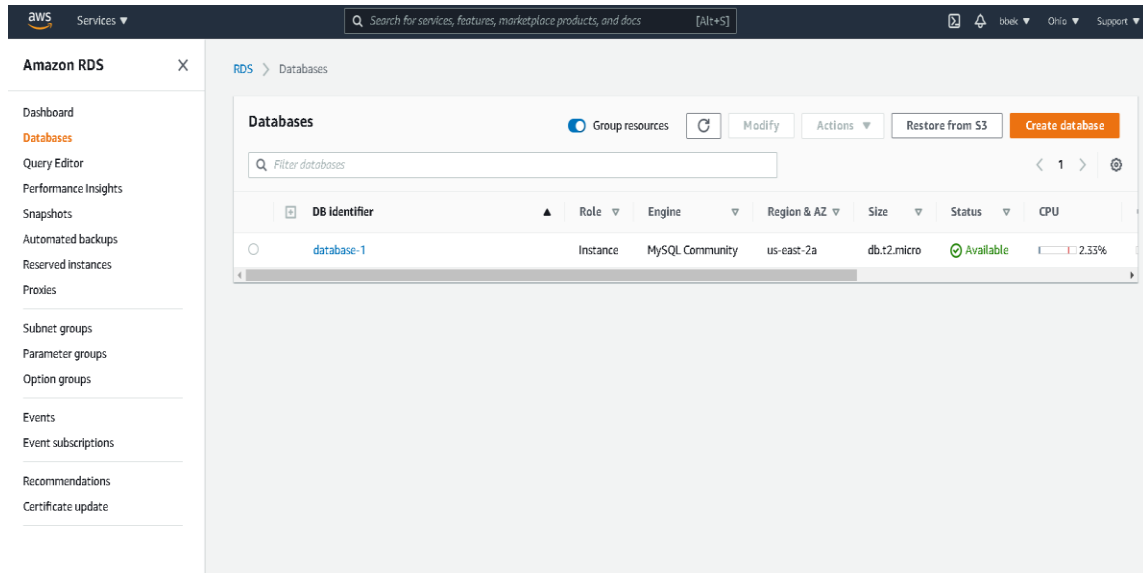
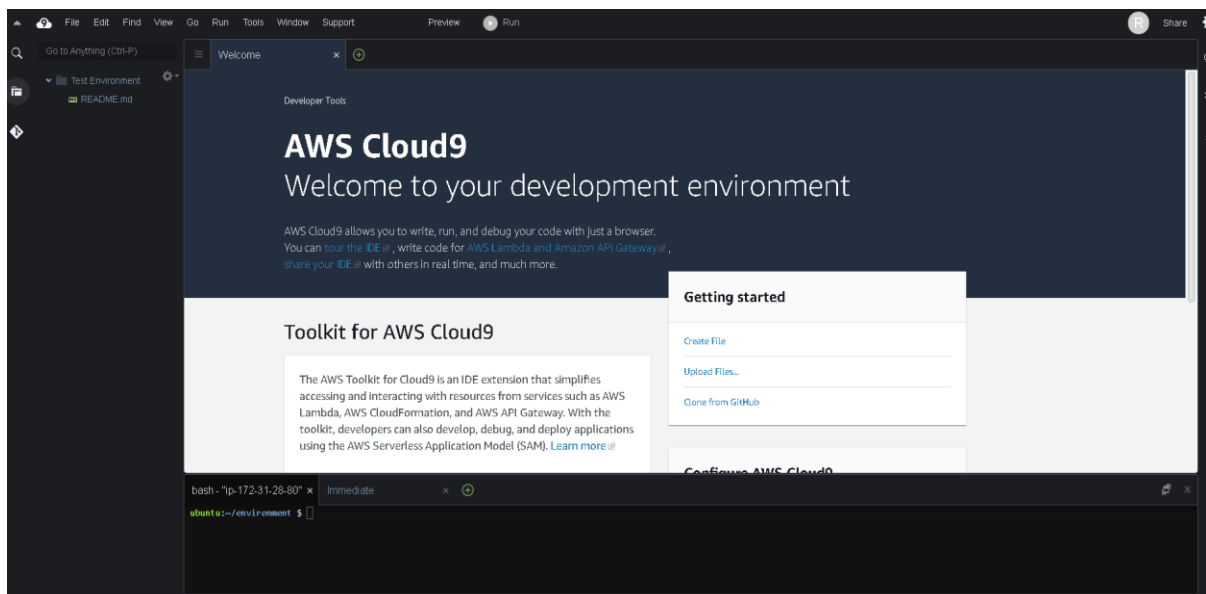


