

CSCI 443: *Database Management Systems*
Homework #4
Due 8 April

The Oracle database stored on the workstations contains two tables, squares and factorials, described as follows.

```
SQL> describe squares
Name                                     Null?   Type
-----
N                                         NUMBER(38)
N_SQUARED                                NUMBER(38)

SQL> describe factorials
Name                                     Null?   Type
-----
N                                         NUMBER(38)
N_FACTORIAL                               NUMBER(38)
```

The squares table contains a few integers and their squares

```
SQL> select * from squares ;

      N  N_SQUARED
-----
      1          1
      2          4
      3          9
.....
26 rows selected.
```

The factorials table contains a few integers and their factorials.

```
SQL> select * from factorials ;
```

```
      N  N_FACTORIAL
-----
      1          1
      2          2
      3          6
.....
20 rows selected.
```

Problem 1:

Define a *view* derived from the `squares` and `factorials` table. Each row of your view will have three fields, one each for n , n^2 , and $n!$. When you select rows from your view, the output should look something like:

1	1	1
2	4	2
3	9	6
4	16	24

You *must* use the ```define view``` SQL command to do this problem!

Problem 2:

Use the SQL select command to sum up all the squares in the `squares` table.

Problem 3:

Use the SQL select command to sum up all *even* squares in the `squares` table.

Problem 4:

Use the SQL select command to list tuples of the form n , n^2 , and $(n^2)!$ with values taken from the two tables. Output should resemble:

1	1	1
2	4	24
3	9	362880

Problem 5:

Use the SQL select command to list tuples of the form n , n^2 , and n^4 with values taken from the `squares` table. Output should resemble:

1	1	1
2	4	16
3	9	81

You may have to go to the library to figure out how to do this one.

Important Note: Next Thursday, April 1, is the 2nd quiz. The quiz will concentrate on SQL. It would be a good idea to work on this assignment before next week.