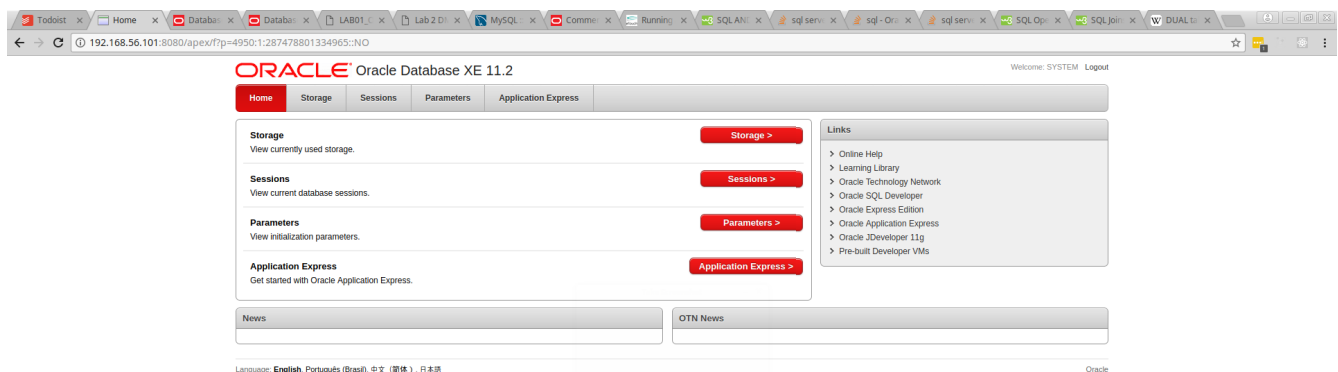


CSE 572 – LAB 1

0. To install Oracle DB XE on my computer I followed a hybrid approach, creating a CentOS 7 VM, installing the database as described there, and then setting up a hosts-only network adapter so I can access ports outside of the VM. I also had to add a few configurations to the firewall. This allows me to SSH into my CentOS 7 VM as well as access the DB from a browser.

1.1. I cannot access the Oracle Database XE Desktop GUI because I did not install a Windows Manager on the VM. If this is needed at some point I'm sure I can fix this.

1.2. I can access the website homepage via my hosts only adapter on the same local machine. The following is a screenshot from this:



2. To unlock the sample user account, I SSHed into my VM and then ran the commands listed in this section, this screen shot showing that it worked.

```
[aaron@localhost ~]$ sqlplus hr
```

```
SQL*Plus: Release 11.2.0.2.0 Production on Fri Sep 29 21:13:11 2017
```

```
specify the password that you want for
```

```
Copyright (c) 1982, 2011, Oracle. All rights reserved.
```

```
password>
```

```
Enter password:
```

```
(in the command window):
```

```
Connected to:
```

```
Oracle Database 11g Express Edition Release 11.2.0.2.0 - 64bit Production
```

```
SQL> SELECT table_name FROM user_tables;
```

```
TABLE_NAME
```

```
----- the exercise focuses on hr, the
```

```
REGIONS before starting the exercise, explore
```

```
LOCATIONS
```

```
DEPARTMENTS
```

```
JOBS Database Sample Schemas (look under
```

```
EMPLOYEES
```

```
JOB_HISTORY
```