### Assignment#3

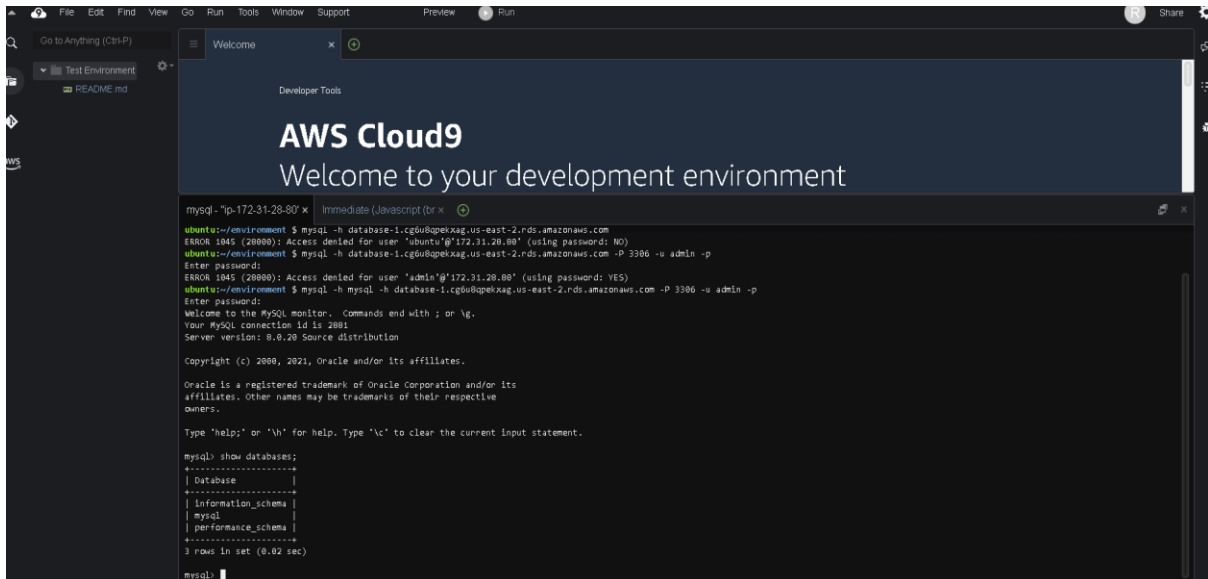
1. In AWS RDS, create an MySQL database instance (Free tier), following the recording provided in Week3. (Set the inbound IP address to 0.0.0.0, which make it accessible from anywhere) — attach a screenshot.



2. In AWS Cloud9, create an environment (Free tier instance, with Ubuntu 18.04 system), following the recording provided in Week 3. —attach a screenshot.



