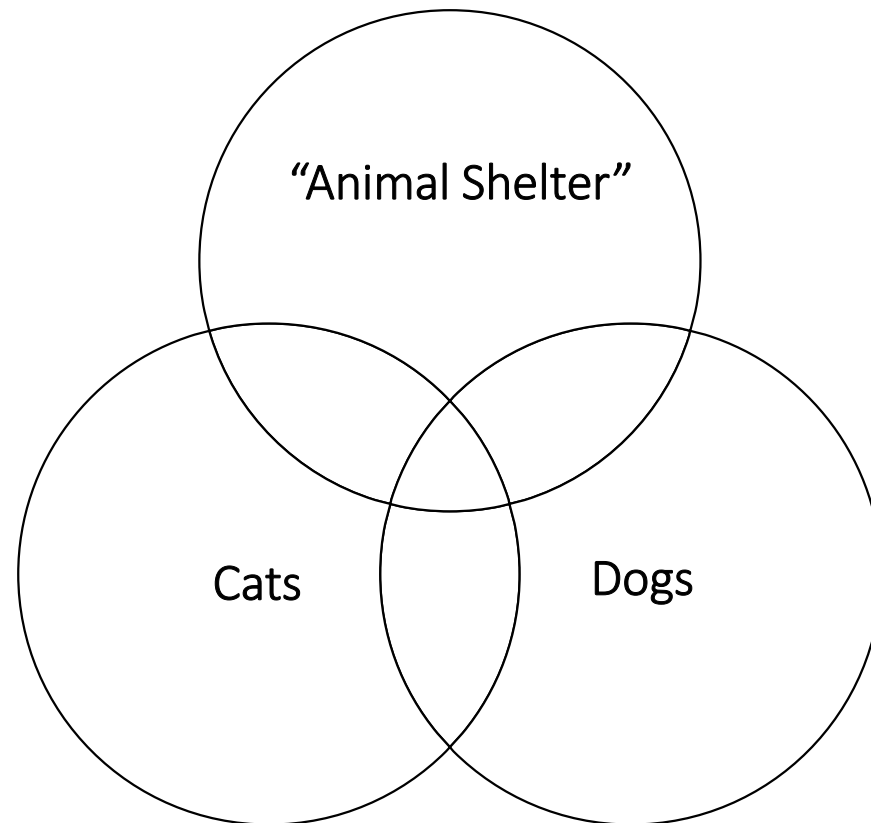
Cats OR Dogs



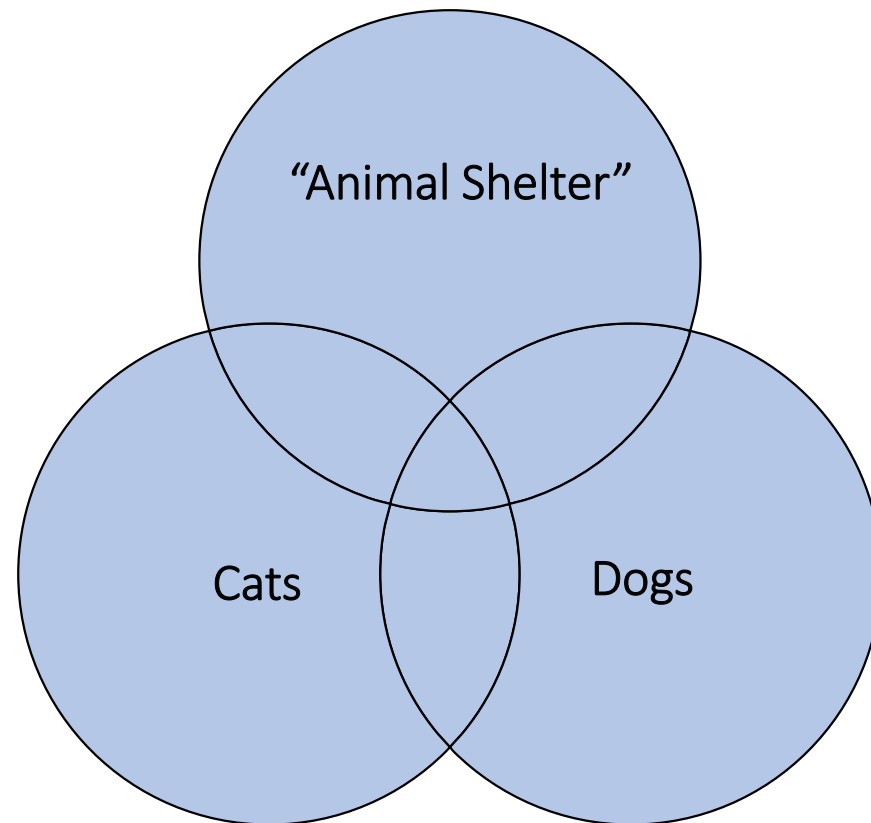
Operators: AND/OR

Query	Cats	Dogs	Cats and Dogs
