**DBMS Lab Record Cycle**



# ER Diagram & Table Design

* + E-R Diagram and table reduction
  + Table descriptions

**Movie database:**

**Table name: Directors**

**Description: Used to store Directors Information**

| **Attribute** | **Data Type** | **Constraints** |
| --- | --- | --- |
| Id | Int | Primary Key/ Not Null |
| Name | Varchar2(40) | Not Null |

**Table name: Stars**

**Description: Used to store Stars Information**

| **Attribute** | **Data Type** | **Constraints** |
| --- | --- | --- |
| Id | Int | Primary Key/ Not Null |
| Name | Varchar2(40) | Unique |
| About | Varchar2(100) |  |

**Table name: Movies**

**Description: Used to store Movies Information**

| **Attribute** | **Data Type** | **Constraints** |
| --- | --- | --- |
| Id | Int | Primary Key/ Not Null |
| Title | Varchar2(40) | Not Null |
| R\_date | Date |  |
| Image\_url | Varchar2(100) |  |
| Certificate | Varchar2(20) |  |
| Runtime | Number(3,2) |  |
| ImdbRating | Number (3,1) | By default 0 |
| Description | Text(100) | By default Null |
| Metascore | Number (3,1) | By default 0 |
| Votes | Int | By default 0 |
| Gross | Number(10,2) | Gross amount should be greater than 10000 |

**Table name: MoviesDirectors**

**Description: Used to store Movie Directors Information**

| **Attribute** | **Data Type** | **Constraints** |  |
| --- | --- | --- | --- |
| MoviesId | Int | Foreign Key references  Id of **Movies** table | Primary Key |
| DirectorsId | Int | Foreign Key references  Id of **Directors** table |

**Table name: MoviesStars**

**Description: Used to store Movie Stars Information**

| **Attribute** | **Data Type** | **Constraints** |  |
| --- | --- | --- | --- |
| MoviesId | Int | Foreign Key references  Id of **Movies** table | Primary Key |
| StarsId | Int | Foreign Key references  Id of **Stars** table |

1. **Practice SQL Data Definition Language(DDL) commands**

* Create the tables based on the above description.
* Add a column ‘DOB’ to **Stars** table.
* Drop the column ‘Gross’ in **Movies** table.
* Add column ‘Language’ in **Movies** table.
* Add column Gross Number(12,2) in **Movies** table.
* Change the name of the column ‘R\_date’ in **Movies table** to Releasedate. Releasedate.
* Add a column ‘Age’ in **Directors** table as Number. Age must be 7 years or above.
* Add a new column ‘Hit’ in **Movies** table with datatype Number(1) and by default 0.
* Add a new column ‘Entry\_date’ in Movies table to record the date on which the movie details are entered in the data base.
* Destroy the table **MoviesStars** and recreate it.
* Change the size of Director’s name to 30.
* Add the following check constraints:
  + Release\_date should be less than the Entry\_date in the Movies table.
  + Language of movies should be Malayalam, English, Tamil or Hindi.

1. **Practice SQL Data Manipulation Language (DML) commands**
   1. Row insertion, deletion and updating

* Insert the appropriate data (10 rows) for the tables with respect to defined datatypes, size and constraints.
* Change value of Hit to 1 where ‘Votes’ greater than or equal to 90.
* Create table **IndustryHit** with the following columns:

Id

Title

Year

Language

Votes

Gross

The data types and null characteristics for these columns should be

the same as the corresponding columns in the **Movies** table

described at the beginning of the lab exercise.

* New movies hit the box office, their data is as follows:

Id: 1014, 1021, 1032

Title: 2018: Everyone is a Hero, Oppenheimer, Maamannan

Year: 2023, 2023, 2023

Language: Malayalam, English, Tamil

Votes: 97, 96, 95

Gross: 750000000 , 500000000, 505000000

Add the new employees to the **IndustryHit** table.

* Insert data into the new **IndustryHit** table.
* Insert data into the **IndustryHit** table by copying the appropriate columns in the **Movies** table for those Movies that have Votes greater than or equal to 95.
* Movie Oppenheimer got a Metascore of 80. Make the appropriate data change.
* Delete all movies whose Metascore is less than 50.
* Movie ‘Voice Of Sathyanathan’ was released.

For ‘Voice Of Sathyanathan’ enter the following data:

Id : 1015

Title: Voice Of Sathyanathan

Year: 2023

Image\_url: https://m.media-amazon.com/imak2M\_.jpg

Certificate: U

Runtime: 2.10

ImdbRating: 7.4

Description: A man's life becomes increasingly complicated after his neighbor is injured in a dispute over a fence.

Metascore: 60

Votes: 90

Gross: 109500000

* Delete all rows from **IndustryHit and drop the IndustryHit table.**
  1. Retrieval of data (Simple select query and select with ‘where’

options (include all relational and logical operators)

* List details of all movies
* List Title, Votes, ReleaseYear, Gross where Gross collection greater than 5000,000,00. Sequence the results in descending order by Gross.
* Retrieve the titles and years of Tamil movies released in 2022.
* Get the titles, years, and meta scores of movies sorted in descending order of meta scores.
* List titles, years, languages, dates and votes of all Malayalam and English movies released before 2022 and ImdbRating less than 7. The list should be ordered by Title.
* List all the movies whose title starts with ‘Open’. Order the result by descending order of their id.
* List Hit movies released in 2022 and 2023. Order the result by ascending order of their Titles.
* Retrieve movies with a runtime between 1.5 and 2.5 hours.
* Retrieve movies with Metascore ratings below 50 and IMDb ratings above 6.0.
* Retrieve movies with no description provided.
  1. Functions: Numeric Data, Character Conversion and Group functions
* Illustrate the different numeric functions using dual table (power,

round, ceil, floor, abs, exp, greatest, least, mod, trunc, round,

sign, sqrt etc.)

* Illustrate the character functions (upper, lower, initcap, length,

concat, ascii, substr, ltrim, rtrim, trim, translate, instr,

chr,Lpad,Rpadetc) using the table **Movies.**

* Illustration of conversion functions- to\_number,

to\_char(numberconversion), to\_char(dateconversion)

* Count the total no. of Movies
* Calculate the average votes of movies.
* Determine the maximum and minimum collection of movies. Rename the output as Max\_Coll and Min\_Coll respectively.
* Count the number of movies crossed the collection 50,00,00,000.
* Count the hit movies of 2021.
  1. Data manipulations using date functions
  2. Set Operations
  3. Illustration of Group By having clause