3. Connect the database instance in AWS RDS from Cloud9 environment, following the recording provided in Week 3. — attach a screenshot



```
mysql -i-p-172-31-28-80 x Immediate (JavaScript (br x +
ubuntu:/environment $ mysql -h database-1.cgw8qpekkag.us-east-2.rds.amazonaws.com
ERROR 1045 (20000): Access denied for user 'ubuntu'@'172.31.28.80' (using password: NO)
ubuntu:/environment $ mysql -h database-1.cgw8qpekkag.us-east-2.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
ERROR 1045 (20000): Access denied for user 'admin'@'172.31.28.80' (using password: YES)
ubuntu:/environment $ mysql -h database-1.cgw8qpekkag.us-east-2.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2081
Server version: 8.0.20 Source distribution

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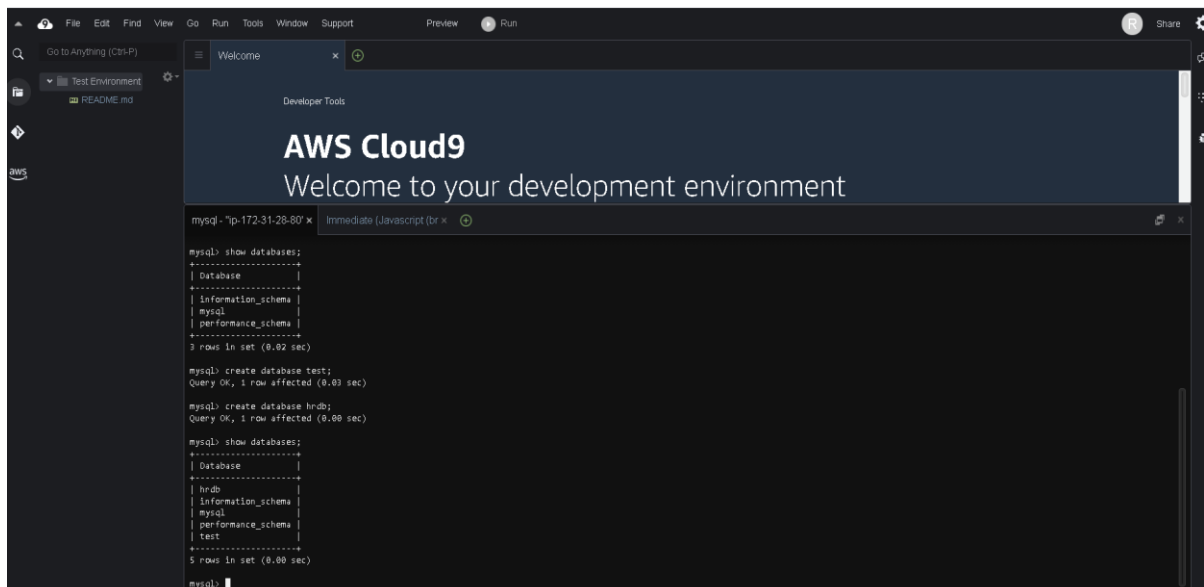
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
+-----+
3 rows in set (0.02 sec)

mysql>
```

4. After you connect to the MySQL database on RDS, create a database named hrdb (using SQL statement), use SQL statement to show databases. — attach a screenshot.



```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
+-----+
3 rows in set (0.02 sec)

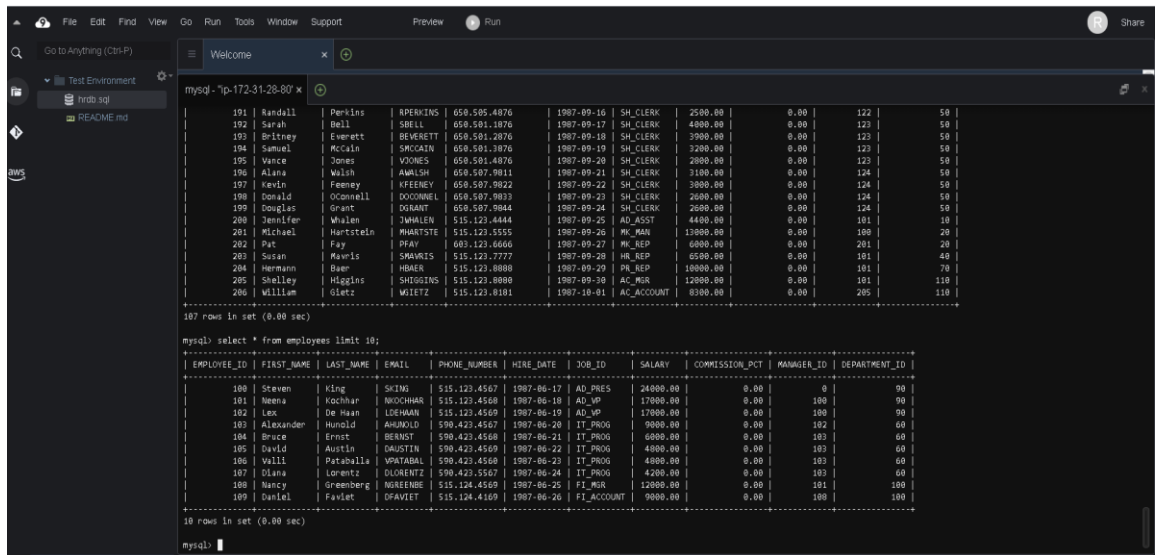
mysql> create database test;
Query OK, 1 row affected (0.03 sec)

mysql> create database hrdb;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| hrdb |
| information_schema |
| mysql |
| performance_schema |
| test |
+-----+
5 rows in set (0.00 sec)

mysql>
```

