CREATE TABLE countries (COUNTRY_ID varchar(2) NOT NULL UNIQUE DEFAULT '',COUNTRY_NAME varchar(40) DEFAULT NULL,REGION_ID decimal(10,0) NOT NULL,PRIMARY KEY (COUNTRY_ID));

INSERT INTO Countries VALUES ('CA','Canada',2),('DE','Germany',1),('UK','United Kingdom',1),('US','United States of America',2);

CREATE TABLE departments (DEPARTMENT_ID decimal(4) NOT NULL,DEPARTMENT_NAME varchar(30) NOT NULL,MANAGER_ID decimal(6,0),LOCATION_ID decimal(4,0),PRIMARY KEY (DEPARTMENT_ID,MANAGER_ID));

INSERT INTO departments VALUES ('10','Administration',200,1700),('20','Marketing',20,1800),('50','Shipping',124,1500),('60','IT',103,1400),('80','Sales',149,2500),('90','Executive',100,1700),('110','Accounting',205,1700),('190','Contracting',0,1700);

CREATE TABLE EMPLOYEES (EMPLOYEE_ID NUMERIC(6) NOT NULL, FIRST_NAME VARCHAR(20), LAST_NAME VARCHAR(25) not NULL, EMAIL VARCHAR(25) NOT NULL, PHONE_NUMBBER VARCHAR(20), HIRE_DATE DATE NOT NULL, JOB_ID VARCHAR(20),SALARY NUMERIC(8,2), COMMISSION_PCT NUMERIC(2,2),MANAGER_ID decimal(6),DEPARTMENT_ID decimal(4));

INSERT INTO employees VALUES(100,'Steven','King','SKING','515.123.4567','1987-06-17','AD_PRES',24000,0,0,90),(101,'Neena','Kochhar','NKOCHHAR','515.123.4568','1889-09-21','AD_VP',17000,0,100,90),(102,'Lex','De haan','LDEHAAN','515.123.4569','1993-01-13','AD_VP',17000,0,100,90),(103,'Alexander','Hunlod','AHUNLOD','590.423.4567','1990-01-03','IT_PROG',9000,0,102,60),(104,'Bruce','Ernst','BERNST','590.423.4568','1991-05-21','IT_PROG',6000,0,103,60),(107,'Diana','Lorentz','DLORENTZ','590.423.5567','1999-02-07','IT_PROG',4200,0,103,60);

CREATE TABLE jobs (JOB_ID varchar(10) NOT NULL, JOB_TITLE varchar(35) NOT NULL, MIN_SALARY decimal(6), MAX_SALARY decimal(6),PRIMARY KEY (JOB_ID));

INSERT INTO jobs VALUES ('AD_PRES','President',20000,40000),('AD_VP','Administration Vice President',15000,30000),('AD_ASST','Administration Assistant',3000,6000),('AC_MGR','Accounting Manager',8200,16000),('AC_ACCOUNT','Public Accountant',4200,9000),('SA_MAN','Sales Manager',10000,20000),('SA_REP','Sales Representatives',6000,12000),('ST_MAN','Stock Manager',5500,8500),('ST_CLERK','Stock

Clerk',2000,5000),('IT_PROG','Programmer',4000,10000),('MK_MAN','Marketing Manager',9000,15000),('MK_REP','Marketing Representative',4000,9000);

CREATE TABLE job_grades (gradelevel varchar(3),lowest_sal decimal,highest_sal decimal(8,2));

INSERT INTO job_grades VALUES ('A',1000,2999),('B',3000,5999),('C',6000,9999),('D',10000,14999),('E',15000,24999),('F',25000,40000);

CREATE TABLE job_history (EMPLOYEE_ID decimal(6,0) NOT NULL PRIMARY KEY, START_DATE date NOT NULL, END_DATE date NOT NULL, JOB_ID varchar(10) NOT NULL, DEPARTMENT_ID decimal(4,0) DEFAULT NULL, FOREIGN KEY (job_id) REFERENCES jobs(job_id));

INSERT INTO job_history VALUES (102,'1993-01-13','1998-07-24','IT_PROG',60),(101,'1989-09-21','1993-10-27','AC_ACCOUNT',110);

CREATE TABLE locations (LOCATION_ID decimal(4) NOT NULL, STREET_ADDRESS varchar(40), POSTAL_CODE varchar(12), CITY varchar(30), STATE_PROVINCE varchar(25) NOT NULL, COUNTRY_ID char(2), PRIMARY KEY (LOCATION_ID));

INSERT into locations values(1500,'2011inteririosRd',99236,'south san franscisco','california','US'),(1400,'2014 jacabberwocky Rd',26192,'sothlake','texas','US'),(1700,'2004 Charade Rd',98199,'seattle','washington','US');

CREATE TABLE regions (region_id DECIMAL,region_name VARCHAR(25));

INSERT INTO regions VALUES (1,'EUROPE'),(2,'AMERICA'),(3,'ASIA'),(4,'MIDDLE EAST AND AFRICA');

1.

