

DBM1: Harry Potter Movies

Apopei Cristina
Popa Alexandra



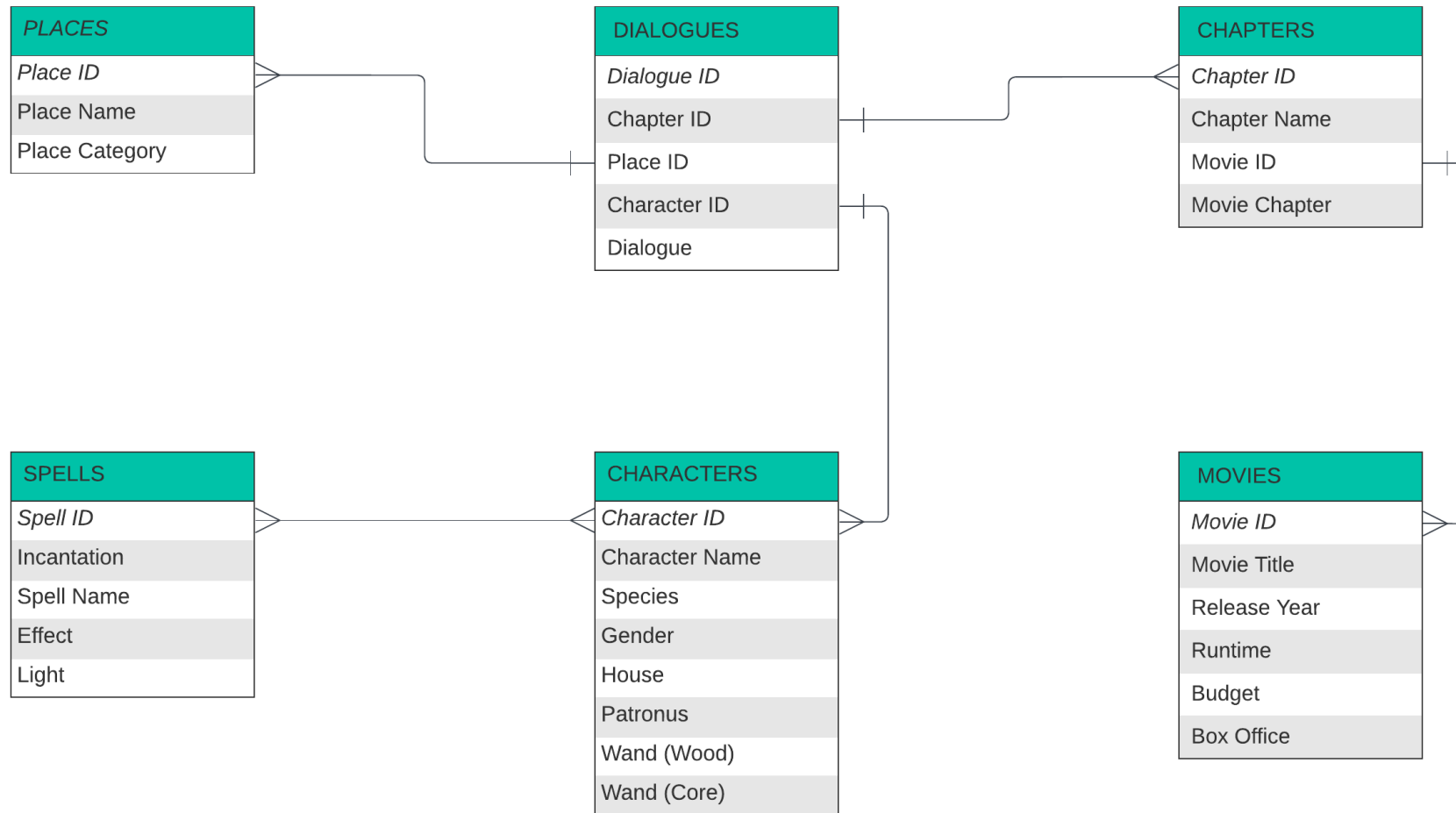
Our Dataset

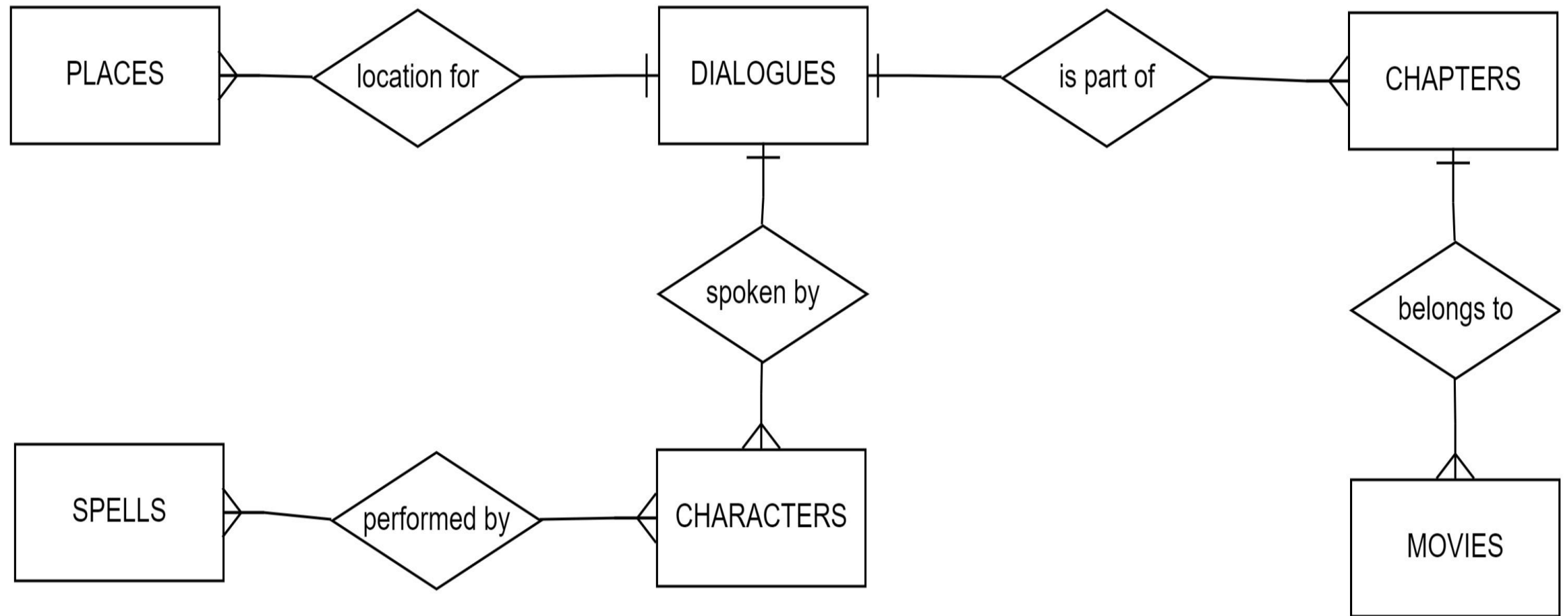
- ❑ Taken from Kaggle
- ❑ 8 Movies
- ❑ 74 Places
- ❑ 61 Spells
- ❑ 166 Characters
- ❑ 234 Chapters
- ❑ 7444 Dialogues

kaggle™



ER Diagram





Relational Algebra

1. Select all the character names and their corresponding houses:

$\pi (\text{'Character Name'}, \text{'House'}) (\text{'characters'})$

2. Retrieve the movie titles and their corresponding release years:

$\pi (\text{'Movie Title'}, \text{'Release Year'}) (\text{'movies'})$

3. Find all the spells used by Luna Lovegood:

$\pi (\text{'Incantation'}, \text{'Spell Name'}, \text{'Effect'}, \text{'Light'}) ((\sigma (\text{'Character Name'} = \text{'Luna Lovegood'}) (\text{'characters'}) \bowtie (\text{'Character ID'} = \text{'Character ID'}) \text{'spells'}))$

SQL Queries

1. What is the average runtime of movies released before 2005?

```
SELECT AVG(Runtime)
AS Average Runtime
FROM harry_potter_movies.movies
WHERE Release Year < '2005-01-01';
```



Average Runtime

151.6667

2. Which are the top 5 characters with the most dialogues?

```
SELECT `Character Name`,  
COUNT(`Dialogue ID`) AS `Dialogue Count`  
FROM characters  
JOIN dialogue ON characters.`Character ID` =  
dialogue.`Character ID`  
GROUP BY `Character Name`  
ORDER BY `Dialogue Count` DESC  
LIMIT 5;
```

Character Name	Dialogue Count
Harry Potter	1922
Ron Weasley	865
Hermione Granger	848
Albus Dumbledore	474
Rubeus Hagrid	228

3. Which is the number of dialogues for each character in The Chamber of Secrets movie?

```
SELECT `Character Name`,  
