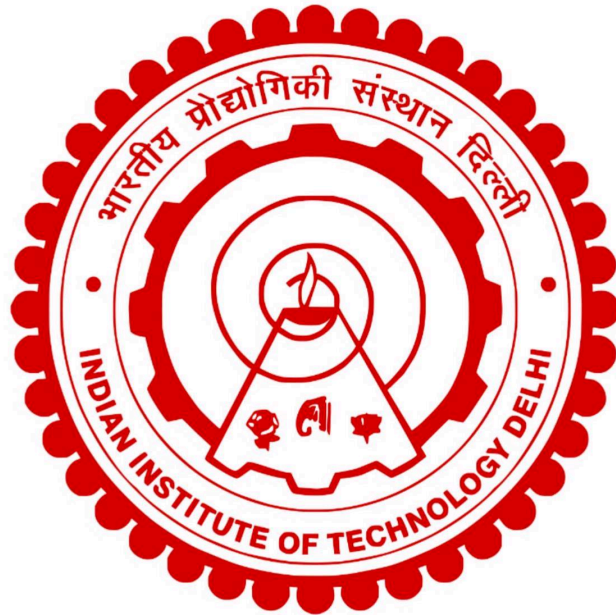


DBMS PROJECT



DATABASE CREATORS TEAM

TEAM MEMBERS:

- | | | |
|------------------------------|---|-------------|
| 1. Banoth Chethan Naik | - | 2020CS10333 |
| 2. Varanasi Yaswanth Krishna | - | 2020CS10406 |
| 3. Ankit Kumar | - | 2020CS10323 |

Diseases and Medicinal database

Database mainly on the different types of diseases and their preventions, treatment and medication which will be helped for the people who needs the information about the particular diseases.

The following are the database relations(tables) for my database.

Diseases:

This table contains information about various diseases.

Each disease has a unique id, name, born country, born year, and mortality rate.

The id is the primary key of the table, and there are several functional dependencies based on the id, name, born country, born year, and mortality rate.

Medicine:

This table contains information about various medicines.

Each medicine has a unique id, name, prescription, and side effects.

The id is the primary key of the table, and there are several functional dependencies based on the id, name, prescription, and side effects.

Vaccines:

This table contains information about various vaccines.

Each vaccine has a unique id and name.

The id is the primary key of the table, and there is a functional dependency based on the id and name.

Types of tests:

This table contains information about various types of tests used to identify diseases.

Each test has a unique id, name, and description.

The id is the primary key of the table, and there are functional dependencies based on the id, name, and description.

Transmission Modes:

This table contains information about various transmission modes for diseases.

Each transmission mode has a unique id, name, and description.

The id is the primary key of the table, and there are functional dependencies based on the id, name, and description.

Types of symptoms:

This table contains information about various types of symptoms associated with diseases.

Each symptom has a unique id and name.

The id is the primary key of the table, and there is a functional dependency based on the id and name.

Treatment:

This table contains information about various treatments for diseases.

Each treatment has a unique id, name, type, and description.

The id is the primary key of the table, and there are functional dependencies based on the id, name, type, and description.

Modes of Transmission:

This table contains information about the modes of transmission for each disease.

Each row specifies the disease id and the transmission mode id for that disease.

The combination of disease id and transmission id is the primary key of the table.

Has Treatment:

This table specifies the treatments for each disease.

Each row specifies the disease id and the treatment id for that disease.

The combination of disease id and treatment id is the primary key of the table.

Identification test:

This table specifies the identification tests for each disease.

Each row specifies the disease id and the test id for that disease.

The combination of disease id and test id is the primary key of the table.

Has Vaccine:

This table specifies the vaccines for each disease.

Each row specifies the disease id and the vaccine id for that disease.

The combination of disease id and vaccine id is the primary key of the table.

Prevention:

This table specifies the prevention methods for each disease.

Each row specifies the disease id, prevention id, name, and description for that disease.

The combination of disease id and prevention id is the primary key of the table.

Has Medicine:

This table specifies the medicines for each disease, along with the dosage.

