

Practice 1

Part 1

Test your knowledge:

1. The following SELECT statement executes successfully:

```
SELECT last_name, job_id, salary AS Sal
FROM   employees;
```

True/False

2. The following SELECT statement executes successfully:

```
SELECT *
FROM   job_grades;
```

True/False

3. There are four coding errors in the following statement. Can you identify them?

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

Part 2

Note the following points before you begin with the practices:

- Save all your lab files at the following location: D:\labs\SQL1\labs
- Enter your SQL statements in a SQL Worksheet. To save a script in SQL Developer, make sure the required SQL worksheet is active and then from the File menu, select Save As or right-click in the SQL Worksheet and select Save file to save your SQL statement as a lab_<lessonno>_<stepno>.sql script. When you are modifying an existing script, make sure you use Save As to save it with a different filename.
- To run the query, click the Execute Statement icon in the SQL Worksheet. Alternatively, you can press [F9]. For DML and DDL statements, use the Run Script icon or press [F5].
- After you have executed the query, make sure that you do not enter your next query in the same worksheet. Open a new worksheet.

You have been hired as a SQL programmer for Acme Corporation. Your first task is to create some reports based on data from the Human Resources tables.

4. Your first task is to determine the structure of the DEPARTMENTS table and its contents.

DESCRIBE departments		
Name	Null	Type

DEPARTMENT_ID	NOT NULL	NUMBER(4)
DEPARTMENT_NAME	NOT NULL	VARCHAR2(30)
MANAGER_ID		NUMBER(6)
LOCATION_ID		NUMBER(4)
4 rows selected		

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	DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	10	Administration	200	1700
2	20	Marketing	201	1800
3	50	Shipping	124	1500
4	60	IT	103	1400
5	80	Sales	149	2500
6	90	Executive	100	1700
7	110	Accounting	205	1700
8	190	Contracting	(null)	1700

5. You need to determine the structure of the EMPLOYEES table.

DESCRIBE employees		
Name	Null	Type

EMPLOYEE_ID	NOT NULL	NUMBER(6)
FIRST_NAME		VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(25)
EMAIL	NOT NULL	VARCHAR2(25)
PHONE_NUMBER		VARCHAR2(20)
HIRE_DATE	NOT NULL	DATE
JOB_ID	NOT NULL	VARCHAR2(10)
SALARY		NUMBER(8,2)
COMMISSION_PCT		NUMBER(2,2)
MANAGER_ID		NUMBER(6)
DEPARTMENT_ID		NUMBER(4)
11 rows selected		

The HR department wants a query to display the last name, job code, hire date, and employee number for each employee, with the employee number appearing first. Provide an alias STARTDATE for the HIRE_DATE column. Save your SQL statement to a file named lab_01_05.sql so that you can dispatch this file to the HR department.

Practice 1 (continued)

6. Test your query in the lab_01_05.sql file to ensure that it runs correctly.

Note: After you have executed the query, make sure that you do not enter your next query in the same worksheet. Open a new worksheet.

	EMPLOYEE_ID	LAST_NAME	JOB_ID	STARTDATE
1	100	King	AD_PRES	17-JUN-87
2	101	Kochhar	AD_VP	21-SEP-89
3	102	De Haan	AD_VP	13-JAN-93
4	103	Hunold	IT_PROG	03-JAN-90
5	104	Ernst	IT_PROG	21-MAY-91
6	107	Lorentz	IT_PROG	07-FEB-99
7	124	Mourgos	ST_MAN	16-NOV-99
8	141	Rajs	ST_CLERK	17-OCT-95
9	142	Davies	ST_CLERK	29-JAN-97
10	143	Matos	ST_CLERK	15-MAR-98

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19	205	Higgins	AC_MGR	07-JUN-94
20	206	Gietz	AC_ACCOUNT	07-JUN-94

