DBMS Assignment 1 - Lab 2 Report

Namisa Najah Raisa
Student ID: 210042112

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1 Introduction

In this report, I will discuss the tasks and solutions for DBMS Assignment 1 performed in Lab 2.

2 Tasks

2.1 Task Overview

The lab consisted of five tasks:

1. Create a new user, grant necessary privileges for executing DDL and DML statements, and log in as that user.
2. Create a table with specific attributes and constraints.
3. Insert values into the table as given records.
4. Perform eight queries to retrieve information from the created table.
5. Drop the table along with its constraints.

2.2 Solving the Tasks

To solve the tasks, I referred to the lab notes provided, which were comprehensive and organized into DDL and DML sections. I followed the instructions carefully and executed the SQL statements. I saved all the statements in a text file with a .sql extension and executed them using the following command: `@file_path\file_name.sql`.

2.3 Statements

2.3.1 Creating User and Granting Privileges

```
-- Creating a new user and granting privileges, logging in as
    that user
create user C_210042112 identified by cse4308;
grant all privileges to C_210042112;
connect C_210042112/cse4308;
show user;
```

```
SQL> @C:\Users\USER\Documents\PDF\lab2.sql

User created.


Grant succeeded.

Connected.
USER is "C_210042112"
```

2.3.2 Creating 'instructor' Table

```
-- Creating 'instructor' table
create table instructor (
 id varchar2(6),
 name varchar2(20) not null,
 dept_name varchar2(20),
 salary number not null,
 constraint pk_id primary key (id),
 constraint salary_check check (salary > 20000)
);
```

```
Table created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.
```

2.3.3 Inserting records in the Table

```
--3.Inserting records in the table.
insert into instructor (id,name,dept_name,salary) values ('
    10101', 'Srinivasan', 'Comp. Sci.', 65000);
```

```
insert into instructor (id,name,dept_name,salary) values ('12121', 'Wu', 'Finance', 90000);
insert into instructor (id,name,dept_name,salary) values ('15151', 'Mozart', 'Music', 40000);
insert into instructor (id,name,dept_name,salary) values ('22222', 'Einstein', 'Physics', 95000);
insert into instructor (id,name,dept_name,salary) values ('32343', 'El Said', 'History', 60000);
insert into instructor (id,name,dept_name,salary) values ('00456', 'Gold', 'Physics', 87000);
insert into instructor (id,name,dept_name,salary) values ('45565', 'Katz', 'Comp. Sci.', 75000);
insert into instructor (id,name,dept_name,salary) values ('58583', 'Califieri', 'History', 62000);
insert into instructor (id,name,dept_name,salary) values ('76543', 'Singh', 'Finance', 80000);
insert into instructor (id,name,dept_name,salary) values ('76766', 'Crick', 'Biology', 72000);
insert into instructor (id,name,dept_name,salary) values ('03821', 'Brandt', 'Comp. Sci.',
92000);
insert into instructor (id,name,dept_name,salary) values ('98345', 'Kim', 'Elec. Eng.', 80000);
```

2.3.4 Performing the Queries

```
--a
select * from instructor;
--b
select id,name from instructor;
--c
select name,dept_name from instructor where salary>70000;
--d
select name,dept_name from instructor where salary<=80000 and
    salary>=10000;
--e
select id,name from instructor where dept_name='Comp. Sci.';
--f
select name,salary from instructor where dept_name='Finance';
--g
select id,name from instructor where dept_name='Comp. Sci.'
   or salary>75000;
--h
select dept_name from instructor;
```

Run SQL Command Line

```
ID     NAME                 DEPT_NAME                SALARY
------ -------------------- -------------------- ----------
10101  Srinivasan           Comp. Sci.                65000
12121  Wu                   Finance                   90000
15151  Mozart               Music                     40000
22222  Einstein             Physics                   95000
32343  El Said              History                   60000
00456  Gold                 Physics                   87000
45565  Katz                 Comp. Sci.                75000
58583  Califieri            History                   62000
76543  Singh                Finance                   80000
76766  Crick                Biology                   72000
03821  Brandt               Comp. Sci.                92000

ID     NAME                 DEPT_NAME                SALARY
------ -------------------- -------------------- ----------
98345  Kim                  Elec. Eng.                80000

12 rows selected.
```

```
ID     NAME
------ --------------------
10101  Srinivasan
12121  Wu
15151  Mozart
22222  Einstein
32343  El Said
00456  Gold
45565  Katz
58583  Califieri
76543  Singh
76766  Crick
03821  Brandt

ID     NAME
------ --------------------
98345  Kim

12 rows selected.
```

```
NAME                 DEPT_NAME
-------------------- --------------------
Wu                   Finance
Einstein             Physics
Gold                 Physics
Katz                 Comp. Sci.
Singh                Finance
Crick                Biology
Brandt               Comp. Sci.
Kim                  Elec. Eng.

8 rows selected.
```

```
NAME                 DEPT_NAME
-------------------- --------------------
Srinivasan           Comp. Sci.
Mozart               Music
El Said              History
Katz                 Comp. Sci.
Califieri            History
Singh                Finance
Crick                Biology
Kim                  Elec. Eng.

8 rows selected.
```

```
ID     NAME
------ ---------------
10101  Srinivasan
45565  Katz
03821  Brandt
```

```
NAME                    SALARY
-------------------- ----------
Wu                       90000
Singh                    80000
```

```
ID     NAME
------ --------------------
10101  Srinivasan
12121  Wu
22222  Einstein
00456  Gold
45565  Katz
76543  Singh
03821  Brandt
98345  Kim

8 rows selected.
```

```
DEPT_NAME
--------------------
Comp. Sci.
Finance
Music
Physics
History
Physics
Comp. Sci.
History
Finance
Biology
Comp. Sci.

DEPT_NAME
--------------------
Elec. Eng.

12 rows selected.
```

2.3.5 Dropping Table

```sql
-- Dropping table
drop table instructor cascade constraints;
```

```
Table dropped.
```

3 Challenges

During the tasks, I encountered some challenges. Understanding the constraints and their usage was initially difficult. Additionally, there were IDs that started with zeroes. To display the leading zeroes in the table, I used the `varchar2(n)` datatype. Determining which statements were required for each query also posed some confusion.