Each row specifies the disease id, medicine id, and dosage for that disease.

Has Symptoms:

This table specifies the symptoms for each disease.

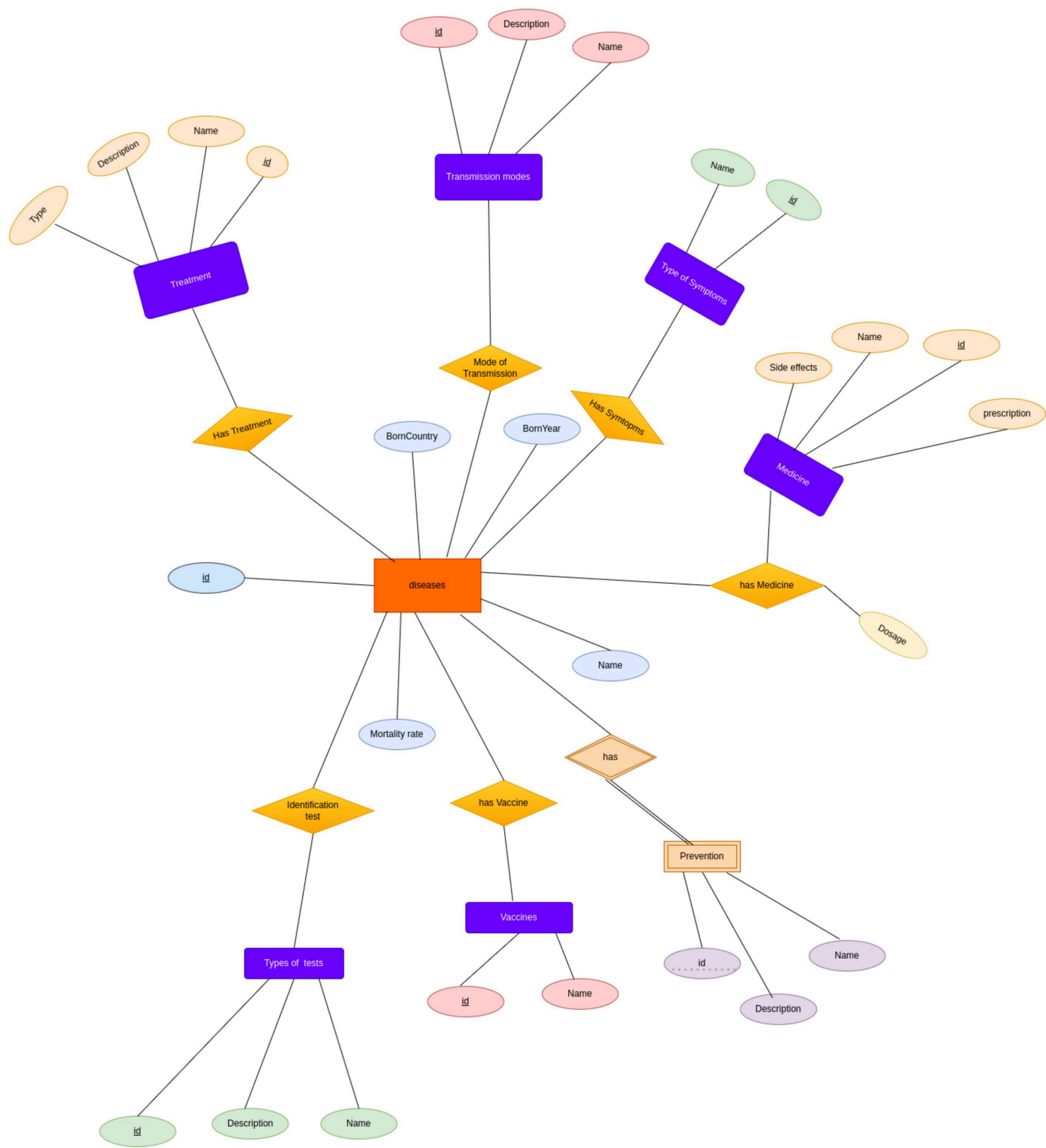
Each row specifies the disease id, symptom id.