Cats	X		X
Dogs		X	X
Cats AND Dogs			X
Cats OR Dogs	X	X	X

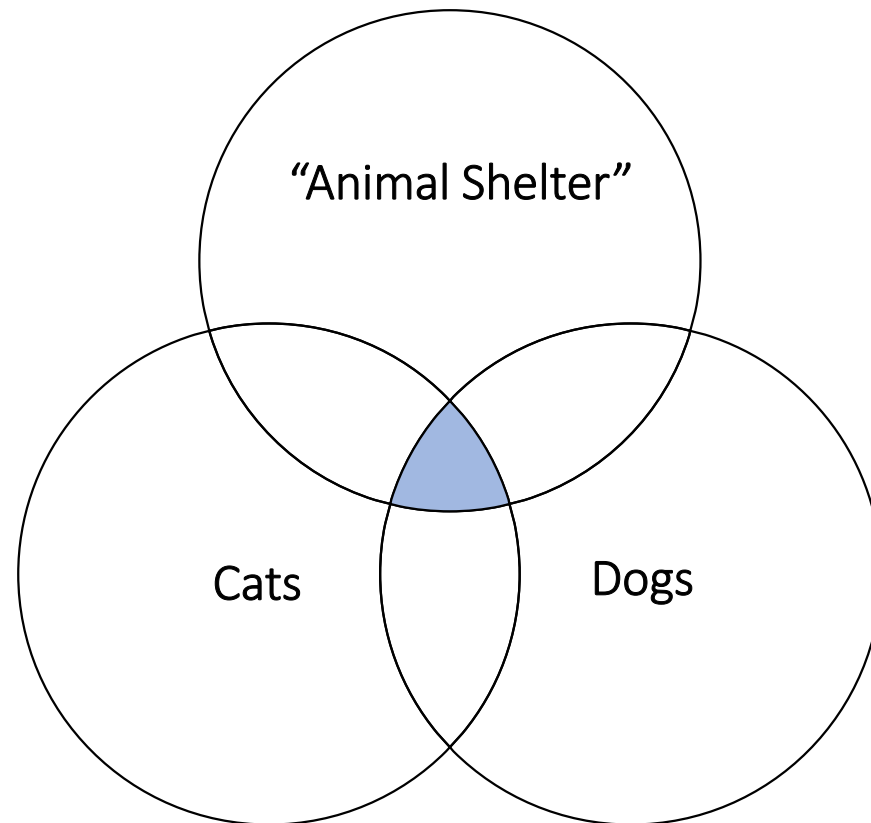
Three Search Terms!



