**SQL SPRINT - 6, PROMPTS GIVEN TO BARD.**

**BARD QUERING HR DATA.**

**TASK 1**

Extract the structure of the following 7 tables using the ‘DESCRIBE’ SQL command from the HR database using MYSQL workbench.

**PROMPT** – (AS A MYSQL EXPERT GIVE THE STRUCTURE OF FOLLOWING TABLES. Table: departments Columns: department\_idint UN PKdepartment\_namevarchar (30) manager\_idint UNlocation\_idint  Table: jobs  Columns: job\_idvarchar (10) PK job title varchar (35) min\_salarydecimal (8, 0) max\_salarydecimal (8, 0) Table: employees Columns: employee\_idint PK first\_namevarchar (20) last\_namevarchar (25) email varchar (25) phone\_numbervarchar (20) hire\_datedatejob\_idvarchar (10) salarydecimal (8, 2) commission\_pctdecimal (2, 2) manager\_idint UNdepartment\_idint ,Table: countries Columns: country\_id char(2) PK country\_name varchar(40) region\_id int,Table: job\_history Columns: employee\_id int UN PK start\_date date PK end\_date date job\_id varchar(10) department\_id int UN, Table: locations Columns: location\_id int UN AI PK street\_address varchar(40) postal\_code varchar(12) city varchar(30) state\_province varchar(25) country\_id char(2),Table: regions Columns: region\_id int UN PK region\_name varchar(25),  IN A WORD FORMAT)

**Output:**

Departments

* department\_id (INT, PRIMARY KEY)
* department\_name (VARCHAR(30))
* manager\_id (INT, FOREIGN KEY)
* location\_id (INT, FOREIGN KEY)

Jobs

* job\_id (VARCHAR(10), PRIMARY KEY)
* job\_title (VARCHAR(35))
* min\_salary (DECIMAL(8,0))
* max\_salary (DECIMAL(8,0))

Employees

* employee\_id (INT, PRIMARY KEY)
* first name (VARCHAR(20))
* last name (VARCHAR(25))
* email (VARCHAR(25))
* phone\_number (VARCHAR(20))
* hire\_date (DATE)
* job\_id (VARCHAR(10), FOREIGN KEY)
* salary (DECIMAL(8,2))
* commission\_pct (DECIMAL(2,2))
* manager\_id (INT, FOREIGN KEY)
* department\_id (INT, FOREIGN KEY)

Countries

* country\_id (CHAR(2), PRIMARY KEY)
* country\_name (VARCHAR(40))
* region\_id (INT, FOREIGN KEY)

job\_history

* employee\_id (INT, PRIMARY KEY, FOREIGN KEY)
* start\_date (DATE, PRIMARY KEY)
* end\_date (DATE)
* job\_id (VARCHAR(10), FOREIGN KEY)
* department\_id (INT, FOREIGN KEY)

Locations

* location\_id (INT, PRIMARY KEY, AUTO\_INCREMENT)
* street\_address (VARCHAR(40))
* postal\_code (VARCHAR(12))
* city (VARCHAR(30))
* state\_province (VARCHAR(25))
* country\_id (CHAR(2), FOREIGN KEY)

Regions

* region\_id (INT, PRIMARY KEY)
* region\_name (VARCHAR(25))

**TASK 2A**

**PROMPT**: (As a MySQL expert, consider the following structure of tables.

Find the total no.of countries in each region. country\_id char(2) PK

Country\_name varchar (40) region\_id int UN region\_id int UN PK region\_name varchar (25))

**OUTPUT:** (SELECT regions.region\_name, COUNT(countries.country\_id) AS total\_countries

FROM countries INNER JOIN regions ON countries.region\_id = regions.region\_id

GROUP BY regions.region\_name;)

**TASK 2B**

**PROMPT**: (As a MySQL expert, consider the following structure of tables and provide the answer for the

Following queries. Find the top 10 largest cities by population.

Table: locations Columns: location\_id int UN AI PK street\_address varchar(40) postal\_code

varchar (12) city varchar(30) state\_province varchar(25) country\_id char(2), Table: regions

Columns: region\_id int UN PK region name varchar(25))

**OUTPUT:** (SELECT city, COUNT(\*) AS city\_count FROM locations GROUP BY city

ORDER BY city\_count DESC LIMIT 10 ;)

**TASK 2C**

**PROMPT**: (As a MySQL expert, consider the following structure of table.

Find the average salary of employees in each department. Employee\_id int UN PK

First\_name varchar(20) last\_name varchar(25) email varchar(25)

phone\_number varchar(20) hire\_date datejob\_id varchar(10)

Salarydecimal (8, 2) commission\_pctdecimal (2, 2) manager\_idint UN department\_id int UN

Department\_id int UN PK department\_name varchar (30) manager\_id int UN

Location\_id int UN)

