-- 1.Provide a SQL script that initializes the database for the Job Board scenario “CareerHub”.

**create database if not exists CareerHub;**

**use CareerHub;**

-- 2.Create tables for Companies, Jobs, Applicants and Applications.

-- 3.Define appropriate primary keys, foreign keys, and constraints.

-- 4.Ensure the script handles potential errors, such as if the database or tables already exist.

**create table if not exists Companies(CompanyID int primary key,**

**CompanyName Varchar(100),**

**Location Varchar(100)**

**);**

**create table if not exists Jobs(JobID int primary key,**

**CompanyID int,**

**JobTitle varchar(100),**

**JobDescription text,**

**JobLocation VARCHAR(50),**

**salary decimal (10, 2),**

**JobType varchar (100),**

**postdate datetime,**

**foreign key (CompanyID) references Companies (CompanyID));**

**create table if not exists Applicants(ApplicantID int primary key ,**

**FirstName varchar (25)**

**,LastName varchar(25),**

**Email varchar(255),**

**Phone int unique,**

**Resume text**

**);**

**create table if not exists Applications(ApplicationID int primary key,**

**JobID int,**

**ApplicantID int,**

**ApplicationDate datetime,**

**CoverLetter text,**

**foreign key (JobID) references Jobs (JobID),**

**foreign key (ApplicantID) references Applicants(ApplicantID)**

**);**

/\*5.Write an SQL query to count the number of applications received for each job listing in the

"Jobs" table. Display the job title and the corresponding application count. Ensure that it lists all

jobs, even if they have no applications\*/

**select j.jobTitle , count (a.ApplicantID) as Appcount**

**from jobs j**

**left join Applications a on j.jobID = a.jobID**

**group by j.jobID, j.jobtitle;**

/\* 6.Develop an SQL query that retrieves job listings from the "Jobs" table within a specified salary

range. Allow parameters for the minimum and maximum salary values. Display the job title,

company name, location, and salary for each matching job.\*/

**select j.jobTitle,c.CompanyName,j.JobLocation,j.salary**

**from jobs j**

**inner join Companies c on j.companyID = c.companyID**

**where j.Salary between minSalary and maxSalary;**

/\*7.Write an SQL query that retrieves the job application history for a specific applicant. Allow a

parameter for the ApplicantID, and return a result set with the job titles, company names, and

application dates for all the jobs the applicant has applied to.\*/

**select j.JobTitle, c.CompanyName, a.ApplicationDate**

**from Applications a**

**inner join Jobs j on a.JobID = j.JobID**

**inner join Companies c on j.CompanyID = c.CompanyID**

**where a.ApplicantID = ApplicantID;**

/\*8.Create an SQL query that calculates and displays the average salary offered by all companies for

job listings in the "Jobs" table. Ensure that the query filters out jobs with a salary of zero.\*/

**select AVG(salary) as AverageSalary**

**from Jobs**

**where salary > 0;**

/\*9.Write an SQL query to identify the company that has posted the most job listings. Display the

company name along with the count of job listings they have posted. Handle ties if multiple

companies have the same maximum count\*/

**select c.CompanyName, COUNT(j.JobID) as JobCount**

**from Companies c**

**inner join Jobs j on c.CompanyID = j.CompanyID**

**group by c.CompanyID, c.CompanyName**

**order by JobCount desc**

**Limit 1;**

/\*10.Find the applicants who have applied for positions in companies located in 'CityX' and have at

least 3 years of experience.\*/

**select a.FirstName, a.LastName, j.JobTitle, c.CompanyName**

**from Applications ap**

**inner join Applicants a on ap.ApplicantID = a.ApplicantID**

**inner join Jobs j on ap.JobID = j.JobID**

**inner join Companies c on j.CompanyID = c.CompanyID**

**where c.Location = 'CityX' and a.Experience >= 3;**

-- 11.Retrieve a list of distinct job titles with salaries between $60,000 and $80,000.

**select distinct JobTitle**

**from Jobs**

**where Salary between 60000 and 80000;**

-- 12.Find the jobs that have not received any applications.

**select j.JobTitle**

**from Jobs j**

**left join Applications a ON j.JobID = a.JobID**

**where a.ApplicationID IS NULL;**

/\*13.Retrieve a list of job applicants along with the companies they have applied to and the positions

they have applied for.\*/

**select a.FirstName, a.LastName, c.CompanyName, j.JobTitle**

**from Applicants a**

**join Applications Ap on a.ApplicantID = Ap.ApplicantID**

**join Jobs j on Ap.JobID = j.JobID**

**join Companies c on j.CompanyID = c.CompanyID;**

/\*14.Retrieve a list of companies along with the count of jobs they have posted, even if they have not

received any applications.\*/

**select c.CompanyName, COUNT(j.JobID) as JobCount**

**from Companies c**

**left join Jobs j on c.CompanyID = j.CompanyID**

**group by c.CompanyID;**

/\*15.List all applicants along with the companies and positions they have applied for, including those

who have not applied.\*/

**select a.FirstName, a.LastName, c.CompanyName, j.JobTitle**

**from Applicants a**

**left join Applications Ap on a.ApplicantID = Ap.ApplicantID**

**left join Jobs j on Ap.JobID = j.JobID**

**left join Companies c on j.CompanyID = c.CompanyID;**

-- 16.Find companies that have posted jobs with a salary higher than the average salary of all jobs.

**select distinct c.CompanyName**

**From Companies c**

**inner join Jobs j on c.CompanyID = j.CompanyID**

**where j.salary > (select AVG(Salary) from Jobs where salary > 0);**

-- 17.Display a list of applicants with their names and a concatenated string of their city and state.

**select a.FirstName, a.LastName, CONCAT(a.City, ', ', a.State) as Location**

**from Applicants a;**

-- 18.Retrieve a list of jobs with titles containing either 'Developer' or 'Engineer'.

**select JobTitle**

**from Jobs**

**where JobTitle LIKE '%Developer%' or JobTitle LIKE '%Engineer%';**

/\*19. Retrieve a list of applicants and the jobs they have applied for, including those who have not

applied and jobs without applicants\*/

**select a.FirstName, a.LastName, j.JobTitle**

**from Applicants a**

**left join Applications Ap on a.ApplicantID = Ap.ApplicantID**

**left join Jobs j on Ap.JobID = j.JobID;**

/\*20. List all combinations of applicants and companies where the company is in a specific city and the

applicant has more than 2 years of experience. For example: city=Chennai\*/

**select a.FirstName, a.LastName, c.CompanyName**

**FROM Applicants a**

**join Applications Ap on a.ApplicantID = Ap.ApplicantID**

**join Jobs j on Ap.JobID = j.Job**