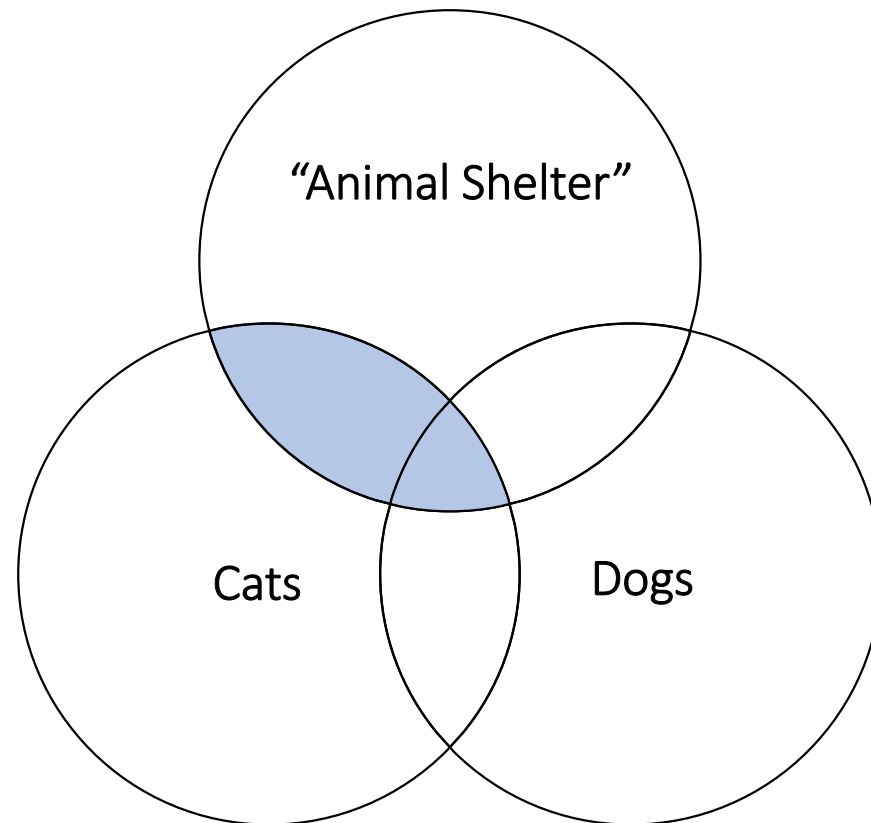
"Animal Shelter" OR Cats OR Dogs



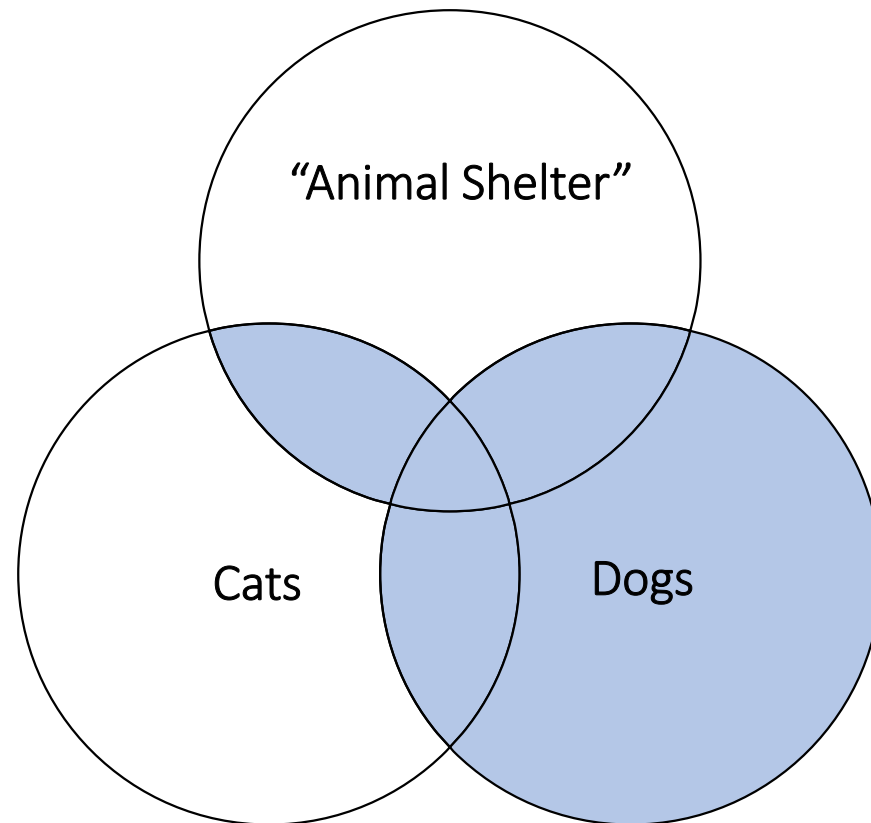
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