```
# Q1)
create database project_and_employee;
use project_and_employee;
set default_storage_engine = INNODB;

# Visualization
select * from project_and_employee.proj_table;
select * from project_and_employee.emp_record_table;
select * from project_and_employee.data_science_team;

# Describe
describe project_and_employee.proj_table;
describe project_and_employee.emp_record_table;
describe project_and_employee.data_science_team;

#ALTER DATA TYPES
ALTER TABLE `project_and_employee`.`proj_table`
CHANGE COLUMN `ï»¿PROJ_ID` `PROJ_ID` VARCHAR(20) NOT NULL
PRIMARY KEY,
CHANGE COLUMN `PROJ_NAME` `PROJ_NAME` VARCHAR(30) NOT NULL ,
CHANGE COLUMN `DOMAIN` `DOMAIN` VARCHAR(50) NOT NULL ,
#CHANGE COLUMN `START _DATE` `START_DATE` DATE NOT NULL ,
#CHANGE COLUMN `CLOSURE_DATE` `CLOSURE_DATE` DATE NOT NULL ,
CHANGE COLUMN `DEV_QTR` `QTR` VARCHAR(2) NOT NULL ,
CHANGE COLUMN `STATUS` `STATUS` VARCHAR(10) NOT NULL
;
```

```
ALTER TABLE `project_and_employee`.`emp_record_table`

CHANGE COLUMN `ï»¿EMP_ID` `EMP_ID` VARCHAR(4) NOT NULL
PRIMARY KEY ,

CHANGE COLUMN `FIRST_NAME` `FIRST_NAME` VARCHAR(20) NOT NULL
,

CHANGE COLUMN `LAST_NAME` `LAST_NAME` VARCHAR(50) NOT NULL ,

CHANGE COLUMN `GENDER` `GENDER` CHAR(1) NOT NULL ,

CHANGE COLUMN `ROLE` `ROLE` VARCHAR(30) NOT NULL ,

CHANGE COLUMN `DEPT` `DEPT` VARCHAR(20) NOT NULL ,

CHANGE COLUMN `EXP` `EXP` INT(2) NOT NULL ,

CHANGE COLUMN `COUNTRY` `COUNTRY` VARCHAR(50) NOT NULL ,

CHANGE COLUMN `CONTINENT` `CONTINENT` VARCHAR(30) NOT NULL ,

CHANGE COLUMN `SALARY` `SALARY` DOUBLE NOT NULL ,

CHANGE COLUMN `EMP_RATING` `EMP_RATING` DOUBLE NOT NULL ,

CHANGE COLUMN `MANAGER_ID` `MANAGER_ID` VARCHAR(20) NOT
NULL

;


ALTER TABLE `project_and_employee`.`data_science_team`

CHANGE COLUMN `ï»¿EMP_ID` `EMP_ID` VARCHAR(4) NOT NULL
PRIMARY KEY ,

CHANGE COLUMN `FIRST_NAME` `FIRST_NAME` VARCHAR(20) NOT NULL
,

CHANGE COLUMN `LAST_NAME` `LAST_NAME` VARCHAR(50) NOT NULL ,

CHANGE COLUMN `GENDER` `GENDER` CHAR(1) NOT NULL ,

CHANGE COLUMN `ROLE` `ROLE` VARCHAR(30) NOT NULL ,

CHANGE COLUMN `DEPT` `DEPT` VARCHAR(20) NOT NULL ,

CHANGE COLUMN `EXP` `EXP` INT(2) NOT NULL,
```

```
CHANGE COLUMN `COUNTRY` `COUNTRY` VARCHAR(50) NOT NULL ,
CHANGE COLUMN `CONTINENT` `CONTINENT` VARCHAR(30) NOT NULL
;



# Q3)
select EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT from
project_and_employee.emp_record_table;



# Q4)
#LESS THAN 2
select EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING
from  project_and_employee.emp_record_table
where EMP_RATING < 2;

#GREATER THAN 4
select EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING
from  project_and_employee.emp_record_table
WHERE EMP_RATING > 4;

#BETWEEN 2 AND 4
select EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING
FROM project_and_employee.emp_record_table
where EMP_RATING between 2 and 4;
```

```
#DIFFERENT FROM 2 AND 4
select EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT, EMP_RATING
from  project_and_employee.emp_record_table
where EMP_RATING <> 2 and EMP_RATING <> 4;

# Q5)
select concat(FIRST_NAME,' ',LAST_NAME) AS NAME FROM
project_and_employee.emp_record_table
where DEPT = 'FINANCE';

# Q6)
select * from project_and_employee.emp_record_table
where EMP_ID in (
        select MANAGER_ID from project_and_employee.emp_record_table
);

select count(*) as Reporters from project_and_employee.emp_record_table
where EMP_ID <> MANAGER_ID in(
        select MANAGER_ID from project_and_employee.emp_record_table
);

# Q7)
select * from project_and_employee.emp_record_table
where DEPT = 'HEALTHCARE'
union
select * from project_and_employee.emp_record_table
where DEPT = 'FINANCE';
```

```
# Q8)
select EMP_ID, FIRST_NAME, LAST_NAME, DEPT, EMP_RATING,
(select MAX(EMP_RATING) from project_and_employee.emp_record_table)
as max_ratings
from project_and_employee.emp_record_table
order by DEPT;

# Q9)
Select FIRST_NAME, LAST_NAME, `ROLE`, SALARY AS MAX_Salary
from project_and_employee.emp_record_table
WHERE (ROLE, SALARY)IN (
        SELECT `ROLE`, MAX(Salary) FROM
project_and_employee.emp_record_table GROUP BY ROLE
   );

Select FIRST_NAME, LAST_NAME, `ROLE`, SALARY AS MIN_Salary
from project_and_employee.emp_record_table
WHERE (ROLE, SALARY)IN (
        SELECT `ROLE`, MIN(Salary) FROM
project_and_employee.emp_record_table GROUP BY ROLE
   );

# Q10)
Select EMP_ID, FIRST_NAME, LAST_NAME, ROLE, EXP, ROW_NUMBER() over
(ORDER BY EXP desc) EMP_RANK
from project_and_employee.emp_record_table;
```