**OUTPUT:** (SELECT departments.department\_name, AVG(employees.salary) AS average\_salary

FROM employees INNER JOIN departments ON employees.department\_id =

departments.department\_id GROUP BY departments.department\_name;)

**TASK 3**

(Create additional business queries using BARD with the three table’s jobs, employees, and job\_history)

**PROMPT**: (As a MySQL expert, consider the following structure of table.

Employee\_id int UN PK first name varchar (20) last\_name varchar (25)

Email varchar (25) phone\_number varchar (20) hire\_datedate job\_idvarchar (10)

Salarydecimal (8, 2) commission\_pctdecimal (2, 2) manager\_id int UN department\_id int UN

Job\_id varchar (10) PK job title varchar (35) min\_salary decimal (8, 0) UN max\_salary decimal (8,0)

UN employee\_idint UN PK start\_datedate PK end\_datedatejob\_idvarchar (10) department\_idint

Can you give the sample questions and queries by considering these tables?)

**OUTPUT:** (-- 1.Find the total number of employees in each job

SELECT jobs.job\_title, COUNT(employees.employee\_id) AS total\_employees

FROM employees INNER JOIN jobs ON employees.job\_id = jobs.job\_id

GROUP BY jobs.job\_title;

-- 2.Find the departments with the highest average salary

SELECT departments.department\_name, AVG(employees.salary) AS average\_salary

FROM employees

INNER JOIN departments ON employees.department\_id = departments.department\_id

GROUP BY departments.department\_name

ORDER BY average\_salary DESC LIMIT 1;

-- 3.Find the Job titles with highest average salary

SELECT jobs.job\_title, AVG(employees.salary) AS highest\_avg\_salary\_ever

FROM employees INNER JOIN jobs ON employees.job\_id = jobs.job\_id

GROUP BY jobs.job\_title ORDER BY highest\_avg\_salary\_ever DESC LIMIT 1; )

**TASK 4,**

(Generate additional business queries using BARD with the three tables departments, jobs, and employees.)

**PROMPT** :( As a MySQL expert, consider the following structure of table.

Table: departments

Columns: department\_idint UN PKdepartment\_namevarchar (30) manager\_idint UNlocation\_idint

Table: jobs

Columns: job\_idvarchar (10) PK job title varchar (35) min\_salarydecimal (8, 0) max\_salarydecimal (8, 0)

Table: employees

Columns: employee\_idint PK first\_namevarchar (20) last\_namevarchar (25) email varchar (25) phone\_numbervarchar (20) hire\_datedatejob\_idvarchar (10) salarydecimal (8, 2) commission\_pctdecimal (2, 2) manager\_idint UNdepartment\_idint UN

Can you give the sample questions and queries by considering these three tables?)

**OUTPUT:** (-- 1.Find Average salary per job title

SELECT jobs.job\_title, AVG(employees.salary) AS avg\_salary FROM employees

INNER JOIN jobs ON employees.job\_id = jobs.job\_id GROUP BY jobs.job\_title;

-- 2. Identify the busiest month for new employee hires.

SELECT MONTHNAME(hire\_date) AS hire\_month, COUNT(\*) AS total\_hires FROM employees

GROUP BY hire\_date ORDER BY total\_hires DESC LIMIT 1;

-- 3.Find the Total employees in each department

SELECT departments.department\_name, COUNT(employee\_id) AS total\_employees

FROM employees JOIN departments ON employees.department\_id = departments.department\_id

GROUP BY departments.department\_name; )

**TASK 5**

**PROMPT : (**As a Data Analysis Expert, Please give me the summary of analysis for the following queries SELECT regions.region\_name, COUNT(countries.country\_id) AS total\_countries FROM countries INNER JOIN regions ON countries.region\_id = regions.region\_id GROUP BY regions.region\_name;SELECT departments.department\_name, AVG(employees.salary) AS average\_salary FROM employees INNER JOIN departments ON employees.department\_id = departments.department\_id GROUP BY departments.department\_name; SELECT jobs.job\_title, COUNT(employees.employee\_id) AS total\_employees FROM employees INNER JOIN jobs ON employees.job\_id = jobs.job\_id GROUP BY jobs.job\_title; SELECT jobs.job\_title, AVG(employees.salary) AS highest\_avg\_salary\_ever FROM employees INNER JOIN jobs ON employees.job\_id = jobs.job\_id GROUP BY jobs.job\_title ORDER BY highest\_avg\_salary\_ever DESC LIMIT 1; SELECT MONTHNAME(hire\_date) AS hire\_month, COUNT(\*) AS total\_hires FROM employees GROUP BY hire\_date ORDER BY total\_hires DESC LIMIT 1; SELECT departments.department\_name, COUNT(employee\_id) AS total\_employees FROM employees JOIN departments ON employees.department\_id = departments.department\_id GROUP BY departments.department\_name; in word paragraph format)

**Output:**

Here's a summary of the analysis:

**Query 1: Region with Most Countries**

This query retrieves the region name and the total number of countries within each region. It helps identify the region with the highest number of countries in the dataset.