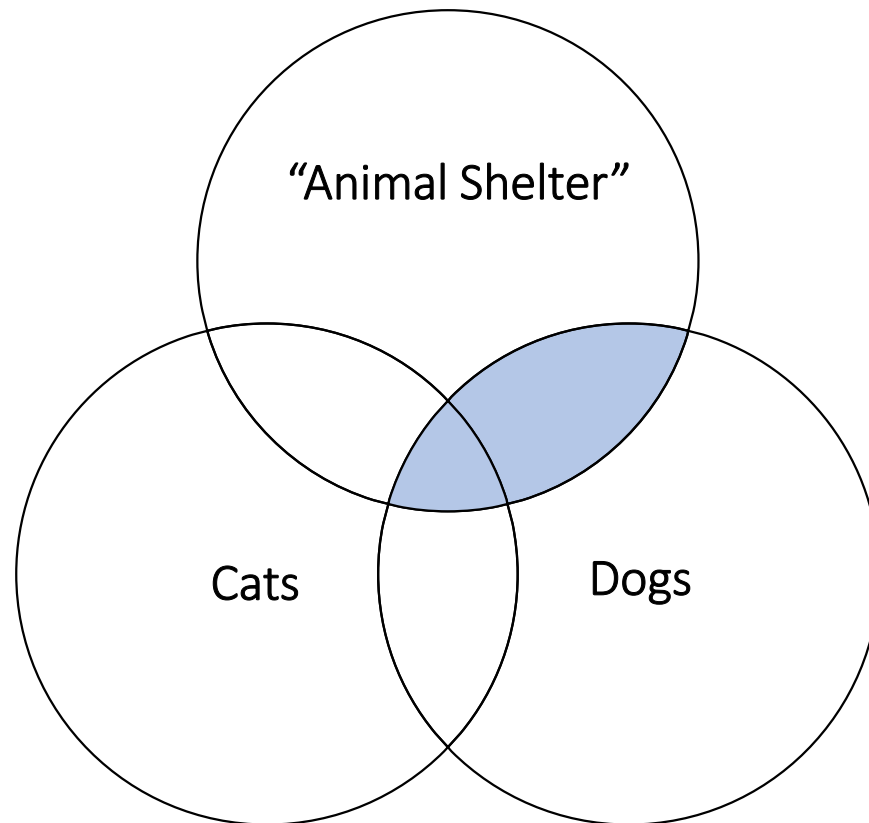
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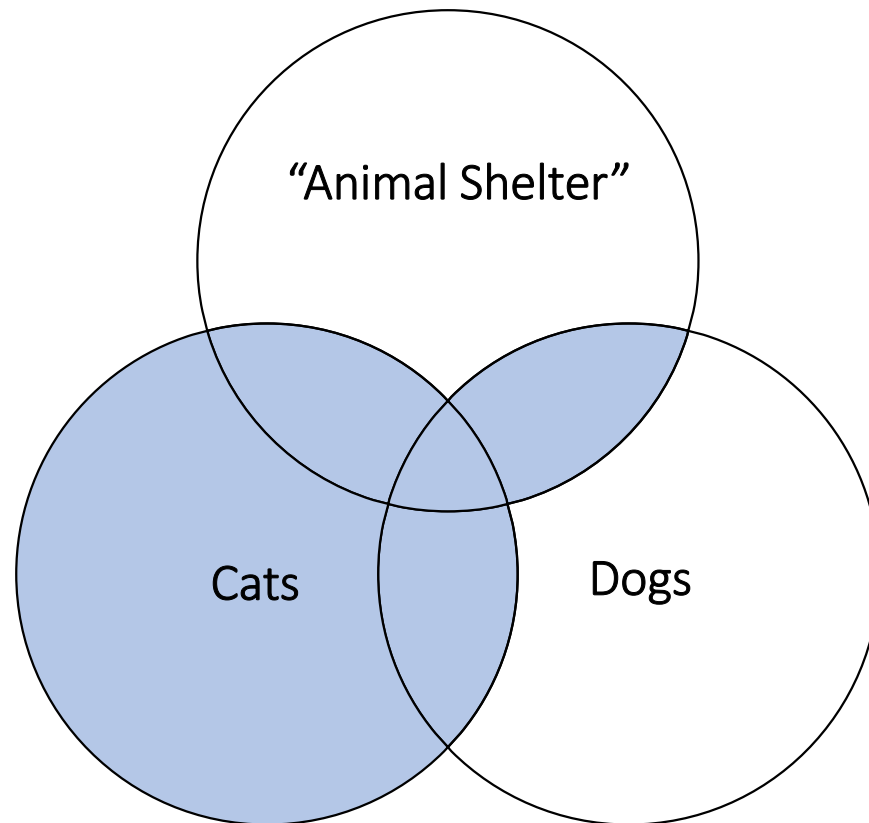