5. Create tables and load data into those tables using the “hrdb.sql” I provided in D2L, then use SQL statement to show tables. — attach a screenshot Hint: in mysql shell, “use hrdb;” “source hrdb.sql;”



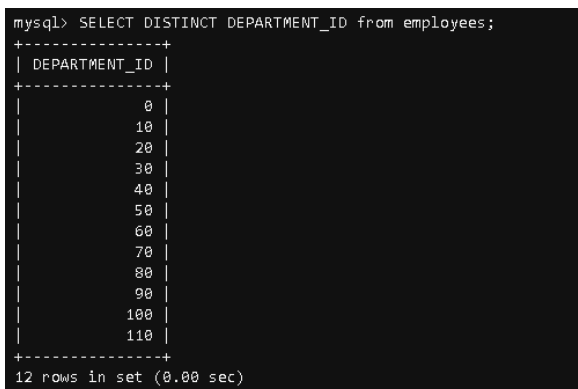
```
mysql -h172.31.28.80 x
Welcome
mysql> select * from employees limit 10;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| EMPLOYEE_ID | FIRST_NAME | LAST_NAME | EMAIL | PHONE_NUMBER | HIRE_DATE | JOB_ID | SALARY | COMMISSION_PCT | MANAGER_ID | DEPARTMENT_ID |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 100 | Steven | King | SKING | 515.123.4567 | 1987-06-17 | AD_PRES | 24000.00 | 0.00 | 0 | 90 |
| 101 | Neena | Kochhar | NKOCHHAR | 515.123.4568 | 1987-06-19 | AD_VP | 17000.00 | 0.00 | 100 | 90 |
| 102 | Lex | De Haan | LOEHAAN | 515.123.4569 | 1987-06-19 | AD_VP | 17000.00 | 0.00 | 100 | 90 |
| 103 | Alexander | Humold | AHUMOLD | 590.423.4567 | 1987-06-20 | IT_PROG | 9000.00 | 0.00 | 102 | 60 |
| 104 | Bruce | Ernst | BENNST | 590.423.4568 | 1987-06-21 | IT_PROG | 6000.00 | 0.00 | 103 | 60 |
| 105 | David | Austin | DAUSTIN | 590.423.4569 | 1987-06-22 | IT_PROG | 4800.00 | 0.00 | 103 | 60 |
| 106 | Valili | Pataballa | VPATABAL | 590.423.4568 | 1987-06-23 | IT_PROG | 4800.00 | 0.00 | 103 | 60 |
| 107 | Diana | Lorentz | DLORENTZ | 590.423.4567 | 1987-06-24 | IT_PROG | 4200.00 | 0.00 | 103 | 60 |
| 108 | Nancy | Greenberg | NGREENBE | 515.124.4569 | 1987-06-25 | FI_MGR | 12000.00 | 0.00 | 101 | 100 |
| 109 | Daniel | Faviot | DFAVIET | 515.124.4169 | 1987-06-26 | FI_ACCOUNT | 9000.00 | 0.00 | 108 | 100 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

6. Answer the following questions with SQL statements, and attach screenshots. (You need to provide SQL statements and screenshots of the results / part of the results) — use employees table.

1. Write a query to get unique department ID from employee table.

SELECT DISTINCT DEPARTMENT\_ID from employees;



```
mysql> SELECT DISTINCT DEPARTMENT_ID from employees;
+-----+
| DEPARTMENT_ID |
+-----+
| 0 |
| 10 |
| 20 |
| 30 |
| 40 |
| 50 |
| 60 |
| 70 |
| 80 |
| 90 |
| 100 |
| 110 |
+-----+
12 rows in set (0.00 sec)
```

2. Write a query to get all employee details from the employee table order by first name, descending.

SELECT \* from employees order by FIRST\_NAME desc;