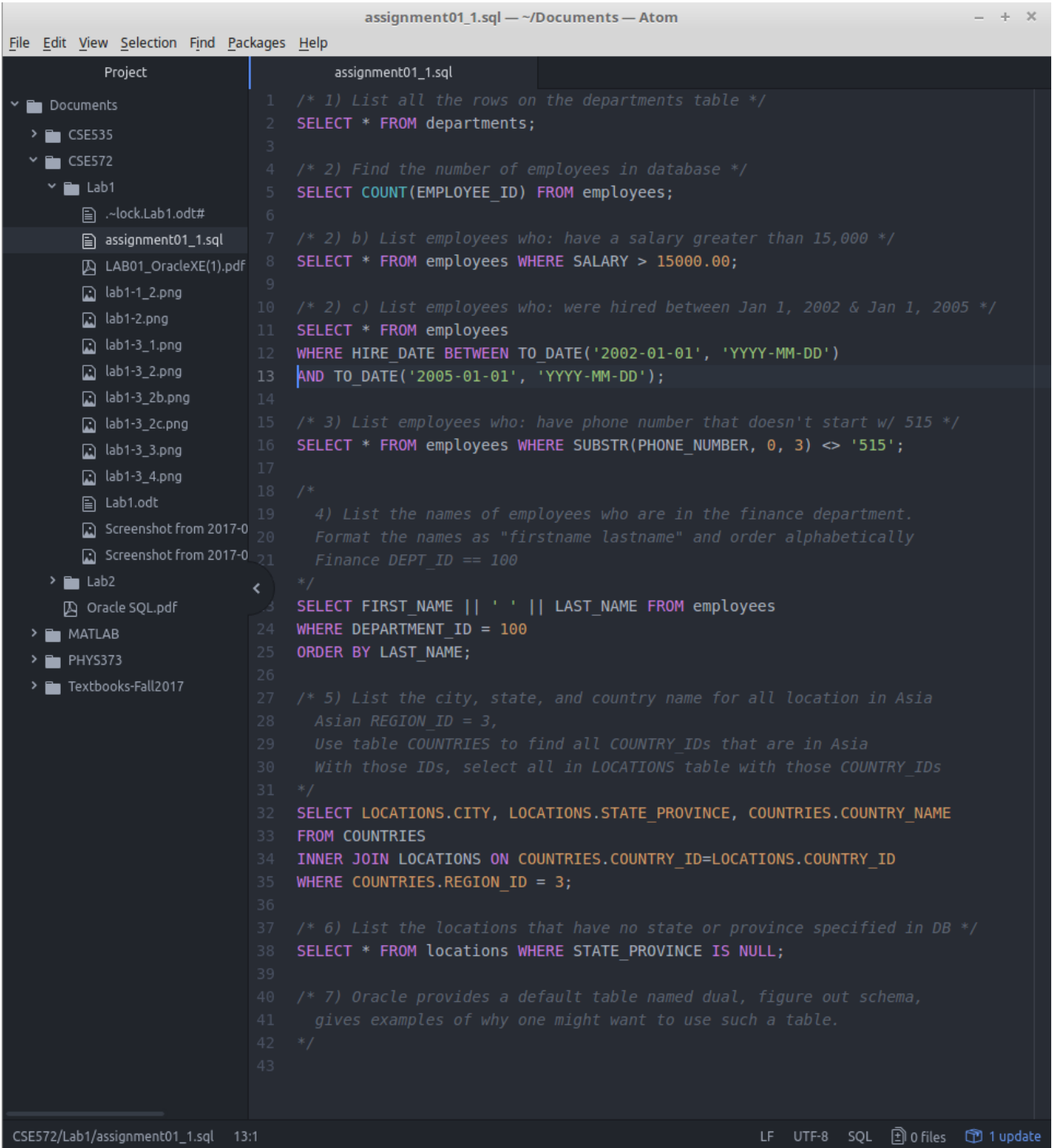
```
COUNTRIES and running SELECT table_name
```

```
7 rows selected.
```

```
SQL> █ -5.1_5....deb ^
```

```
CentOS-7-x86_64....iso ^
```

3. Finally, I created an SQL file with the requested requirements, each result has a screen shot below as listed by the problem itself. Here is the code executed for all statements:



