Database Systems Project

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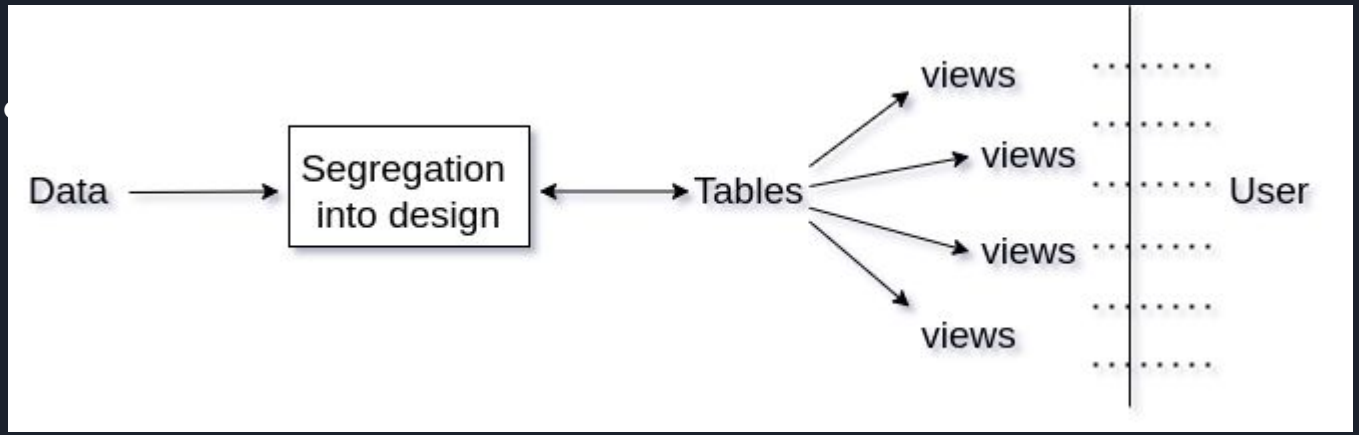
Topic and Overview

- Our topic was to automate the ER Diagram for any database.
- An ER Diagram shows all the entities and attributes involved in a database as tables as well as the relations between various entities depending on type.



Our Solution

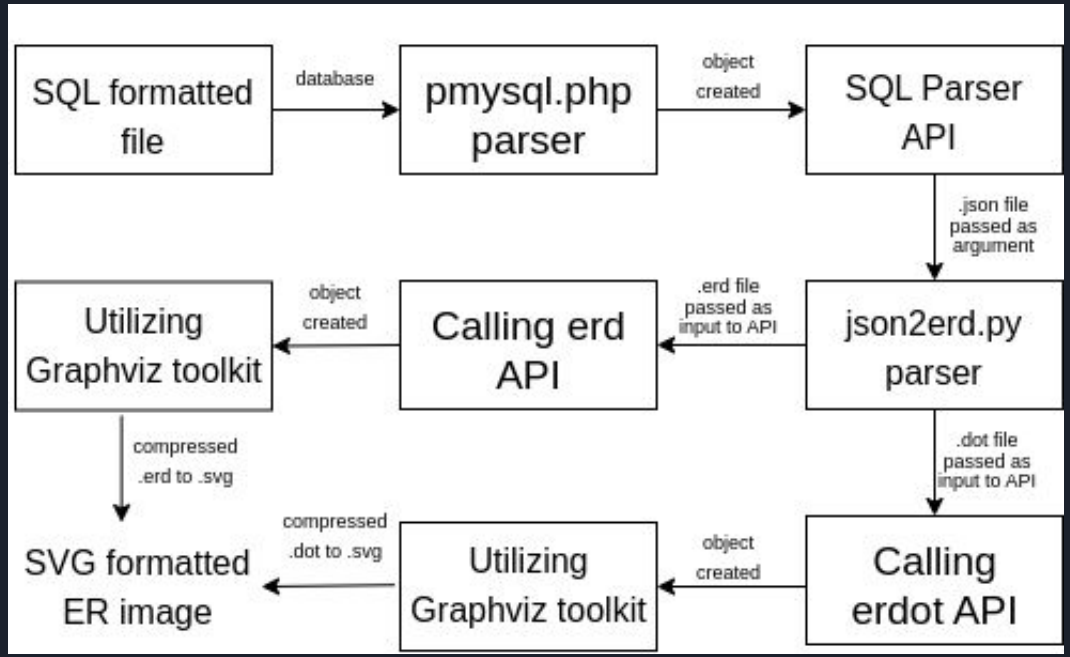
We divided the problem into two separate problem statements based on the severity and complexity of the problem.