E-R Diagram:

The ER diagram consists of entities (represented as rectangles), relationships (represented as diamonds), and attributes (represented as ovals).

An ER diagram is an important tool in database design because it helps to identify the relationships between different entities, and to ensure that the database is organized in a logical and efficient way. An ER diagram can be used to show how the different entities in a database are related to each other.

The ER diagram consists of several entities, including "Diseases," "Medicine," "Vaccines," "Types of tests," "Transmission Modes," "Types of symptoms," "Treatment," "Prevention," and relationships between these entities. The following is the ER-diagram.



Functional Dependencies:

The following are functional dependencies of the database relations:

Diseases:

id -> name, born country, born year, mortality rate.

name -> id

Medicine:

id -> name, prescription, side effects

name -> id

Vaccines:

id -> name

name -> id

Types of tests:

id -> name, description

name -> id

Transmission Modes:

id -> name, description

name -> id

Types of symptoms:

id -> name

name -> id

Treatment:

id -> name, type, description

Prevention:

(Disease id, Prevention id) -> name, description

Has Medicine:

(Disease id, Medicine id) -> Dosage

Functional dependencies preserving Normalization.

Here are the functional dependencies (FDs) preserving all normal forms for the given tables:

Diseases (id,name,born country,born year,mortality rate):

$id \rightarrow name, \text{born country}, \text{born year}, \text{mortality rate}$

Medicine (id,name,prescription,side effects):

$id \rightarrow name, \text{prescription}, \text{side effects}$

Vaccines (id,name):

$id \rightarrow name$

Types of tests(id,name,description):

$id \rightarrow name, \text{description}$

Transmission Modes(id,name,description):

$id \rightarrow name, \text{description}$

Types of symptoms(id,name):

$id \rightarrow name$

Treatment(id,name,type,description):

$id \rightarrow name, \text{type}, \text{description}$

Modes of Transmission(Disease id,Transmission id):

$(\text{Disease id}, \text{Transmission id}) \rightarrow \text{Disease id}$

$(\text{Disease id}, \text{Transmission id}) \rightarrow \text{Transmission id}$

Has Treatment(Disease id,Treatment id):

$(\text{Disease id}, \text{Treatment id}) \rightarrow \text{Disease id}$

$(\text{Disease id}, \text{Treatment id}) \rightarrow \text{Treatment id}$

Identification test(Disease id,test id):

$(\text{Disease id}, \text{test id}) \rightarrow \text{Disease id}$

$(\text{Disease id}, \text{test id}) \rightarrow \text{test id}$

Has Vaccine(Disease id,Vaccine id):

$(\text{Disease id}, \text{Vaccine id}) \rightarrow \text{Disease id}$

(Disease id, Vaccine id) → Vaccine id

Prevention(Disease id,Prevention id,name,description):

(Disease id, Prevention id) → Disease id

(Disease id, Prevention id) → name, description

Has Medicine(Disease id,Medicine id,Dosage):

(Disease id, Medicine id) → Disease id

(Disease id, Medicine id) → Medicine id, Dosage

Has symptoms(Disease id,symptom id):

(Disease id, symptom id) → Disease id

(Disease id, symptom id) → symptom id

Relational Schema:

The following are the relational schema for the database :

Diseases (id,name,born country,born year,mortality rate);

Medicine (id,name,prescription,side effects);

Vaccines (id,name);

Types of tests(id,name,description);

Transmission Modes(id,name,description)

Types of symptoms(id,name);

Treatment(id,name,type,description);

Modes of Transmission(Disease id,Transmission id);

Has Treatment(Disease id,Treatment id);