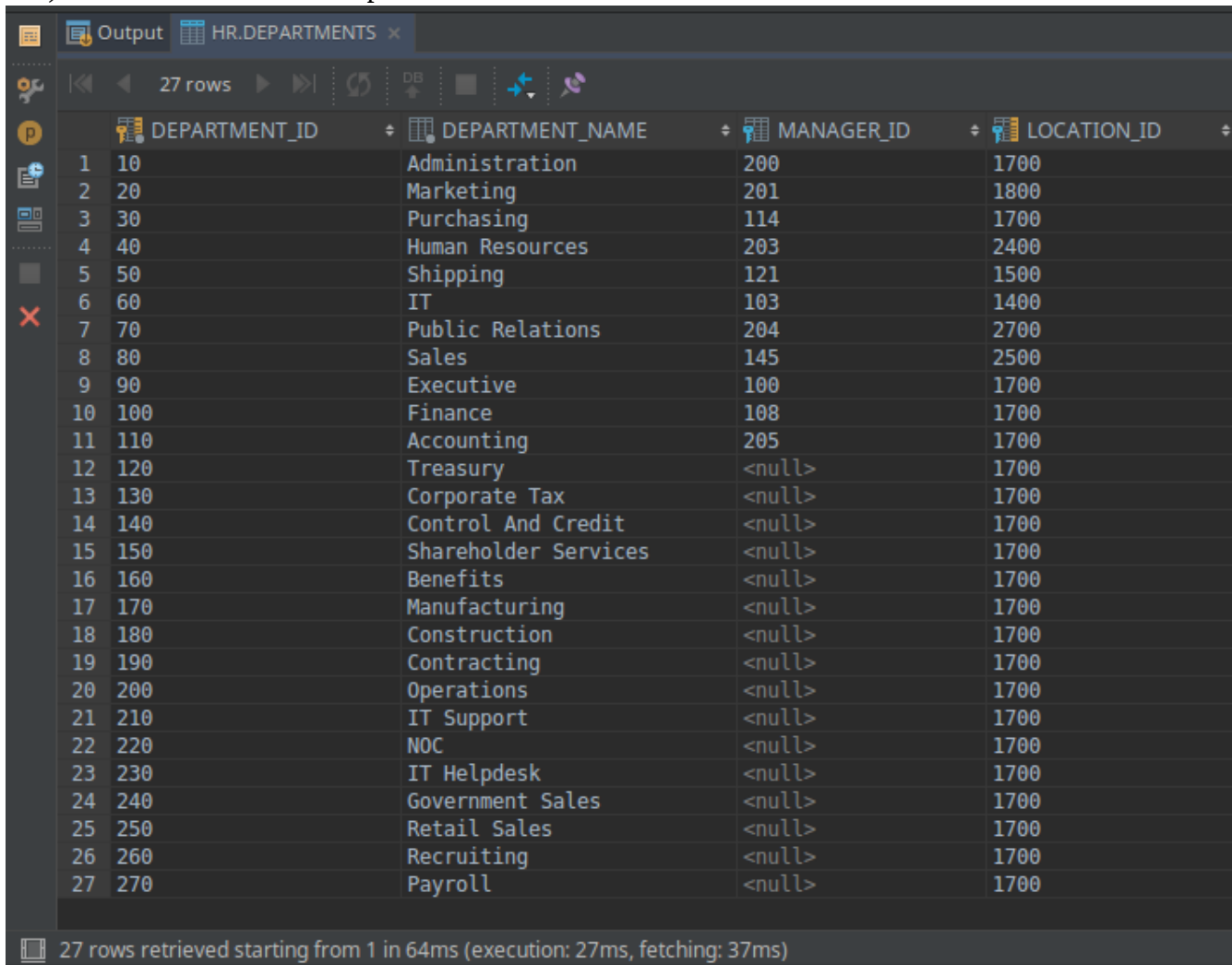
```
assignment01_1.sql -- ~/Documents -- Atom
File Edit View Selection Find Packages Help

Project
  Documents
    CSE535
    CSE572
      Lab1
        .lock.Lab1.odt#
        assignment01_1.sql
        LAB01_OracleXE(1).pdf
        lab1-1_2.png
        lab1-2.png
        lab1-3_1.png
        lab1-3_2.png
        lab1-3_2b.png
        lab1-3_2c.png
        lab1-3_3.png
        lab1-3_4.png
        Lab1.odt
        Screenshot from 2017-0
        Screenshot from 2017-0
      Lab2
        Oracle SQL.pdf
    MATLAB
    PHYS373
    Textbooks-Fall2017

assignment01_1.sql
1  /* 1) List all the rows on the departments table */
2  SELECT * FROM departments;
3
4  /* 2) Find the number of employees in database */
5  SELECT COUNT(EMPLOYEE_ID) FROM employees;
6
7  /* 2) b) List employees who: have a salary greater than 15,000 */
8  SELECT * FROM employees WHERE SALARY > 15000.00;
9
10 /* 2) c) List employees who: were hired between Jan 1, 2002 & Jan 1, 2005 */
11 SELECT * FROM employees
12 WHERE HIRE_DATE BETWEEN TO_DATE('2002-01-01', 'YYYY-MM-DD')
13 AND TO_DATE('2005-01-01', 'YYYY-MM-DD');
14
15 /* 3) List employees who: have phone number that doesn't start w/ 515 */
16 SELECT * FROM employees WHERE SUBSTR(PHONE_NUMBER, 0, 3) <> '515';
17
18 /*
19 4) List the names of employees who are in the finance department.
20 Format the names as "firstname lastname" and order alphabetically
21 Finance DEPT_ID == 100
22 */
23 SELECT FIRST_NAME || ' ' || LAST_NAME FROM employees
24 WHERE DEPARTMENT_ID = 100
25 ORDER BY LAST_NAME;
26
27 /* 5) List the city, state, and country name for all location in Asia
28 Asian REGION_ID = 3,
29 Use table COUNTRIES to find all COUNTRY_IDs that are in Asia
30 With those IDs, select all in LOCATIONS table with those COUNTRY_IDs
31 */
32 SELECT LOCATIONS.CITY, LOCATIONS.STATE_PROVINCE, COUNTRIES.COUNTRY_NAME
33 FROM COUNTRIES
34 INNER JOIN LOCATIONS ON COUNTRIES.COUNTRY_ID=LOCATIONS.COUNTRY_ID
35 WHERE COUNTRIES.REGION_ID = 3;
36
37 /* 6) List the locations that have no state or province specified in DB */
38 SELECT * FROM locations WHERE STATE_PROVINCE IS NULL;
39
40 /* 7) Oracle provides a default table named dual, figure out schema,
41 gives examples of why one might want to use such a table.
42 */
43
```