SELECT * FROM employees WHERE job_id = 'IT_PROG' AND hire_date > '1997-12-31';

```
mysql> SELECT * FROM employees WHERE job_id = 'IT_PROG' AND hire_date > '1997-12-31';
+-------------+------------+-----------+----------+---------------+------------+---------+----------+----------------+------------+---------------+
| EMPLOYEE_ID | FIRST_NAME | LAST_NAME | EMAIL    | PHONE_NUMBBER | HIRE_DATE  | JOB_ID  | SALARY   | COMMISSION_PCT | MANAGER_ID | DEPARTMENT_ID |
+-------------+------------+-----------+----------+---------------+------------+---------+----------+----------------+------------+---------------+
|         107 | Diana      | Lorentz   | DLORENTZ | 590.423.5567  | 1999-02-07 | IT_PROG | 4200.00  |           0.00 |        103 |            60 |
+-------------+------------+-----------+----------+---------------+------------+---------+----------+----------------+------------+---------------+
1 row in set (0.29 sec)

mysql> s
```

2.

select LAST_NAME,JOB_ID,SALARY,COMMISSION_PCT from employees where COMMISSION_PCT=0 ORDER by SALARY desc;

```
mysql> select LAST_NAME,JOB_ID,SALARY,COMMISSION_PCT from employees where COMMISSION_PCT=0 ORDER by SALARY desc;
+-----------+---------+----------+----------------+
| LAST_NAME | JOB_ID  | SALARY   | COMMISSION_PCT |
+-----------+---------+----------+----------------+
| King      | AD_PRES | 24000.00 |           0.00 |
| Kochhar   | AD_VP   | 17000.00 |           0.00 |
| De haan   | AD_VP   | 17000.00 |           0.00 |
| Hunlod    | IT_PROG |  9000.00 |           0.00 |
| Ernst     | IT_PROG |  6000.00 |           0.00 |
| Lorentz   | IT_PROG |  4200.00 |           0.00 |
+-----------+---------+----------+----------------+
6 rows in set (0.04 sec)

mysql>
```

3.

SELECT last_name,salary,COMMISSION_PCT,ROUND(salary+(salary*.10),2) "New salary" FROM employees WHERE commission_pct=0;
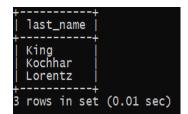
```
mysql> SELECT last_name,salary,COMMISSION_PCT,ROUND(salary+(salary*.10),2) "New salary" FROM employees WHERE commission_pct=0;
+-----------+----------+----------------+------------+
| last_name | salary   | COMMISSION_PCT | New salary |
+-----------+----------+----------------+------------+
| King      | 24000.00 |           0.00 |   26400.00 |
| Kochhar   | 17000.00 |           0.00 |   18700.00 |
| De haan   | 17000.00 |           0.00 |   18700.00 |
| Hunlod    |  9000.00 |           0.00 |    9900.00 |
| Ernst     |  6000.00 |           0.00 |    6600.00 |
| Lorentz   |  4200.00 |           0.00 |    4620.00 |
+-----------+----------+----------------+------------+
6 rows in set (0.01 sec)
```

4.

SELECT LAST_NAME, TIMESTAMPDIFF(YEAR,HIRE_DATE,SYSDATE()) AS YEARS,TIMESTAMPDIFF(MONTH,HIRE_DATE,SYSDATE()) AS MONTHS FROM employees ORDER BY YEARS DESC , MONTHS DESC;

```
C;
+-----------+-------+--------+
| LAST_NAME | YEARS | MONTHS |
+-----------+-------+--------+
| Kochhar   |   131 |   1580 |
| King      |    33 |    407 |
| Hunlod    |    31 |    377 |
| Ernst     |    30 |    360 |
| De haan   |    28 |    341 |
| Lorentz   |    22 |    268 |
+-----------+-------+--------+
6 rows in set (0.02 sec)
```

5.

SELECT last_name FROM employees WHERE SUBSTR(last_name, 1,1) IN ('J', 'K', 'L', 'M');

```
+-----------+
| last_name |
+-----------+
| King      |
| Kochhar   |
| Lorentz   |
+-----------+
3 rows in set (0.01 sec)
```

7.

SELECT d.department_name, d.location_id, e.last_name,e.job_id, e.salary FROM employees e, departments d WHERE e.department_id = d.department_id AND d.location_id = location_id;

```
+-----------------+-------------+-----------+---------+----------+
| department_name | location_id | last_name | job_id  | salary   |
+-----------------+-------------+-----------+---------+----------+
| Executive       |        1700 | King      | AD_PRES | 24000.00 |
| Executive       |        1700 | Kochhar   | AD_VP   | 17000.00 |
| Executive       |        1700 | De haan   | AD_VP   | 17000.00 |
| IT              |        1400 | Hunlod    | IT_PROG |  9000.00 |
| IT              |        1400 | Ernst     | IT_PROG |  6000.00 |
| IT              |        1400 | Lorentz   | IT_PROG |  4200.00 |
+-----------------+-------------+-----------+---------+----------+
6 rows in set (0.07 sec)
```

8.

SELECT COUNT(*) FROM employees WHERE last_name LIKE '%n';

or

SELECT COUNT(*) FROM employees WHERE SUBSTR(last_name, -1) = 'n';

```
+----------+
| COUNT(*) |
+----------+
|        1 |
+----------+
1 row in set (0.01 sec)

mysql>
```