```
mysql> SELECT * from employees order by FIRST_NAME desc;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
188	Winston	Taylor	WTAYLOR	650.507.9876	1987-09-05	SH_CLERK	3200.00	0.00	120	50
171	William	Smith	WSMITH	011.44.1343.629268	1987-08-27	SA_REP	7400.00	0.15	148	80
206	William	Gietz	WGIEZT	515.123.8181	1987-10-01	AC_ACCOUNT	8300.00	0.00	205	110
195	Vance	Jones	VJONES	650.501.4876	1987-09-20	SH_CLERK	2800.00	0.00	123	50
186	Valli	Pataballa	VPATABAL	590.423.4560	1987-06-23	IT_PROG	4800.00	0.00	103	60
141	Trenna	Rajs	TRAJS	650.121.8009	1987-07-28	ST_CLERK	3500.00	0.00	124	50
132	TJ	Olson	TJOLSON	650.124.8234	1987-07-19	ST_CLERK	2100.00	0.00	121	50
198	Timothy	Gates	TGATES	650.505.3876	1987-09-15	SH_CLERK	2900.00	0.00	122	50
170	Taylor	Fox	TFOX	011.44.1343.729268	1987-08-26	SA_REP	9600.00	0.20	148	80
203	Susan	Mavris	SMAVRIS	515.123.7777	1987-09-28	HR_REP	6500.00	0.00	101	40
173	Sundita	Kumar	SKUMAR	011.44.1343.329268	1987-08-29	SA_REP	6100.00	0.10	148	80
166	Sundar	Ande	SANDE	011.44.1346.629268	1987-08-22	SA_REP	6400.00	0.10	147	80
100	Steven	King	SKING	515.123.4567	1987-06-17	AD PRES	24000.00	0.00	0	90
128	Steven	Markle	SMARKLE	650.124.1434	1987-07-15	ST_CLERK	2200.00	0.00	120	50
138	Stephen	Stiles	SSTILES	650.121.2034	1987-07-25	ST_CLERK	3200.00	0.00	123	50
117	Sigal	Tobias	STOBIAS	515.127.4564	1987-07-04	PU_CLERK	2800.00	0.00	114	30
116	Shelli	Baida	SBAIDA	515.127.4563	1987-07-03	PU_CLERK	2900.00	0.00	114	30
205	Shelley	Higgins	SHIGGINS	515.123.8080	1987-09-30	AC_MGR	12000.00	0.00	101	110
123	Shanta	Vollman	SVOLLMAN	650.123.4234	1987-07-10	ST_MAN	6500.00	0.00	100	50
161	Sarath	Sewall	SSEWALL	011.44.1345.529268	1987-08-17	SA_REP	7000.00	0.25	146	80
192	Sarah	Bell	SBELL	650.501.1876	1987-09-17	SH_CLERK	4000.00	0.00	123	50
194	Samuel	McCain	SMCCAIN	650.501.3876	1987-09-19	SH_CLERK	3200.00	0.00	123	50
137	Renske	Ladwig	RLADWIG	650.121.1234	1987-07-24	ST_CLERK	3600.00	0.00	123	50
143	Randall	Matos	RMATOS	650.121.2874	1987-07-30	ST_CLERK	2600.00	0.00	124	50

3. Write a query to get the names (first\_name, last\_name), salary, PF of all the employees (PF is calculated as 15% of salary).

SELECT FIRST\_NAME, LAST\_NAME, SALARY, SALARY\*0.15 as PF FROM employees;

```
mysql> SELECT FIRST_NAME, LAST_NAME, SALARY, SALARY*0.15 as PF FROM employees;
```

FIRST_NAME	LAST_NAME	SALARY	PF
Steven	King	24000.00	3600.0000
Neena	Kochhar	17000.00	2550.0000
Lex	De Haan	17000.00	2550.0000
Alexander	Hunold	9000.00	1350.0000
Bruce	Ernst	6000.00	900.0000
David	Austin	4800.00	720.0000
Valli	Pataballa	4800.00	720.0000
Diana	Lorentz	4200.00	630.0000
Nancy	Greenberg	12000.00	1800.0000
Daniel	Faviet	9000.00	1350.0000
John	Chen	8200.00	1230.0000
Ismael	Sciarra	7700.00	1155.0000
Jose Manuel	Urman	7800.00	1170.0000
Luis	Popp	6900.00	1035.0000
Den	Raphaely	11000.00	1650.0000
Alexander	Khoo	3100.00	465.0000
Shelli	Baida	2900.00	435.0000
Sigal	Tobias	2800.00	420.0000
Guy	Himuro	2600.00	390.0000

4. Write a query to get the total salaries payable to employees.

SELECT sum(SALARY) as payableSalaries from employees;

```
mysql> select sum(salary) as payableSalaries from employees;
+-----+
| payableSalaries |
+-----+
|      691400.00 |
+-----+
1 row in set (0.00 sec)

mysql> 
```

5. Write a query to get the number of employees working with the company.

SELECT count(\*) from employees;

```
mysql> select count(*) from employees;
+-----+
| count(*) |
+-----+
|       107 |
+-----+
1 row in set (0.00 sec)

mysql> 
```

6. Write a query to display the name (first\_name, last\_name) and department ID of all employees in departments 30 or 100 in ascending order.