CSE572/Lab1/assignment01_1.sql 13:1 LF UTF-8 SQL 0 files 1 update

1) List all the rows of the departments table

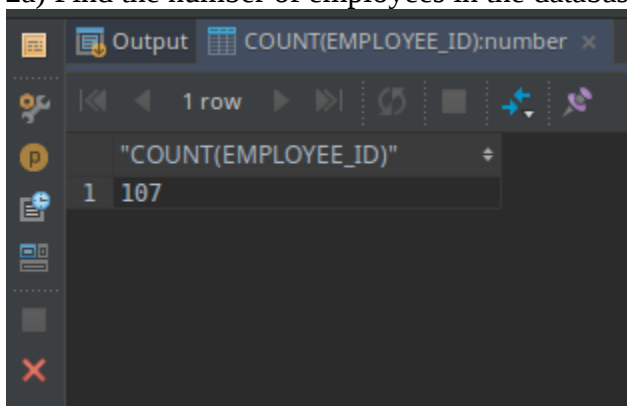


The screenshot shows the SQL Developer interface with the 'Output' window displaying the 'HR.DEPARTMENTS' table. The table has 27 rows and 5 columns: DEPARTMENT_ID, DEPARTMENT_NAME, MANAGER_ID, and LOCATION_ID. The data is as follows:

	DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	10	Administration	200	1700
2	20	Marketing	201	1800
3	30	Purchasing	114	1700
4	40	Human Resources	203	2400
5	50	Shipping	121	1500
6	60	IT	103	1400
7	70	Public Relations	204	2700
8	80	Sales	145	2500
9	90	Executive	100	1700
10	100	Finance	108	1700
11	110	Accounting	205	1700
12	120	Treasury	<null>	1700
13	130	Corporate Tax	<null>	1700
14	140	Control And Credit	<null>	1700
15	150	Shareholder Services	<null>	1700
16	160	Benefits	<null>	1700
17	170	Manufacturing	<null>	1700
18	180	Construction	<null>	1700
19	190	Contracting	<null>	1700
20	200	Operations	<null>	1700
21	210	IT Support	<null>	1700
22	220	NOC	<null>	1700
23	230	IT Helpdesk	<null>	1700
24	240	Government Sales	<null>	1700
25	250	Retail Sales	<null>	1700
26	260	Recruiting	<null>	1700
27	270	Payroll	<null>	1700