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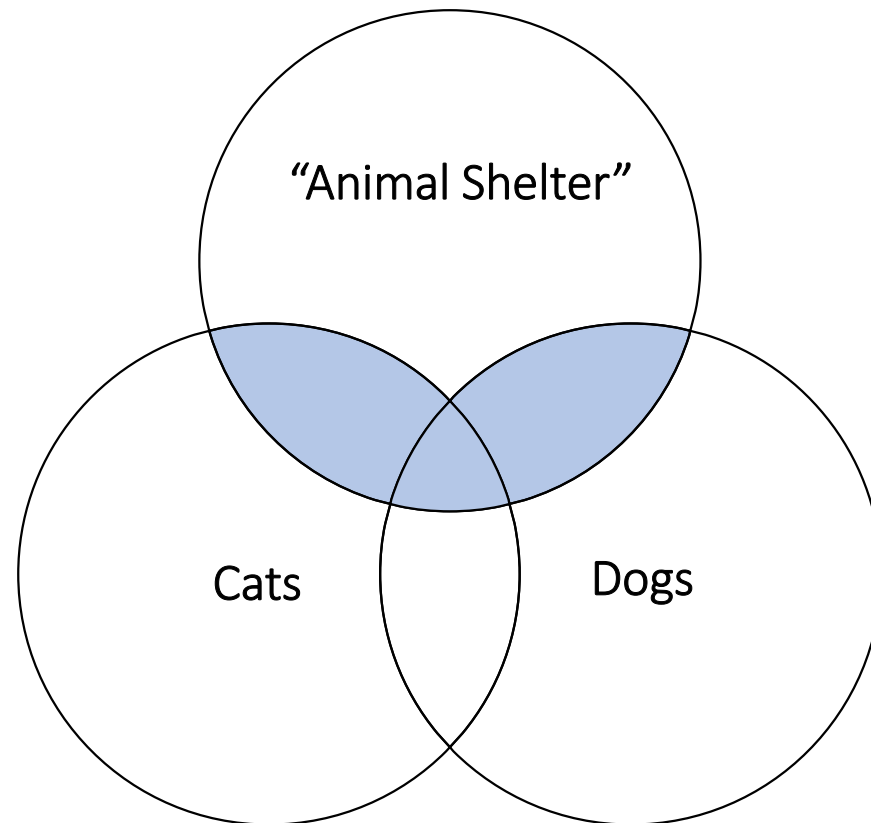
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