Q11)

```
use project_and_employee;
Create View VW_above_6000_salary as
select * from project_and_employee.emp_record_table
where SALARY >= '6000';
```

Q12)

```
select EMP_ID, FIRST_NAME, LAST_NAME, DEPT
from project_and_employee.emp_record_table
where EXP >= 10;
```

Q13)

```
create procedure EXP_ABOVE_3_YRS()
select FIRST_NAME, LAST_NAME, EXP, ROLE, SALARY
from project_and_employee.emp_record_table
where EXP>3;
call EXP_ABOVE_3_YRS;
```

Q14)

```
use project_and_employee;

delimiter $$

create procedure CHECK_STANDARD(in EMP_ID VARCHAR(4), OUT
STANDARD VARCHAR(10))

BEGIN

        IF EXP<=2 and ROLE='JUNIOR DATA SCIENTIST'

                SET STANDARD='MATCHED'

        ELSE IF EXP>2 AND EXP<5 AND ROL='ASSOCIATE DATA SCIENTIST'

                SET STANDARD='MATCHED'

   ELSE IF EXP >=5 AND EXP <10 AND ROLE='SENIOR DATA SCIENTIST'

                SET STANDARD='MATCHED'

        ELSE IF EXP>=10 AND EXP<12 AND ROLE='LEAD DATA SCIENTIST'

                SET STANDARD='MATCHED'

        ELSE IF EXP>=12 AND EXP <=16 AND ROLE='MANAGER'

                SET STANDARD='MATCHED'

        ELSE

                SET STANDARD='MISMATCHED'

        END IF;

END $$
```

Q15)

```
create index EMP_ID on project_and_employee.emp_record_table(FIRST_NAME);

explain select EMP_ID, FIRST_NAME, LAST_NAME from
project_and_employee.emp_record_table

where first_name = 'Eric';
```

```
# Q16)
select *, (SALARY*0.05*EMP_RATING) as EMP_BONUS
from project_and_employee.emp_record_table;

# Q17)
select COUNTRY, avg(SALARY) AVG_SALARY_BY_COUNTRY from
project_and_employee.emp_record_table
group by COUNTRY
limit 100
;

select CONTINENT, avg(SALARY) AVG_SALARY_BY_CONTINENT from
project_and_employee.emp_record_table
group by CONTINENT
limit 100
;

#Drop
drop table project_and_employee.proj_table;
drop table project_and_employee.emp_record_table;
drop table project_and_employee.data_science_team;

#Describe / Explain
use project_and_employee;
describe project_and_employee.emp_record_table;
explain select SALARY from project_and_employee.emp_record_table;
```