27 rows retrieved starting from 1 in 64ms (execution: 27ms, fetching: 37ms)

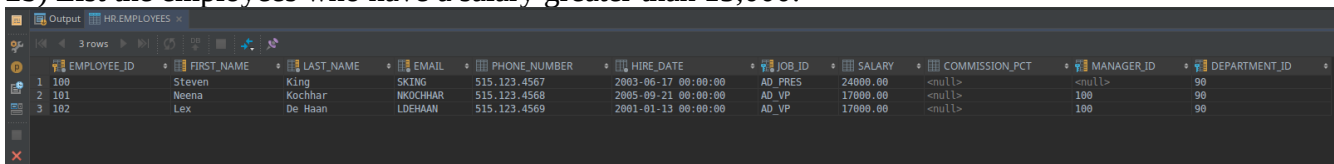
2a) Find the number of employees in the database:



The screenshot shows the SQL Developer interface with the 'Output' window displaying the result of the query 'COUNT(EMPLOYEE_ID)'. The result is a single row with the value 167.

	COUNT(EMPLOYEE_ID)
1	167

2b) List the employees who have a salary greater than 15,000:



The screenshot shows the SQL Developer interface with the 'Output' window displaying the result of the query 'SELECT * FROM HR.EMPLOYEES WHERE SALARY > 15000'. The result is a table with 3 rows and 11 columns: EMPLOYEE_ID, FIRST_NAME, LAST_NAME, EMAIL, PHONE_NUMBER, HIRE_DATE, JOB_ID, SALARY, COMMISSION_PCT, MANAGER_ID, and DEPARTMENT_ID. The data is as follows:

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
1	100	Steven	King	SKING	515.123.4567	2003-06-17 00:00:00	AD_PRES	24000.00	<null>	<null>	90
2	101	Weena	Kochhar	WKOCHHAR	515.123.4568	2005-09-21 00:00:00	AD_VP	17000.00	<null>	100	90
3	102	Lex	De Haan	LDEHAAN	515.123.4569	2001-01-13 00:00:00	AD_VP	17000.00	<null>	100	90

2c) List the employees who were hired between January 1, 2002 and January 1, 2005

