Lab 5
Advanced Data Manipulation

CSE 4308

DATABASE MANAGEMENT SYSTEMS LAB

SEPTEMBER 6, 2023

Contents

1 Some Date Funtions

1.1 Current_date

To get the current, Oracle provides two default functions namely **CURRENT_DATE** and **sysdate** the syntax is following;

```
SELECT CURRENT_DATE FROM DUAL;
```

or,

```
SELECT sysdate FROM DUAL;
```

1.2 TO_DATE

This function is used to convert a date from a DATE value to a specified date format. Example,

```
SELECT TO_DATE('20 APR 2020', 'DD MON YYYY')CONVERTED_DATE
FROM dual;
```

1.3 TO_CHAR

This function converts a date which is in string type to date value. Example,

```
SELECT TO_CHAR(sysdate, 'DD-MM-YYYY')NEW_DATE
FROM dual;
```

1.4 Extraction

To extract day, month or year, one can use **EXTRACT ()** function. For example,

```
SELECT EXTRACT(YEAR FROM TO_DATE('29-Apr-2020 05:30:20',
                                 'DD-Mon-YYYY HH24:MI:SS')) YEAR
FROM DUAL;
```

Similarly, we can extract month and day too.

1.5 Last_Day

This function is used to return the last day of the month of the particular date. For instance,

```
SELECT LAST_DAY(sysdate) LAST_DAY
FROM dual;
```

1.6 Next_Day

This function is used to return the date of next day particular day. For example,

```
SELECT NEXT_DAY(SYSDATE,'FRIDAY')
FROM DUAL;
```

1.7 Months_Between

This function is used to measure the months between two dates and the syntax is as follows;

```
SELECT MONTHS_BETWEEN( sysdate, DATE '2011-04-02' ) MONTH_DIFFERENCE
FROM DUAL;
```

1.8 Add_Months

This function adds N months to a date and returns the same day N month after.

```
SELECT ADD_MONTHS( sysdate, 2 ) NEWDATE
FROM dual;
```

To add a year, we have to convert it into months and to add day we can simple add the day. Let's say,

```
SELECT sysdate+10 as NEWDATE
FROM dual;
```

2 Some String Funtions

2.1 Length

The String **LENGTH()** function in Oracle is used to return the length of a given string. For example;

```
SELECT LENGTH('HELLO') FROM DUAL;
```

2.2 Lower

The string **LOWER()** function in Oracle is used to return a specified character expression in lowercase letters. The following is the syntax to use the LOWER function in Oracle.

```
SELECT LOWER('Hello') FROM DUAL;
```

2.3 Upper

The string **UPPER()** function in Oracle is used to return a specified character expression in uppercase letters. The following is the syntax to use the UPPER function in Oracle.

```
SELECT UPPER('Hello') FROM DUAL;
```

2.4 Initcap

The string **INITCAP()** function in Oracle is used to set the first letter of each word in uppercase and rest all other letters in lowercase. For example;

```
SELECT INITCAP('HELLO') FROM DUAL;
```

2.5 Trim

The string TRIM function in Oracle is used to remove the leading or trailing characters (or both) from a character string. If trim_character or trim_source is a character literal, then you must enclose it in single quotes. If you specify **LEADING**, then Oracle removes any leading characters equal to trim_character and for **TRAILING**, it removes any trailing characters equal to trim_character. If you specify BOTH or none of the three, then Oracle removes leading and trailing characters equal to trim_character. Lastly, if you do not specify trim_character, then the default value is a blank space. For example;

```
SELECT TRIM('     Removing Leading White Spaces  ') LRTRIM FROM DUAL;
```

```
SELECT TRIM(LEADING '6' FROM '660123') LRTRIM FROM DUAL;
```

```
SELECT TRIM(TRAILING '5' FROM '123455') LRTRIM FROM DUAL;
```

2.6 Lpad

LPAD function is used to fill a string with a specific character on the left side of a given string.

```
SELECT LPAD('Hello',10,'+') PADL FROM DUAL;
```

It will produce a 10-character string left padded with '+'.

2.7 Rpad

Similar to LPAD, RPAD function is used to fill a string with a specific character on the right side.

```
SELECT RPAD('Hello',10,'+') PADL FROM DUAL;
```

It will produce a 10-character string right padded with '+'.

2.8 Replace

The string REPLACE function in Oracle is used to return a string with every occurrence of search_string replaced with replacement_string. For example;

```
SELECT REPLACE('JACK and JUE','J','BL') "New String" FROM DUAL;
```

Here, 'J' will be replaced by 'BL'.