SELECT FIRST\_NAME, LAST\_NAME, DEPARTMENT\_ID from employees where  
DEPARTMENT\_ID=30 or DEPARTMENT\_ID=100 order by FIRST\_NAME asc;

```
mysql> SELECT FIRST_NAME, LAST_NAME, DEPARTMENT_ID from employees where DEPARTMENT_ID=30 or DEPARTMENT_ID=100 order by FIRST_NAME asc;
+-----+-----+-----+
| FIRST_NAME | LAST_NAME | DEPARTMENT_ID |
+-----+-----+-----+
| Alexander | Khoo      | 30             |
| Daniel     | Faviet    | 100            |
| Den        | Raphaely  | 30             |
| Guy        | Himuro    | 30             |
| Ismael     | Scianna   | 100            |
| John       | Chen      | 100            |
| Jose Manuel| Urman     | 100            |
| Karen      | Colmenares| 30             |
| Luis       | Popp      | 100            |
| Nancy      | Greenberg | 100            |
| Shelli     | Baida     | 30             |
| Sigal      | Tobias    | 30             |
+-----+-----+-----+
12 rows in set (0.00 sec)
```

7. Write a query to display the name (first\_name, last\_name) and hire date for all employees who were hired in 1987.

```
SELECT FIRST_NAME, LAST_NAME, HIRE_DATE from employees where year(HIRE_DATE)=1987;
```

```
mysql> SELECT FIRST_NAME, LAST_NAME, HIRE_DATE from employees where year(HIRE_DATE)=1987;
+-----+-----+-----+
| FIRST_NAME | LAST_NAME | HIRE_DATE |
+-----+-----+-----+
| Steven     | King      | 1987-06-17 |
| Neena      | Kochhar   | 1987-06-18 |
| Lex        | De Haan   | 1987-06-19 |
| Alexander  | Hunold    | 1987-06-20 |
| Bruce      | Ernst     | 1987-06-21 |
| David      | Austin    | 1987-06-22 |
| Valli      | Pataballa | 1987-06-23 |
| Diana      | Lorentz   | 1987-06-24 |
| Nancy      | Greenberg | 1987-06-25 |
| Daniel     | Faviet    | 1987-06-26 |
| John       | Chen      | 1987-06-27 |
| Ismael     | Sciarra   | 1987-06-28 |
| Jose Manuel| Urman     | 1987-06-29 |
| Luis       | Popp      | 1987-06-30 |
| Den        | Raphaely  | 1987-07-01 |
| Alexander  | Khoo      | 1987-07-02 |
| Shelli     | Bai       | 1987-07-03 |
| Sigal      | Tobias    | 1987-07-04 |
| Guy        | Himuro    | 1987-07-05 |
| Karen      | Colmenares| 1987-07-06 |
```

8. Write a query to display the last name of employees having 'e' as the third character.

```
SELECT LAST_NAME from employees where LAST_NAME like '__e';
```

```
mysql> SELECT LAST_NAME from employees where LAST_NAME like '__e';
+-----+
| LAST_NAME |
+-----+
| Gee       |
| Lee       |
+-----+
2 rows in set (0.00 sec)
```

9. Write a query to get the maximum salary of an employee working as a Programmer.

```
SELECT MAX(SALARY) from employees where JOB_ID='IT_PROG';
```

```
mysql> SELECT MAX(SALARY) from employees where JOB_ID='IT_PROG';
+-----+
| MAX(SALARY) |
+-----+
|      9000.00 |
+-----+
1 row in set (0.01 sec)
```

10. Write a query to get the average salary and number of employees working the department 90.

`SELECT AVG(SALARY), COUNT(*) from employees where DEPARTMENT_ID=90;`

```
mysql> SELECT AVG(SALARY), COUNT(*) from employees where DEPARTMENT_ID=90;
+-----+-----+
| AVG(SALARY) | COUNT(*) |
+-----+-----+
| 19333.333333 |        3 |
+-----+-----+
1 row in set (0.00 sec)
```