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
1	100	Steven	King	SKING	515.123.4567	2003-06-17 00:00:00	AD_PRES	24000.00	<null>	<null>	90
2	108	Nancy	Greenberg	NGREENB	515.124.4569	2002-08-17 00:00:00	FI_MGR	12000.00	<null>	101	100
3	109	Daniel	Faviet	DFAVIET	515.124.4169	2002-08-16 00:00:00	FI_ACCOUNT	9000.00	<null>	108	100
4	114	Den	Raphaely	DRAPHEAL	515.127.4561	2002-12-07 00:00:00	PJ_MAN	11000.00	<null>	100	30
5	115	Alexander	Khoo	AKHOO	515.127.4562	2003-05-18 00:00:00	PJ_CLERK	3100.00	<null>	114	30
6	120	Matthew	Weiss	MWEISS	650.123.1234	2004-07-18 00:00:00	ST_MAN	8000.00	<null>	100	50
7	122	Payam	Kaufling	PKAUFLIN	650.123.3234	2003-05-01 00:00:00	ST_MAN	7900.00	<null>	100	50
8	123	Jason	Mallin	JMALLIN	650.127.1934	2004-06-14 00:00:00	ST_CLERK	3300.00	<null>	122	50
9	137	Renske	Ladwig	RLADWIG	650.121.1234	2003-07-14 00:00:00	ST_CLERK	3600.00	<null>	123	50
10	141	Trenna	Rajs	TRAJS	650.121.8009	2003-10-17 00:00:00	ST_CLERK	3500.00	<null>	124	50
11	145	John	Russell	JRUSSEL	011.44.1344.429268	2004-10-01 00:00:00	SA_MAN	14000.00	0.40	100	80
12	156	Janette	King	JKING	011.44.1345.429268	2004-01-30 00:00:00	SA_REP	10000.00	0.35	146	80
13	157	Patrick	Sully	PSULLY	011.44.1345.929268	2004-03-04 00:00:00	SA_REP	9500.00	0.35	146	80
14	158	Allon	McEwen	AMEWEN	011.44.1345.829268	2004-08-01 00:00:00	SA_REP	9000.00	0.35	146	80
15	174	Ellen	Abel	EABEL	011.44.1644.429267	2004-05-11 00:00:00	SA_REP	11000.00	0.30	149	80
16	184	Nandita	Sarchand	NSARCHAN	650.509.1076	2004-01-27 00:00:00	SH_CLERK	4200.00	<null>	121	50
17	192	Sarah	Bell	SBELL	650.501.1076	2004-02-04 00:00:00	SH_CLERK	4000.00	<null>	123	50
18	200	Jennifer	Whalen	JWHALEN	515.123.4444	2003-09-17 00:00:00	AD_ASST	4400.00	<null>	101	10
19	203	Michael	Hartstein	MHARTSTE	515.123.5555	2004-02-17 00:00:00	HR_MGR	13000.00	<null>	100	20
20	203	Susan	Mavris	SMAVRIS	515.123.7777	2002-06-07 00:00:00	HR_REP	6500.00	<null>	101	40
21	204	Hermann	Baer	HBAER	515.123.8888	2002-06-07 00:00:00	PR_REP	10000.00	<null>	101	70
22	205	Shelley	Higgins	SHIGGINS	515.123.8000	2002-06-07 00:00:00	AC_MGR	12000.00	<null>	101	110
23	206	William	Gietz	WGIEZT	515.123.8181	2002-06-07 00:00:00	AC_ACCOUNT	8300.00	<null>	205	110

3) List the employees who have a phone number that doesn't start with 515:

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
1	103	Alexander	Hunold	AHUNOLD	590.423.4567	2006-01-03 00:00:00	IT_PROG	9000.00	<null>	102	60
2	104	Bruce	Bernst	BERNST	590.423.4568	2007-05-21 00:00:00	IT_PROG	6000.00	<null>	103	60
3	105	David	Austin	DAUSTIN	590.423.4569	2005-06-25 00:00:00	IT_PROG	4800.00	<null>	103	60
4	106	Valli	Pataballa	VPATABAL	590.423.4560	2006-02-05 00:00:00	IT_PROG	4800.00	<null>	103	60
5	107	Diana	Lorentz	DLORENTZ	590.423.5567	2007-02-07 00:00:00	IT_PROG	4200.00	<null>	103	60
6	120	Matthew	Weiss	MWEISS	650.123.1234	2004-07-18 00:00:00	ST_MAN	8000.00	<null>	100	50
7	121	Adam	Fripp	AFRIPP	650.123.2234	2005-04-10 00:00:00	ST_MAN	8200.00	<null>	100	50
8	122	Payam	Kaufling	PKAUFLIN	650.123.3234	2003-05-01 00:00:00	ST_MAN	7900.00	<null>	100	50
9	123	Shanta	Vollman	SVOLLMAN	650.123.4234	2005-10-10 00:00:00	ST_MAN	6500.00	<null>	100	50
10	124	Kevin	Mourgos	KMOURGOS	650.123.5234	2007-11-16 00:00:00	ST_MAN	5800.00	<null>	100	50
11	125	Julia	Nayer	JNAYER	650.124.1214	2005-07-16 00:00:00	ST_CLERK	3200.00	<null>	120	50
12	126	Irene	Mikkilineni	IMIKKILIN	650.124.1224	2006-09-28 00:00:00	ST_CLERK	2700.00	<null>	120	50
13	127	James	Landry	JLANDRY	650.124.1324	2007-01-14 00:00:00	ST_CLERK	2400.00	<null>	120	50
14	128	Steven	Markle	SMARKLE	650.124.1434	2006-03-08 00:00:00	ST_CLERK	2200.00	<null>	120	50
15	129	Laura	Bissot	LBISSOT	650.124.5234	2005-08-20 00:00:00	ST_CLERK	3300.00	<null>	121	50
16	130	Mozhe	Atkinson	MATKINSO	650.124.6234	2005-10-30 00:00:00	ST_CLERK	2800.00	<null>	121	50
17	131	James	Marlow	JMARLOW	650.124.7234	2005-02-16 00:00:00	ST_CLERK	2500.00	<null>	121	50
18	132	TJ	Olson	TJOLSON	650.124.8234	2007-04-10 00:00:00	ST_CLERK	2100.00	<null>	121	50
19	133	Jason	Hallin	JHALLIN	650.127.1934	2004-06-14 00:00:00	ST_CLERK	3300.00	<null>	122	50
20	134	Michael	Rogers	MRDGERS	650.127.1834	2006-08-26 00:00:00	ST_CLERK	2900.00	<null>	122	50
21	135	Ki	Gee	KGEE	650.127.1734	2007-12-12 00:00:00	ST_CLERK	2400.00	<null>	122	50
22	136	Hazel	Philtanker	HPHILTAN	650.127.1634	2008-02-06 00:00:00	ST_CLERK	2200.00	<null>	122	50
23	137	Renske	Ladwig	RLADWIG	650.121.1234	2003-07-14 00:00:00	ST_CLERK	3600.00	<null>	123	50
24	138	Stephen	Stiles	SSTILES	650.121.2034	2005-10-26 00:00:00	ST_CLERK	3200.00	<null>	123	50
25	139	John	Seo	JSEO	650.121.2019	2006-02-12 00:00:00	ST_CLERK	2700.00	<null>	123	50
26	140	Joshua	Patel	JPADEL	650.121.1834	2006-04-06 00:00:00	ST_CLERK	2500.00	<null>	123	50
27	141	Trenna	Rajs	TRAJS	650.121.8009	2003-10-17 00:00:00	ST_CLERK	3500.00	<null>	124	50
28	142	Curtis	Davies	CDAVIES	650.121.2994	2005-01-29 00:00:00	ST_CLERK	3100.00	<null>	124	50