3 Handling Null Value

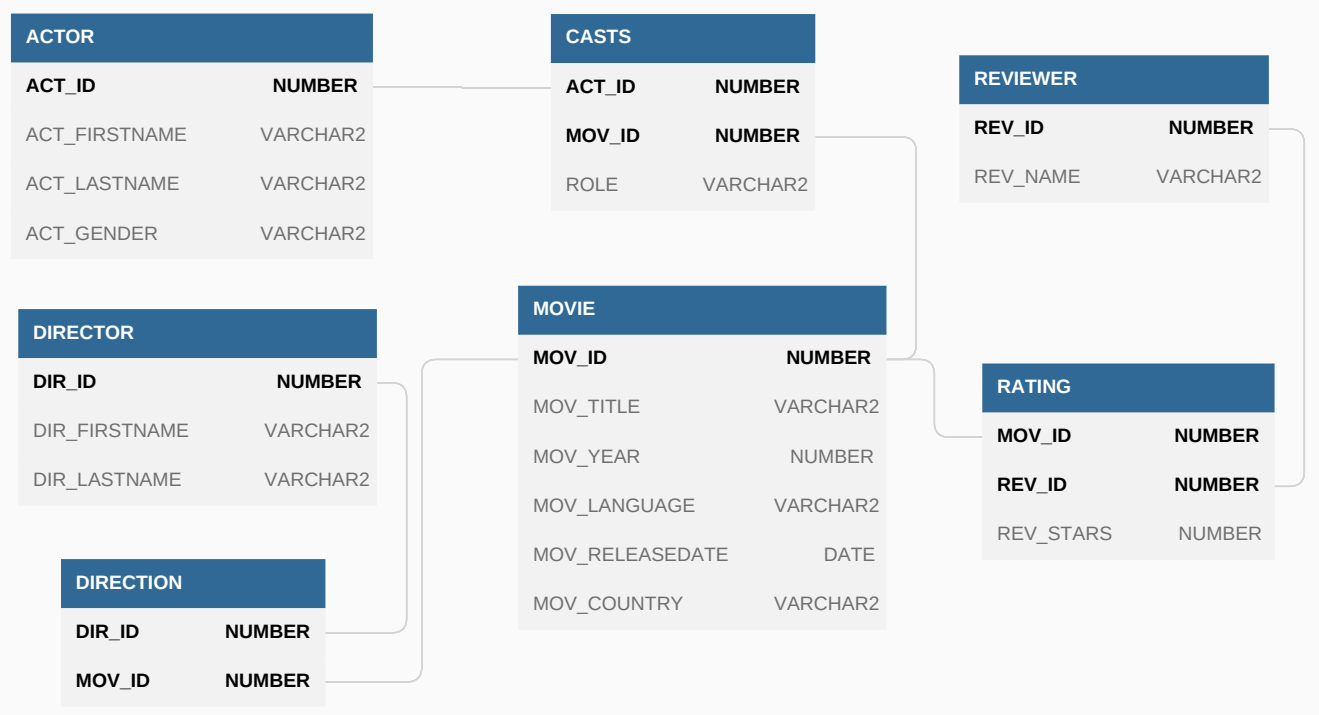
The Oracle NVL function lets you substitute a value when a null value is encountered. For example,

```
SELECT NVL(supplier_city, 'n/a') FROM suppliers;
```

```
SELECT NVL(commission, 0) FROM sales;
```

4 Task

Execute the `movie.sql` script using command. It creates a set of tables along with values that maintain the following schema:



Here, the boldfaces denote the primary keys and the arcs denote the foreign key relationships.
In this lab, you have to write all SQL statements in an editor first and save them with .sql extension. Then execute the SQL script.
Write SQL statements for the following queries:

1. Find the actresses with the same first name.
2. Find the movie titles that did not receive any ratings.
3. Show the count of movies that got released in each month along with the month.
4. Find the months between the release date of the first movie and the last movie directed by 'James Cameron'.
5. Find the title and average rating of the movies that have an average rev_star of more than 7.
6. Find the reviewer who gives the highest number of lowest rev_star.
7. Show the movie title and its average rating for each of the movies (if there is no rating then it will show 0 in that place).
8. Show all the director name who directed movies having ratings greater than the average of all ratings with the 'Sr.' prefix.
9. Show all the mov_id and mov_title with suffix ('old gold' if the mov_year is less than 1980, 'trendy 90's' if the movie was from 1980 to 2000, and 'weird 20's' if the movie was from after 2000).
10. Find all the movies and the names of actors who acted in the movies and directors of movies (no matter whether the name of the actor or director exists or not).
11. Create a new Rating_directed_movie table using a similar structure to the Rating table.
12. In the Rating_directed_movie table insert only the rating of those movies that have director information available.

13. Add a new column Status in Rating_directed_movie table of varchar2(10) type.
14. For each rating if it is greater than the overall rating average+2 then set the Status 'Better', if less than the overall rating average-2 then set the Status 'Bad' else 'So So'
15. For each actor/actress count the number of each type of rating status