**Query 2: Average Salary by Department**

This query calculates the average salary for each department. It allows you to compare salaries across different departments and identify areas with potentially higher or lower compensation.

**Query 3: Job Titles with Most Employees**

This query reveals the job titles with the highest number of employees. It helps understand which job roles are the most staffed in the organization.

**Query 4: Job Title with Highest Average Salary (All Time)**

This query identifies the job title with the historically highest average salary. It provides insights into which positions are typically associated with the highest compensation.

**Query 5: Most Popular Month for Hiring**

This query determines the month with the most employee hires. It helps assess seasonal hiring patterns or periods of high recruitment activity.

**Query 6: Department with Most Employees**

This query calculates the total number of employees within each department. It's similar to Query 3, but focuses on departments instead of job titles.

**BARD - CONTENT WRITING**

**TASK 1**

**PROMPT:** (As a working professional expert, please provide a sample linkedin profile for professional

Use and I have skills like Advance Excel, SQL, Python, Tableau and my interests are reading

Books, playing games)

**OUTPUT:** (## Sample LinkedIn Profile for a Working Professional

\*\*Headline:\*\* (Catchy & Keyword-Rich)

\* \*\*Example:\*\* Data Analyst | Excel, SQL, Python, Tableau | Passionate Learner

\*\*Summary:\*\* (Showcase your skills and experience)

\* Briefly describe your experience and expertise in data analysis.

\* Mention your proficiency in tools like Excel, SQL, Python, and Tableau.

\* Highlight your passion for learning and continuous improvement.

\* Keep it concise (around 3-4 sentences).

\* \*\*Example:\*\* Data Analyst with X years of experience in leveraging data to drive insights and inform business decisions. Proficient in Excel, SQL, Python, and Tableau for data manipulation, analysis, and visualization. Eager to learn and contribute to a dynamic team environment.

\*\*Experience:\*\* (List your relevant work experience)

\* Include your current and past job titles, company names, and dates of employment.

\* Briefly describe your responsibilities and achievements in each role.

\* Quantify your accomplishments with metrics whenever possible (e.g., "Increased sales by 15% through data-driven marketing campaigns").

\* Use keywords relevant to your target job titles.

\*\*Skills:\*\* (Showcase your technical and soft skills)

\* Include your hard skills like Excel, SQL, Python, and Tableau.

\* Add soft skills relevant to data analysis like problem-solving, communication, and teamwork.

\*\*Education:\*\* (List your academic qualifications)

\* Include your degree(s), major(s), and the institution(s) you attended.

\* Mention relevant coursework or projects related to data analysis.

\*\*Interests:\*\* (Add a personal touch)

\* Briefly mention your interests outside of work, like reading books or playing games.

\* This helps you connect with others on a personal level.

\*\*Additional Sections:\*\* (Optional)

\* Include awards, certifications, volunteer work, or publications relevant to your field.

\*\*Pro Tip:\*\*

\* Use a professional headshot.

\* Customize your profile URL with your name.

\* Get recommendations from colleagues or previous employers.

\* Actively engage with industry content and discussions.

\*\*Remember:\*\*

\* Tailor your profile to the specific job you're targeting.

\* Use keywords from job descriptions throughout your profile.

\* Proofread your profile carefully before publishing it.

By following these tips and using the provided sample as a guide, you can create a compelling LinkedIn profile that showcases your skills and experience to potential employers and recruiters.

**TASK 2**

**PROMPT: (**As a content writing expert, consider the following test below and rewrite it for better

quality, flow, readability, and coherence, correcting grammar and spelling errors. "Its

Fascynating how you’re abel to understand this, even with the mistaks. The fakt that you still

make scence of it despite errors adds a unique aspect to the reading experience".)

**OUTPUT:**  (Here's the rewritten version of the text with improved quality, flow, readability, and

Coherence, correcting grammatical and spelling errors:

It's fascinating how you're able to understand this, even with the mistakes. The fact that you

Can still make sense of it despite errors adds a unique layer to the reading experience.

Here's a breakdown of the changes:

"Its" -> "It's": Corrected the contraction for "it is."

"Fascynating" -> "fascinating": Corrected the spelling error.

"Youre" -> "you're": Corrected the contraction for "you are."

"Abel" -> "able": Corrected the spelling error.

"The fakt" -> "the fact": Corrected the spelling error.

"Make scence" -> "make sense": Corrected the spelling error.

"Adds a unique aspect" -> "adds a unique layer": Used a stronger word ("layer") to emphasize the impact.

The revised version improves clarity and flow while maintaining the original message.)