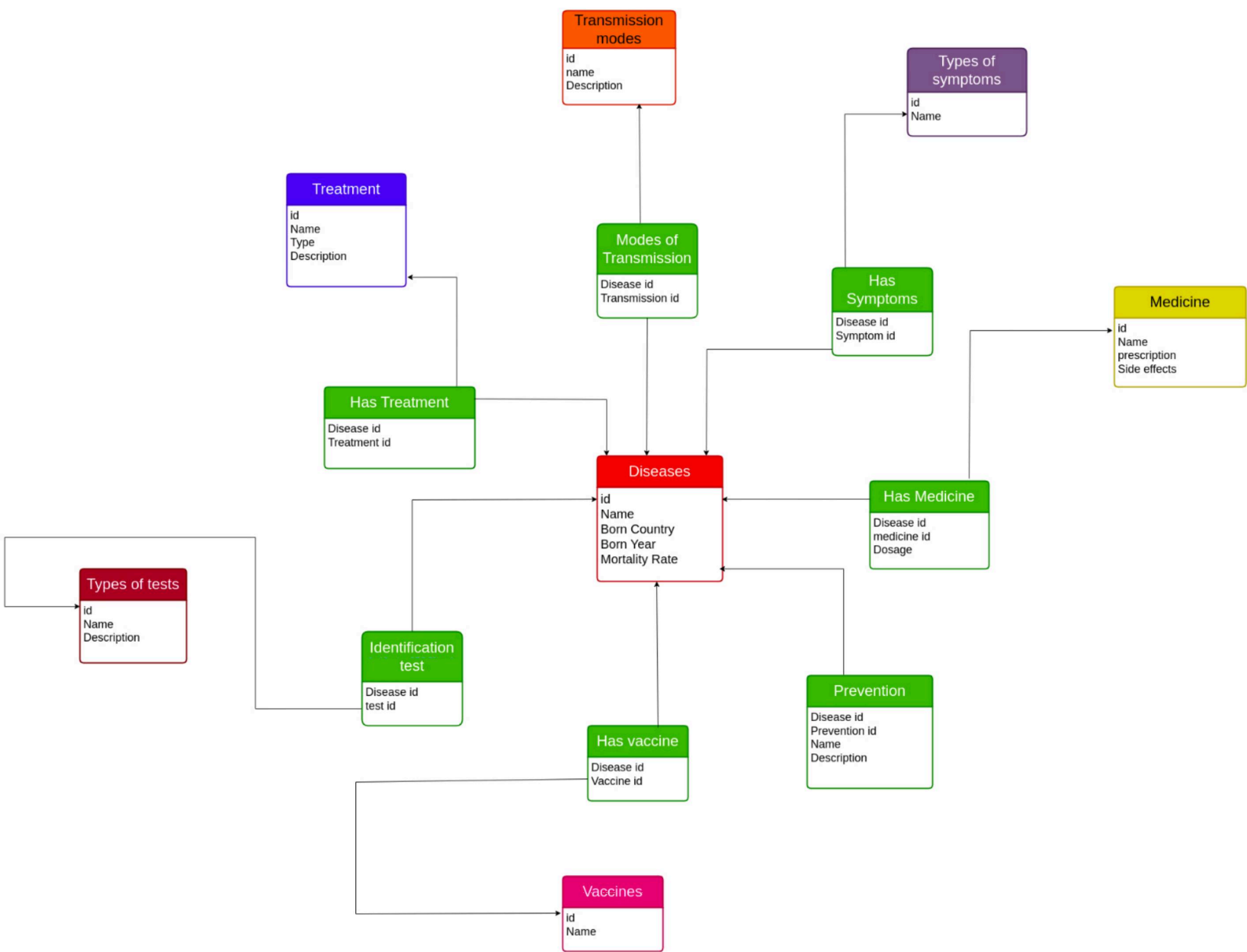
Identification test(Disease id,test id);

Has Vaccine(Disease id,Vaccine id);

Prevention(Disease id,Prevention id,name,description);

Has Medicine(Disease id,Medicine id,Dosage);

Has symptoms(Disease id,symptom id);



GitHub Repository for the project :

<https://github.com/ANKITKUMAR9462/Database-Creators.git>

Remarks:

Currently, with the data we have, we have created the tables indicated above and as the project progresses, we will continue to improve them by adding more complex queries, and possibly add some additional tables and we make some changes to the schema of these tables ahead by adding some additional columns to the present tables according to further data that we find.