01 We are given basic information about the database, like the entities, their attributes, primary and foreign keys etc.

02 We just know the scenario about which we need to create the database and no other information is provided to us.

Sub-Problem 1

Pipeline

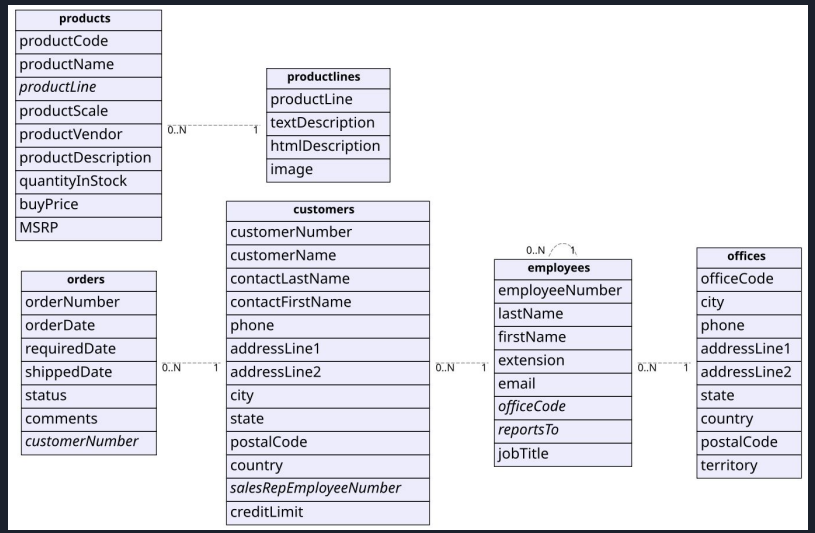


Sub-Problem 1 (Contd.)

pmysql.php and json2erd.py convert a .sql file into one of the two formats suitable for input to the above two programs, .json and .er.

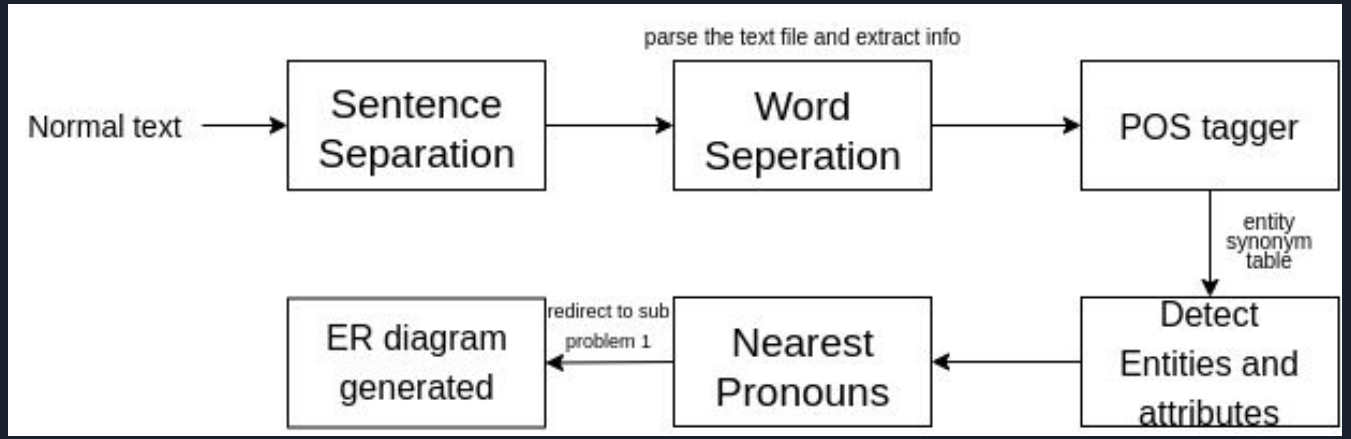
The first script is written in php as we utilized SQL Parser from PHP in it.

Execution steps will be shown in the demo..



Generated E-R diagram for a sample dataset

Sub-Problem 2



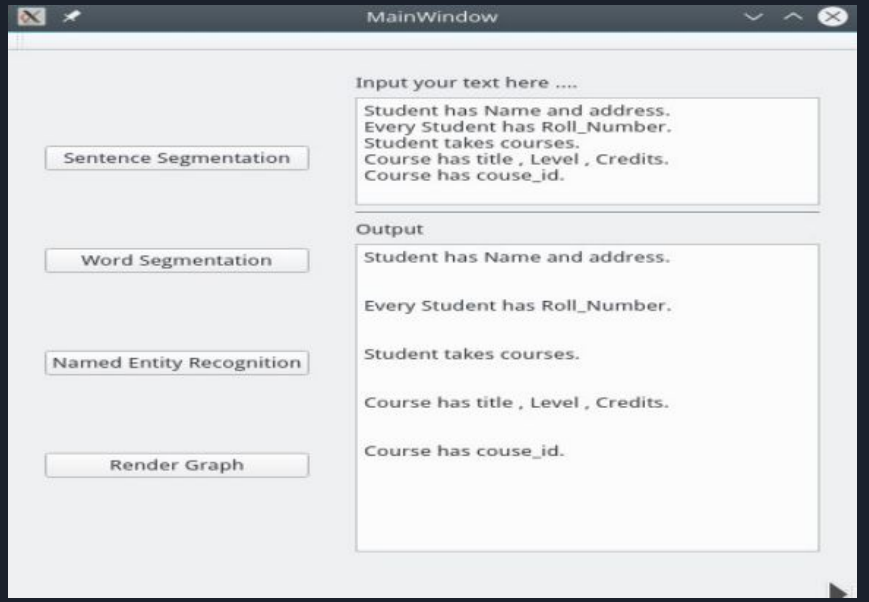
Tokens are generated from the given text input. Segregated those tokens into various groups denoting different categories of English Grammar like nouns, verbs, etc.

