**CODING CHALLENGE -2**

**Career Hub, The Job Board**

**1. Create DB**

create database Carrerhub;

Use Carrerhub;

**2. Create Tables**

Create table Companies (

CompanyID int Primary key,

CompanyName varchar (50) NOT NULL,

Location varchar(50) NOT NULL

);

Create table Jobs (

JobID INT PRIMARY KEY,

CompanyID INT NOT NULL,

JobTitle varchar 100) NOT NULL,

JobDescription varchar (MAX),

JobLocation varchar (50),

Salary DECIMAL(10,2) CHECK (Salary >= 0),

JobType varchar (50),

PostedDate varchar (15),

Foreign key (CompanyID) ReferencesCompanies(CompanyID)

);

Create table Applicants (

ApplicantID int primary key,

FirstName varchar (50) NOT NULL,

LastName varchar (50) NOT NULL,

Email varchar (50) Unique NOT NULL,

Phone varchar (20),

Resume (text),

);

Create table Applications (

ApplicationID int primary key,

JobID int NOT NULL,

ApplicantID int NOT NULL,

ApplicationDate (datetime),

CoverLetter (text),

Foreign key (JobID) references Jobs(JobID),

Foreign key (ApplicantID) references Applicants(ApplicantID)

);

**3.Insert the records,constraints**

Insert into Companies (CompanyID, CompanyName, Location) values

(1, 'Hexaware', 'Chennai'),

(2, 'ABC Corporation', 'Coimbatore'),

(3, 'XYZ Technologies', 'Hyderabad'),

(4, 'Global solutions', 'CityX'),

(5, 'Technoz','City Z'),

(6, 'Infotech', 'Banglore'),

(7, 'Infopark','CityX');

Insert into Jobs (JobID, CompanyID, JobTitle, JobDescription, JobLocation, Salary, JobType, PostedDate) values

(101, 1, 'Java Developer', 'Develop and maintain Java apps using Spring and APIs.', 'Chennai', 500000.00, 'Full-time','2025-01-02'),

(102, 2, 'Data Analyst', 'Analyze data using SQL and Power BI for reports.', 'Coimbatore', 500000.00, 'Full-time', '2025-01-10'),

(103, 3, '.Net Developer', 'Work on .NET apps with C# and SQL Server.', 'Hyderabad', 600000.00, 'Full-time','2025-01-12'),

(104, 4, 'Associate Analyst', 'Create digital learning content for students.', 'City X', 350000.00, 'Full-time', '2025-01-19'),

(105, 5, 'SAP Analyst', 'Prepare finance reports using SAP tools.', 'CityX', 40000.00, 'Full-time', '2025-01-23'),

(106, 6, 'DevOps Engineer', 'Automate deployments and manage cloud infra.',

'Banglore', 450000.00, 'Contract', '2025-01-25'),

(107, 7, 'UI/UX Designer', 'Design user-friendly interfaces and layouts.',

'Kochi', 390000.00, 'Full-time', '2025-01-28');

Insert into Applicants (ApplicantID, FirstName, LastName, Email, Phone, Resume) values

(201, 'Ravi', 'Kumar', 'ravikumar@gmail.com', '8825804419', '4 years of experience in Java development.'),

(202, 'Pooja', 'Shree', 'poojashree@gmail.com', '9445737210', 'Skilled in data analytics and Excel dashboards.'),

(203, 'Ananya', 'Verma', 'verma@gmail.com', '9976373991', 'Managed .Net projects in healthcare with ASP.NET and SQL Server.'),

(204, 'Neha', 'Singh', 'nehasingh@gmail.com', '9688727570', 'MBA graduate with interest in finance.'),

(205, 'Anil', 'Varma', 'anil@gmail.com', '9292763780', 'Experienced in SAP and business analysis.'),

(206, 'Suresh', 'Babu', 'suresh@gmail.com', '9688405749', 'DevOps engineer skilled in AWS and CI/CD tools.'),

(207, 'Anjali', 'Nair', 'anjali@gmail.com', '9787205573', 'UI/UX designer with a portfolio of mobile apps.');

Insert into Applications (ApplicationID, JobID, ApplicantID, ApplicationDate, CoverLetter) values

(301, 101, 201, '2024-08-10 09:30:00', 'I am excited to apply for the Java Developer role. I bring 4 years of hands-on Java experience.'),

