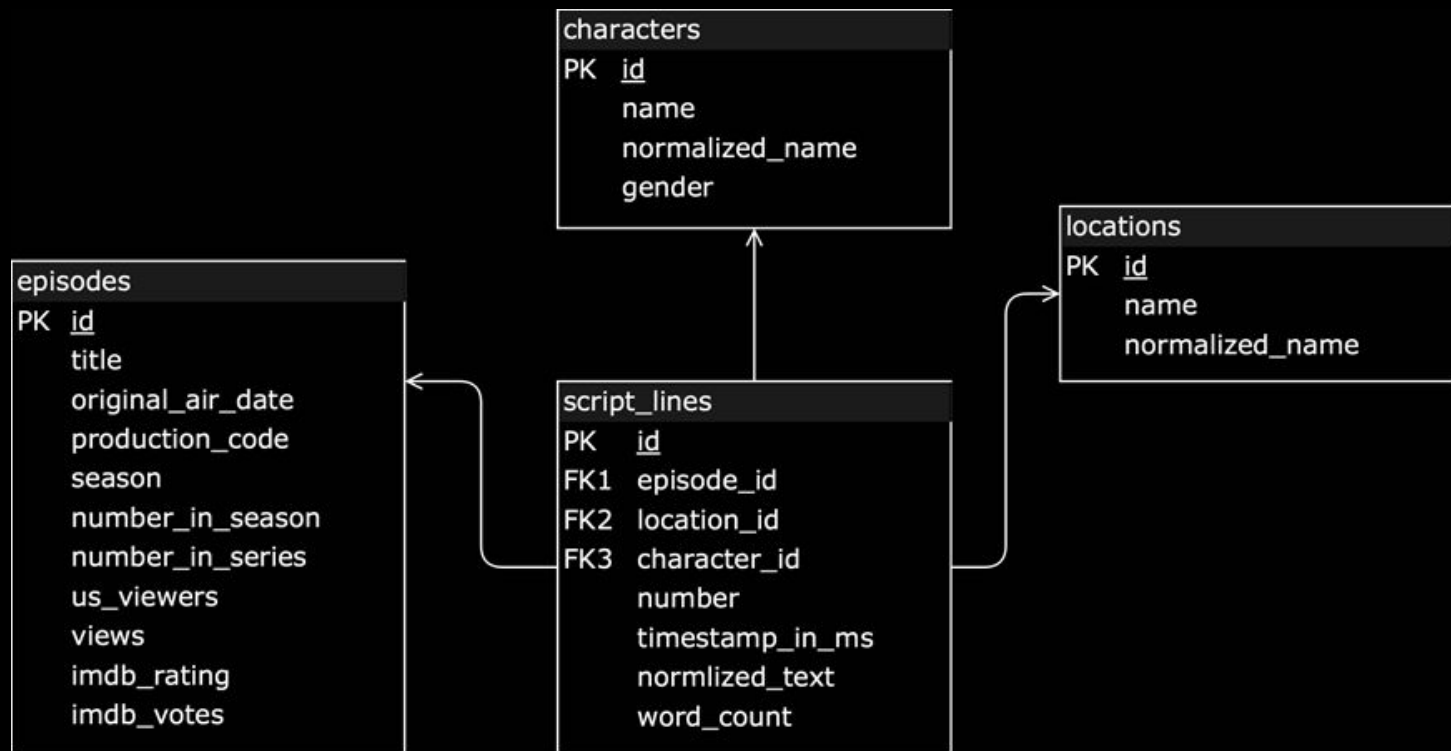


the
SIMPSONSTM

with R



data/simpsons



INTRODUCTION

EXPLORE THE DATA SET

- Q1: What does a record in each table represent?
- Q2: What columns exist in each table and what do they contain?
- Q3: How many records are in each table?
- Q4: How are the tables connected?
- Q5: Which columns contain text data?

GROUP WORK PART 1

TRANSFORM AND VISUALIZE

Q1: How many episodes debuted each year in the dataset?

Q2: What is the proportion of female to male characters?

Q3: What is the distribution of IMDB ratings?

Q4: How many records are in each table?

Q5: Which columns contain text data?

GROUP WORK PART 2

SEARCH

Q1: How often is Barack Obama mentioned in all episodes?

Q2: How often do characters mention Trump?

Q3: How often are *any* US presidents mentioned?

Q4: In which episodes do characters swear?

Q5: Which episodes reference Star Wars?

GROUP WORK PART 3

JOINS

- Q1: How often do characters other than Homer say "Donut"?
- Q2: In which location does Homer speak the most?
- Q3: Who explains to Homer the German word "Schadenfreude"?
- Q4: Is there an episode in which Lisa does not speak at all?
- Q5: Which character speaks the most?
- Q6: Who is the most frequent guest in the Simpson's home?

GROUP WORK PART 4

TOKENIZATION

Q1: Apply the five steps to tokenize the script lines into atomic words!

1. **Filter** the data to include only episodes from the first season
2. Apply transformations to **clean and normalize** the scripts
3. **Split** the script lines into words (or tokens)
4. Remove common english **stop words**
5. **Add** part of speech tags to your data

GROUP WORK PART 5
RULE-BASED CURSE
IDENTIFICATION

Q1: Create a top 10 list of the characters who curse the most!

1. Create a theory-driven **dictionary** for curse words
2. **Apply** the dictionary to the tokenized script lines
3. Decide on a **metric** and **aggregate** keyword matches
4. **Assign "curse"** or **"no curse"** to each line based on the metric
5. Review the result and **refine your dictionary**

GROUP WORK PART 6

DO LLMS KNOW SIMPSON?

Q1: Sample 5 subsequent lines from different episodes! Can a state-of-the-art LLM recognize the exact season and episode based on the script lines?

Q2: Sample 10 random lines from the same character and present them to a state-of-the-art LLM. Can it predict the character's name?