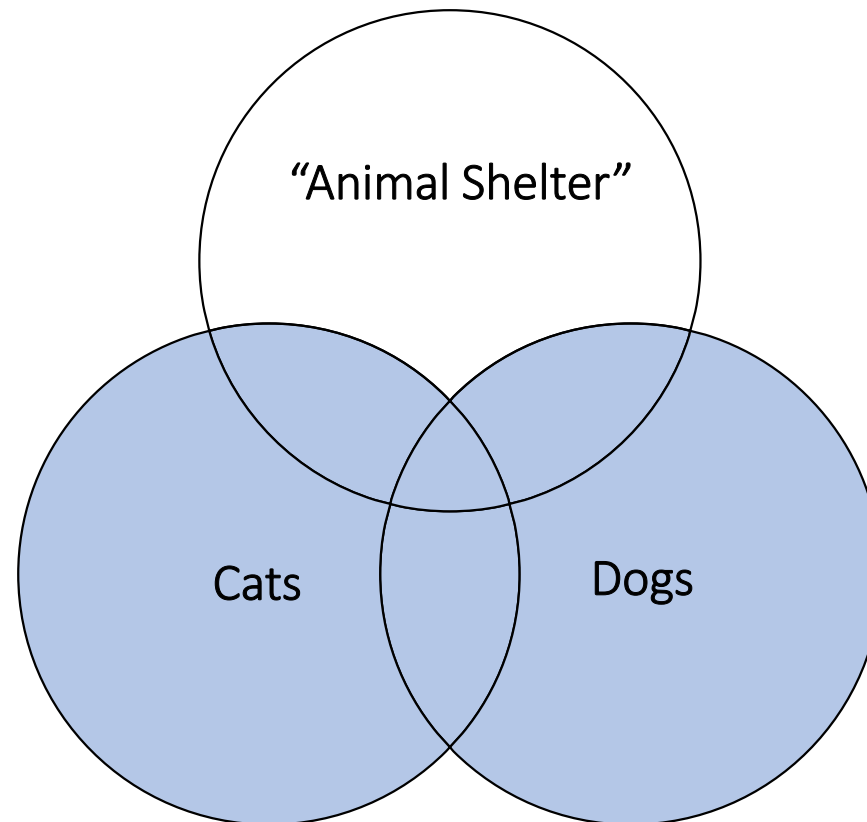
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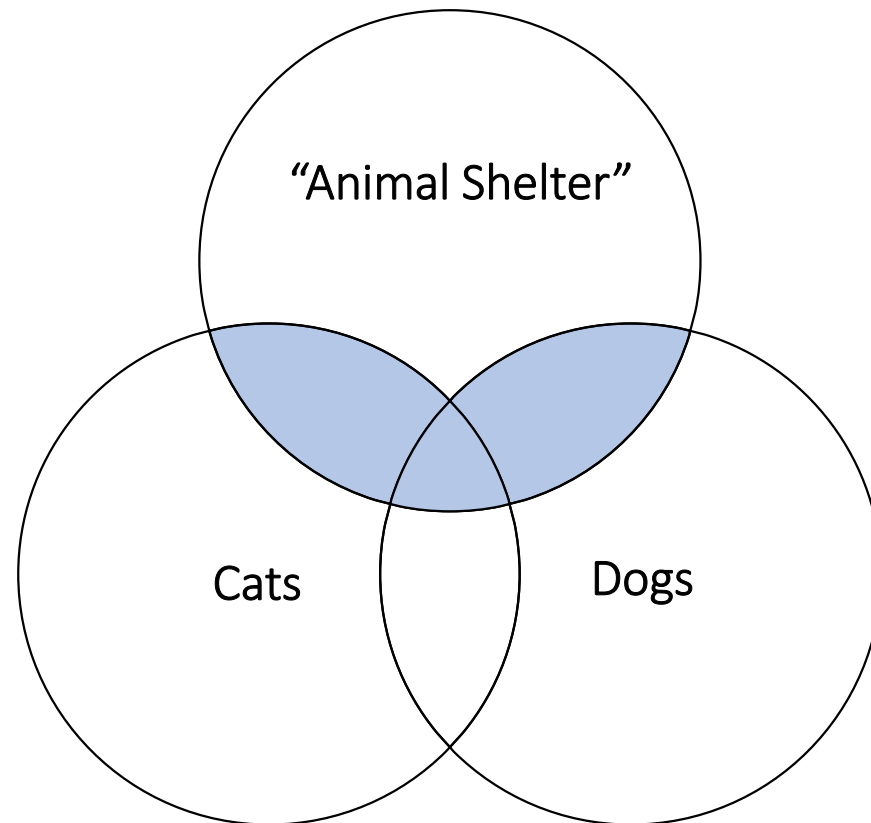
How do we get here?