(302, 102, 202, '2024-07-19 11:15:00', 'With strong skills in analytics and dashboards, I am eager to contribute as a Data Analyst.'),

(303, 103, 203, '2024-06-20 09:45:00', 'As an experienced project manager in healthcare, I am a great fit for your .Net Developer role.'),

(304, 104, 204, '2024-09-21 12:20:00', 'My academic background in finance and communication skills align well with the Content Writer position.'),

(305, 105, 205, '2024-10-25 10:00:00', 'Experienced in SAP and financial reporting, I am interested in this SAP Consultant opportunity.'),

(306, 106, 206, '2024-11-13 15:30:00', 'My DevOps experience with AWS and CI/CD will benefit your infrastructure and deployment goals.'),

(307, 107, 207, '2024-11-15 13:45:00', 'As a UI/UX designer, I can bring creativity and usability to your Design team.');

**4.Check if table already exists**

Checked if not exists (Select name from sys.databases where name = 'CareerHub')

**5. Job Application Count:**

Select J.JobTitle, COUNT(A.ApplicationID) AS ApplicationCount From Jobs J

Left join Applications A ON J.JobID = A.JobID

Group by J.JobTitle;

**6.** **Jobs by Salary Range**

Select min(salary), max(salary) from Jobs;

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 20000 AND 50000;

**7. Applicant History:**

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=206;

**8. Average Salary:**

Select AVG(Salary) As AverageSalary From Jobs where Salary>0;

**9.** **Companies with the highest number of job listings. Show name and listing count.**

Select C.CompanyName, COUNT(J.JobID) AS JobCount FROM Companies C JOIN Jobs J ON C.CompanyID = J.CompanyID GROUP BY C.CompanyName HAVING COUNT(J.JobID) = (select count(JobID) from Jobs GROUP BY CompanyIDORDER BY COUNT(JobID) DESC);

**10.** **Top Hiring Company**

Select ApplicantID, FirstName,LastName FROM Applicants Where ApplicantID IN (select AP.ApplicantID From Applications AP JOIN Jobs J ON AP.JobID = J.JobID join Companies C ON J.CompanyID = C.CompanyID WHERE C.Location = 'CityX' );

**11. Jobs in Salary Range**

Select DISTINCT JobTitle from Jobs Where Salary Between 20000 AND 50000;

**12. Jobs not received applications**

Select JobTitle from Jobs Where JobID NOT IN (

Select JobID fromApplications );

**13. Applicants to CityX:**

ALTER Table Applicants

add YearsOfExperience INT;

added years of experience column

Select A.FirstName,A.LastName, C.CompanyName, J.JobTitle from Applications AP

Join Applicants A ON AP.ApplicantID = A.ApplicantID Join Jobs J ON AP.JobID = J.JobID

join Companies C ON J.CompanyID = C.CompanyID Where C.City = 'CityX'

AND A.YearsOfExperience >= 3;

**14.** **Job Count per Company**

Select C.CompanyName, COUNT(J.JobID) AS JobCount from Companies C left join Jobs J ON C.CompanyID = J.CompanyID Group by C.CompanyName;

**15. All Applicants & Applications applied and include not applied**

Select A.ApplicantID, 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.** **High Paying Companies**

Select DISTINCT C.CompanyName from Jobs J JOIN Companies C ON J.CompanyID = C.CompanyID WHERE J.Salary > (Select AVG(Salary) FROM Jobs Where Salary > 0 );

**17.** **Applicant Location String**

Alter Table Applicants

Add City varchar(100), State varchar(100);

Added city and state column,

Select FirstName, LastName, City + ', ' + State AS Location from Applicants;

**18.** **Jobs by Title Keywords**

Select \* from Jobs where JobTitle LIKE '%Developer%' OR JobTitle LIKE '%Engineer%';

**19.** **All Applicants and Jobs**

Select A.ApplicantID, A.FirstName, A.LastName, J.JobID, J.JobTitle FromApplicants A Full outer join Applications AP ON A.ApplicantID = AP.ApplicantI full outer join Jobs J ON AP.JobID = J.JobID;

**20.** **Applicants & Companies by City and Experience**

Select A.FirstName, A.LastName, A.YearsOfExperience, C.CompanyName, C.City AS CompanyCity FROM Applicants A cross join Companies C WHERE C.City = 'Chennai' AND A.YearsOfExperience > 2;