COUNT(`Dialogue ID`) AS `Number of Dialogues`  
FROM `harry_potter_movies`.`characters`  
JOIN `harry_potter_movies`.`dialogue` ON `characters`.`Character ID` =  
`dialogue`.`Character ID`  
WHERE `dialogue`.`Chapter ID` = 2  
GROUP BY `Character Name`  
LIMIT 0, 25
```

Character Name	Number of Dialogues
Dudley Dursley	11
Harry Potter	5
Man	1
Petunia Dursley	9
Student	1
Vernon Dursley	6

4. Which are the chapters where both Harry Potter and Hermione Granger have dialogues?

```
SELECT DISTINCT ch.`Chapter Name`  
FROM `chapters` ch  
INNER JOIN `dialogue` d1 ON ch.`Chapter ID` = d1.`Chapter ID`  
INNER JOIN `dialogue` d2 ON ch.`Chapter ID` = d2.`Chapter ID`  
INNER JOIN `characters` c1 ON d1.`Character ID` = c1.`Character ID`  
INNER JOIN `characters` c2 ON d2.`Character ID` = c2.`Character ID`  
WHERE c1.`Character Name` = 'Harry Potter'  
AND c2.`Character Name` = 'Hermione Granger';
```

Chapter Name
Ron and Hermione
The Sorting Hat
Nick and Other Residents
Potions and Parcels
New Seeker
Three-Headed Sentinel
Facts and Feathers
Mountain Troll
Quidditch
Interference Overcome
Christmas Gift
Norbert
The Forbidden Forest
Up to Something
Through the Trapdoor
Wizard's Chess
Sacrifice Play
Mark of Love

A cluster of decorative circles in the top-left corner, including a large light purple circle, a small yellow circle, a small pink circle, and a small light blue circle.

Challenges

- To access some data for the queries we needed to perform double joins which we didn't have a lot of prior experience with;
- It was tricky to translate some queries to relational algebra without aggregations.



Questions?

Thank you!