(Cats OR Dogs)



"Animal Shelter" AND (Cats OR Dogs)



Grouping Punctuation: Parentheses

- Nest one Boolean Search inside another
- Search engine runs the search in the parentheses first, and then puts that result into the bigger search
- Parentheses ALWAYS come in pairs

((SAS OR "Animal Shelter) AND (Cats OR Dogs)) OR ((adopt* OR foster*) AND pets)

Operators: NEAR(n)

Cats	At	Seattle	Animal	Shelter	Love	Dogs	And	People
3	2	1	0	*	0	1	2	3

- Looks at how many words are BETWEEN the search terms
- Searches forwards and backwards
 - Shelter NEAR(2) Seattle = Seattle NEAR(2) Shelter
- The number in parentheses (n) sets that number of words
 - Cats NEAR(3) Shelter = True
 - Cats NEAR(2) Shelter = False
- Can use with a phrase, and the phrase will count as one word (“Animal Shelter” is 0 words away from Seattle and Love)
- Can combine with nested searches: Shelter NEAR(3) (Cats OR Dogs)

Examples: NEAR(n)

Names: John NEAR(2) Smith

- John Smith
- John R. Smith
- John R. Von Smith
- Smith, John

Variations of phrases: “Seattle Police” NEAR(2) (Guild or Union)

- Seattle Police Officer’s Guild
- Seattle Police Officers Guild
- Seattle Police Guild
- Seattle Police Union

Conditions: Searching Metadata

- Metadata = Information *about* the record
- Metadata includes information that you could NOT know if you were only looking at the record
- Structured in two parts
 1. **Field:** a kind of metadata that may be available for a specific document
 2. **Value:** the actual information for a specific record
- Some metadata fields may be empty (not have a value)
- Different types of records have different metadata fields
- Different search tools allow you to search different metadata fields

Email Content

From: [WAPRO Office](#)
To: [Hare, Audrey \(ITD\)](#)
Subject: Thank you for registering for 2023 WAPRO Virtual Spring Conference
Date: Tuesday, May 9, 2023 2:08:24 PM

CAUTION: External Email

2023 WAPRO Virtual Spring Conference

Please join us for the 2023 Virtual Spring Conference on May 17th & 18th. Each attendee must be registered by the time of the conference to obtain a Certificate of Attendance for credit towards CPRO certification. We are unable to provide retroactive registration or certificates for unregistered attendees who view the conference jointly.

Wednesday, May 17, 2023 at 8:00 AM PDT

-to-

Thursday, May 18, 2023 at 12:30 PM PDT

This is an online event.

Thank you again for registering for the WAPRO 2023 Virtual Spring Conference. This email is confirmation of your successful registration. If any of the information displayed below is incorrect, please contact us as soon as possible.