7. The HR department wants a query to display all unique job codes from the EMPLOYEES table.


	JOB_ID
1	AC_ACCOUNT
2	AC_MGR
3	AD_ASST
4	AD_PRES
5	AD_VP
6	IT_PROG
7	MK_MAN
8	MK_REP
9	SA_MAN
10	SA_REP
11	ST_CLERK
12	ST_MAN

Practice 1 (continued)

Part 3

If you have time, complete the following exercises:

- The HR department wants more descriptive column headings for its report on employees. Copy the statement from `lab_01_05.sql` to a new SQL Worksheet. Name the column headings Emp #, Employee, Job, and Hire Date, respectively. Then run your query again.

	 Emp #	 Employee	 Job	Hire Date
1	100	King	AD_PRES	17-JUN-87
2	101	Kochhar	AD_VP	21-SEP-89
3	102	De Haan	AD_VP	13-JAN-93
4	103	Hunold	IT_PROG	03-JAN-90
5	104	Ernst	IT_PROG	21-MAY-91
6	107	Lorentz	IT_PROG	07-FEB-99
7	124	Mourgos	ST_MAN	16-NOV-99
8	141	Rajs	ST_CLERK	17-OCT-95
9	142	Davies	ST_CLERK	29-JAN-97
10	143	Matos	ST_CLERK	15-MAR-98

...

19	205	Higgins	AC_MGR	07-JUN-94
20	206	Gietz	AC_ACCOUNT	07-JUN-94

- The HR department has requested a report of all employees and their job IDs. Display the last name concatenated with the job ID (separated by a comma and space) and name the column Employee and Title.

	 Employee and Title
1	Abel, SA_REP
2	Davies, ST_CLERK
3	De Haan, AD_VP
4	Ernst, IT_PROG
5	Fay, MK_REP
6	Gietz, AC_ACCOUNT
7	Grant, SA_REP
8	Hartstein, MK_MAN
9	Higgins, AC_MGR
10	Hunold, IT_PROG

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19	Whalen, AD_ASST
20	Zlotkey, SA_MAN

Practice 1 (continued)

If you want an extra challenge, complete the following exercise:

10. To familiarize yourself with the data in the EMPLOYEES table, create a query to display all the data from that table. Separate each column output by a comma. Name the column title THE_OUTPUT.

	Results	Script Output	Explain	Autotrace	DBMS Output	OWA Output
Results:						
	THE_OUTPUT					
1	100,Steven,King,SKING,515.123.4567,AD_PRES,,17-JUN-87,24000,,90					
2	101,Neena,Kochhar,NKOCHHAR,515.123.4568,AD_VP,100,21-SEP-89,17000,,90					
3	102,Lex,De Haan,LDEHAAN,515.123.4569,AD_VP,100,13-JAN-93,17000,,90					
4	103,Alexander,Hunold,AHUNOLD,590.423.4567,IT_PROG,102,03-JAN-90,9000,,60					
5	104,Bruce,Ernst,BERNST,590.423.4568,IT_PROG,103,21-MAY-91,6000,,60					
6	107,Diana,Lorentz,DLORENTZ,590.423.5567,IT_PROG,103,07-FEB-99,4200,,60					
7	124,Kevin,Mourgos,KMOURGOS,650.123.5234,ST_MAN,100,16-NOV-99,5800,,50					
8	141,Trenna,Rajs,TRAJS,650.121.8009,ST_CLERK,124,17-OCT-95,3500,,50					
9	142,Curtis,Davies,CDAVIES,650.121.2994,ST_CLERK,124,29-JAN-97,3100,,50					
10	143,Randall,Matos,RMATOS,650.121.2874,ST_CLERK,124,15-MAR-98,2600,,50					

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19	205,Shelley,Higgins,SHIGGINS,515.123.8080,AC_MGR,101,07-JUN-94,12000,,110					
20	206,William,Gietz,WGJETZ,515.123.8181,AC_ACCOUNT,205,07-JUN-94,8300,,110					