

CENG316 – Database Systems

Assignment 2 (Due: Friday, May 12 at 23:59:59, [SUBMIT TO LMS](#))


Notes:

- You must complete all assignments **on your own**.
- Plagiarism will not be tolerated. If detected, you may get a zero for the assignment.
- You can use either Oracle SQL Developer or **Oracle Live SQL** which is the platform that I recommend you to test your queries.
- Please follow the steps below to start using *Oracle Live SQL platform*.
- **You are required to show your answers by putting the SCREENSHOTS OF THE WRITTEN QUERIES AND THEIR RESULTS IN THE DEVELOPMENT ENVIRONMENT. Writing queries in a plaintext file is not accepted.**

How to use *Oracle Live SQL*?

1. Go to the below link and then press the “Login to Run Script” button:

https://livesql.oracle.com/apex/livesql/file/content_GV8MU6SITA2V3VYI179FAJUCY.html

 Live SQL

HR Objects and Data For Live SQL

[View All Scripts](#)[Login to Run Script](#)

Script Name	HR Objects and Data For Live SQL
Description	This script will create the HR Sample Schema objects and data in your local schema. If you want just query-only, you can instead use the HR sample schema by referencing hr.regions, etc. To drop the objects once created, you can run "Drop HR Sample Schema" - https://livesql.oracle.com/apex/livesql/file/content_GWKN7QJBHHC8F1RJTEB47AFOY.html . Please note that this schema was initially created in 2000 and last updated March 19, 2015 so the constructs are not necessarily what we would recommend today.
Area	SQL General
Contributor	Oracle
Created	Wednesday June 27, 2018

2. After completing all login processes (signing up or signing in) press the green “Run Script” button and run 62 statements in the script to create the HR Schema that you will work with:

Code Library \

HR Objects and Data For Live SQL

[Back](#)[Heart](#)[Download](#)[Run Script](#)

Description

This script will create the HR Sample Schema objects and data in your local schema. If you want just query-only, you can instead use the HR sample schema by referencing hr.regions, etc. To drop the objects once created, you can run "Drop HR Sample Schema" - https://livesql.oracle.com/apex/livesql/file/content_GWKN7QJBHHC8F1RJTEB47AFOY.html. Please note that this schema was initially created in 2000 and last updated March 19, 2015 so the constructs are not necessarily what we would recommend today.

Area

SQL General

Contributor

Oracle

Share Link

https://livesql.oracle.com/apex/livesql/file/content_GV8MU6SITA2V3VYI179FAJUCY.html

Metrics

[721 Likes](#), [133,029 Executions](#), [Created 4.8 years ago](#), 62 Statements, 62,319 bytes

- After creating HR Schema, press the “SQL Worksheet” button.

Script Results

Script

HR Objects and Data For Live SQL

Success
 62 statements ran successfully. 23 objects created.

Statement	
1	Copyright <pre> begin dbms_output.put_line('Copyright (c) 2018, Oracle and/or its affiliates. All rights reserved. dbms_output.put_line('Permission is hereby granted, free of charge, to any person dbms_output.put_line('a copy of this software and associated documentation files dbms_output.put_line('"Software"), to deal in the Software without restriction, in dbms_output.put_line('without limitation the rights to use, copy, modify, merge, dbms_output.put_line('distribute, sublicense, and/or sell copies of the Software, dbms_output.put_line('permit persons to whom the Software is furnished to do so, dbms_output.put_line('the following conditions: '); </pre>

My Session

SQL Worksheet

- From now on, you can write your SQL statements and see the resultant tables. Write your SQL query and press the green “Run” button to execute it.

SQL Worksheet

Clear

Find

Actions

Save

Run

```

1 SELECT *
2 FROM employees;

```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
100	Steven	King	SKING	515.123.4567	17-JUN-03	AD_PRES	24000	-	-	90
101	Neena	Kochhar	NKOCHHAR	515.123.4568	21-SEP-05	AD_VP	17000	-	100	90

Part 1 (17 points)

- There are four coding errors in the following statement. Identify and list them. (4 points)

```

SELECT employee_id, last_name
sal x 12 ANNUAL SALARY
FROM employees;

```

- The HR department wants a query to display the last name, job ID, hiredate, and employee ID for each employee, with the employee ID appearing first. Provide an alias `STARTDATE` for the `HIRE_DATE` column. Write the necessary query statement. (8 points)

3. Write a query statement to display all unique job IDs from the **EMPLOYEES** table. (5 points)

Part 2 (32 points)

4. The HR department has requested a report of all employees and their job IDs. Write a query statement to display the last name concatenated with the job ID (separated by a comma and space) and name the column "**Employee and Title**". (8 points)

5. The HR department needs to find high-salary and low-salary employees. Write a query statement to display the last name and salary for all employees whose salary is NOT in the range \$5,000 -- \$12,000. (8 points)

6. Modify your statement from Question 5 to display the last name and salary of employees who earn between \$5,000 and \$12,000, and are in department 20 or 50. Label the columns **Employee** and **Monthly Salary**, respectively. (8 points)

7. Write a query statement to display the last name and hire date of all employees who were hired in 2002. (8 points)

Part 3 (51 points)

8. Write a statement to display the last name and department ID of all employees in departments 20 or 50 in ascending alphabetical order by last name. (8 points)

9. Write a statement to display the last name, salary, and commission percentage for all employees who earn commissions. Sort data in descending order of salary and commissions. Use the column's numeric position in the `ORDER BY` clause. (8 points)

10. Write a statement to display the last names of all employees who have both an "a" and an "e" in their last name. (10 points)

11. Write a statement to display the last name, job, and salary for all employees whose job is a sales representative (SA_REP) or a stock clerk (ST_CLERK), and whose salary is not equal to \$2,500, \$3,500, or \$7,000. (10 points)

12. Write a statement to display the employee number, last name, salary, and salary increased by 15.5% (expressed as the nearest whole number, with column label `New Salary`) for each employee. (10 points)

13. Modify your query from Question 12 to add a column that subtracts the old salary from the new salary. Label the column `Increase`. (5 points)