4) List the names of the employees who are in the finance department. Try to format the names as “firstname lastname” using concatenation and order them alphabetically.

Database Console Oracle - @192.168.56.101											
Output FIRST_NAME ' ' LAST_NAME:string x											
6 rows											
FIRST_NAME ' ' LAST_NAME											
1	John Chen										
2	Daniel Faviet										
3	Nancy Greenberg										
4	Luis Popp										
5	Ismael Sciarra										
6	Jose Manuel Urman										

5) List the city, state, and country name for all locations in the Asia Region

Database Console Oracle - @192.168.56.101

Output Result 21 x

6 rows

	CITY	STATE_PROVINCE	COUNTRY_NAME
1	Tokyo	Tokyo Prefecture	Japan
2	Hiroshima	<null>	Japan
3	Beijing	<null>	China
4	Bombay	Maharashtra	India
5	Sydney	New South Wales	Australia
6	Singapore	<null>	Singapore

6) List the locations that have no state or province specified in the database.

Output HR.LOCATIONS x

6 rows

	LOCATION_ID	STREET_ADDRESS	POSTAL_CODE	CITY	STATE_PROVINCE	COUNTRY_ID
1	1000	1297 Via Cola di Rie	00989	Roma	<null>	IT
2	1100	93091 Calle della Testa	10934	Venice	<null>	IT
3	1300	9450 Kamiya-cho	6823	Hiroshima	<null>	JP
4	2000	40-5-12 Laogianggen	190518	Beijing	<null>	CN
5	2300	198 Clementi North	540198	Singapore	<null>	SG
6	2400	8204 Arthur St	<null>	London	<null>	UK

7) Finally, a discussion of the purpose of the DUAL table provided by Oracle. Specifically the table is found in SYS.DUAL. The table is a single Column of type VARCHAR2 called DUMMY with a single row of value 'X'. Oracle's SQL syntax requires the FROM keyword, and thus requires a table for all queries. One of the more common uses is to perform a SELECT query on a DB value such as USER or SYSDATE that isn't actually present in the table itself.