NLTK POS tagger used to detect Entities and their corresponding relations. DDL commands implemented in the proposed system.

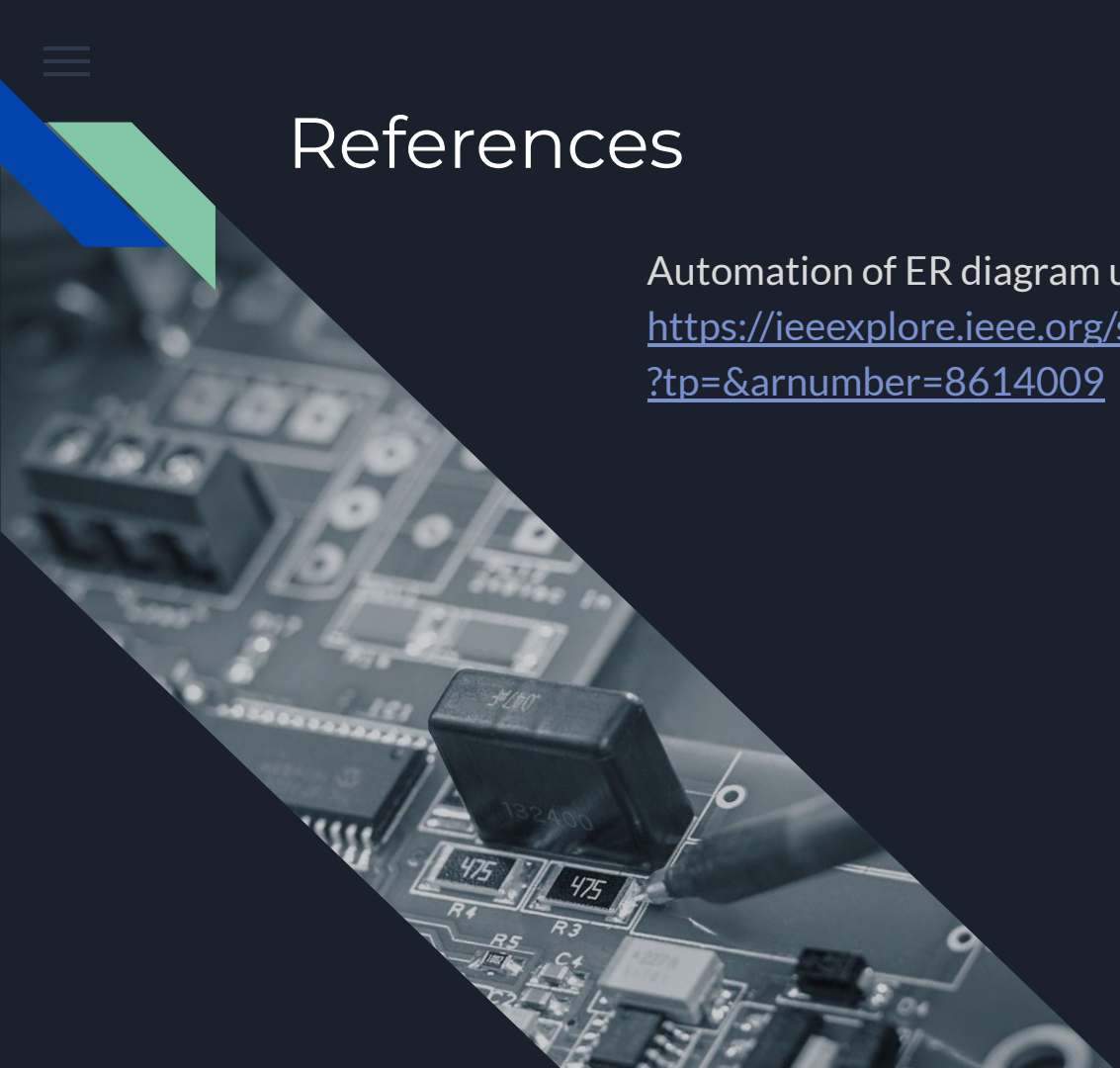
Sub-Problem 2 (Contd.)

Output of the parsed string with the symbol table

Id	Synonym
1	student
1	Boy
1	Girl
2	employee
2	professor
2	Associate Professor



References



Automation of ER diagram using NLP : https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8614009