Metadata

Sender: WAPRO Office <office+wapro.org@ccsend.com>

To: Hare, Audrey (ITD)
<audrey.hare@seattle.gov>

Subject: Thank you for registering for
2023 WAPRO Virtual Spring Conference

Date (UTC): 2023-05-09T21:08:24Z

Email Has Attachment: False

Importance: Normal

Sensitivity: 0

Message Kind: email

Item Class: IPM.Note

File Extension: .msg

Size: 62.5kb

Document Content



Table of Contents

Introduction

Agenda

Metadata

File Name: WAPRO 2023 Virtual Spring Conference Program Book.pdf

Title: WAPRO Speaker Page

Author: Amy Ohlinger

Date Created: 5/12/2023 3:60:30 PM

Date Modified: 5/12/2023 3:54:05 PM

Date Accessed: 5/16/2023 11:56 AM

Kind: Document

Type: Adobe Acrobat Document

File extension: .pdf

Page Size: 8.50 x 11.00 in

Number of Pages: 13

Size: 1,019kb

Common operators by data type

Number

- Equals
- Does not equal
- Less than
- Less than or Equal to
- Greater than
- Greater than or Equal to
- Between

Dates

- On
- Before
- On or Before
- After
- On or After
- Between

Text

- Is/equals
- Is not/does not equal
- Contains/is like
- Does not contain/is not like

Boolean

- Is
 - True
 - False

Arrays (multiple values)

- Is/contains
- Is not/does not contain
- Is only
- Any of
- All of

Sample emails with simplified metadata

Email 1	Email 2
Sender: Audrey Hare To: Ben Fox CC: Dionne Tortoise Subject: Please come watch my Boolean Logic Presentation Tomorrow Date: May 17, 2023 4:55:05 PM Email Has Attachment: False Attachment Name: Importance: Normal Sensitivity: 0	Sender: Ben Fox To: Audrey Hare CC: Carlos Hound, Dionne Tortoise Subject: I love Boolean Logic Now Date: May 18, 2023 11:23:15 AM Email Has Attachment: True Attachment Name: WAPRO Electronic Search Training.pdf Importance: Normal Sensitivity: 0
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To is "Audrey Hare"

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To any of "Audrey Hare" OR "Ben Fox"

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Recipients is "Dionne Tortoise"

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Sender: Carlos Hound To: Ben Fox, Audrey Hare CC: Dionne Tortoise Subject: RE: I love Boolean Logic Now Date: May 18, 2023 11:25:39 AM Email Has Attachment: False Attachment Name: Importance: Normal Sensitivity: 0	Sender: Ben Fox To: Dionne Tortoise CC: Subject: Never let Audrey present in public again Date: May 23, 2023 2:46:40 Email Has Attachment: False Attachment Name: Importance: High Sensitivity: 1

Date *between* May 18, 2023 and May 31, 2023

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Participant is "Audrey Hare" Email Has Attachment is True

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Participant is "Audrey Hare" **AND** Email Has Attachment is True

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Building a query

Request: "I want all emails about dogs, cats, and rabbits in City of Seattle Animal Shelters from January 1, 2022 to January 1, 2023."

Request: "I want all emails about dogs, cats, and rabbits in City of Seattle Animal Shelters from January 1, 2022 to January 1, 2023."

Query	Records
"Animal Shelters" OR Dogs OR Cats OR Rabbits	100,000
"Animal Shelters" AND (Dogs OR Cats OR Rabbits)	45,000
("Animal Shelter" OR "Animal Shelter" OR SAS) AND (Dog* OR Cat* OR Rabbit*)	65,000
("Animal Shelter" OR "Animal Shelter" OR SAS) AND (Dog OR Dogs OR Cat OR Cats OR Rabbit OR Rabbit)	55,000
("Animal Shelter" OR "Animal Shelter" OR SAS) AND (Dog OR Dogs OR Cat OR Cats OR Rabbit OR Rabbit) + Type <i>is</i> email	40,000
("Animal Shelter" OR "Animal Shelter" OR SAS) AND (Dog OR Dogs OR Cat OR Cats OR Rabbit OR Rabbit) + Type <i>is</i> email + Date <i>is between</i> 1/1/2022 and 1/1/2023	10,000

Questions?