

# Job Market Analysis



MySQL®

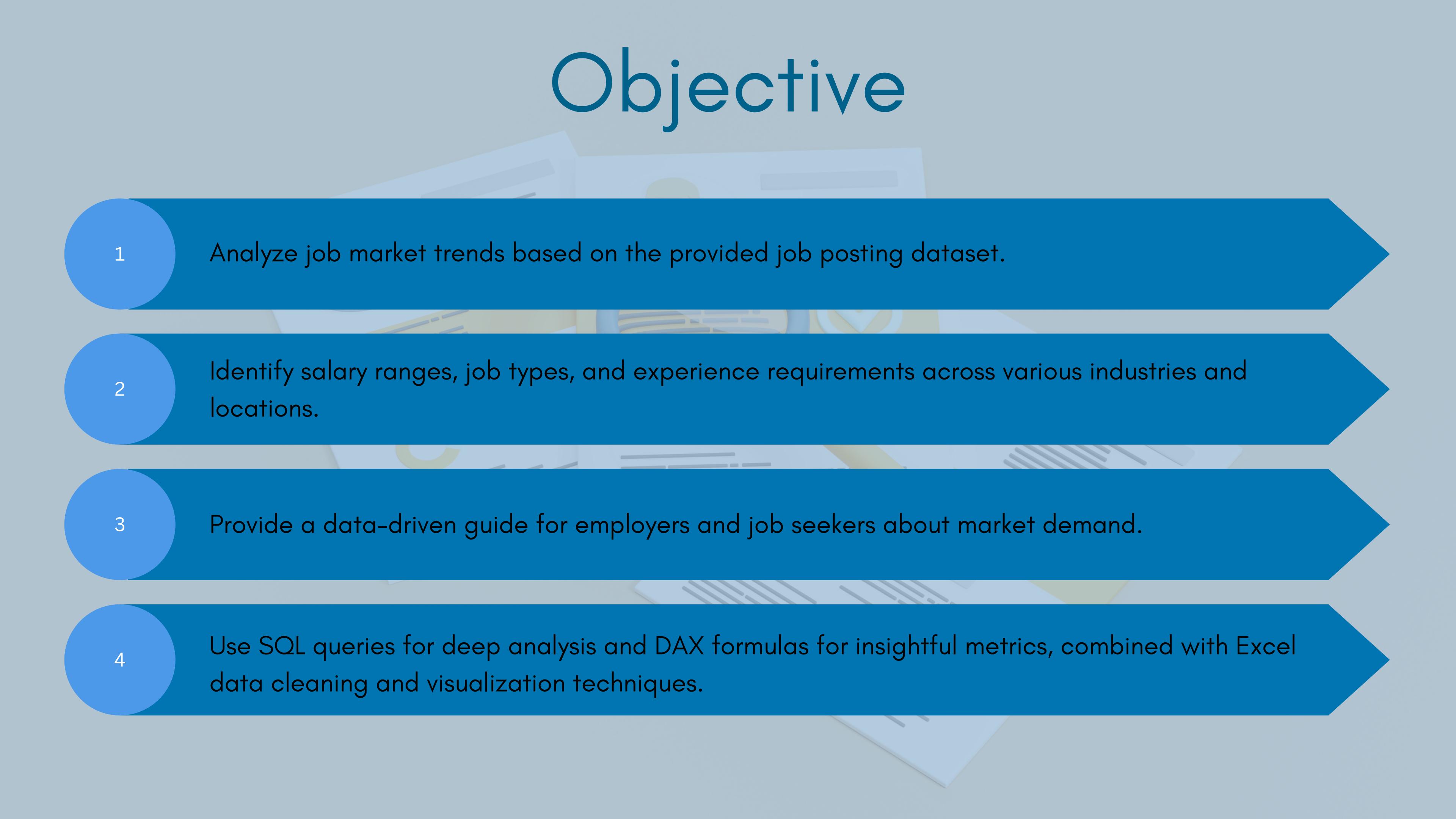
Power BI

# Introduction

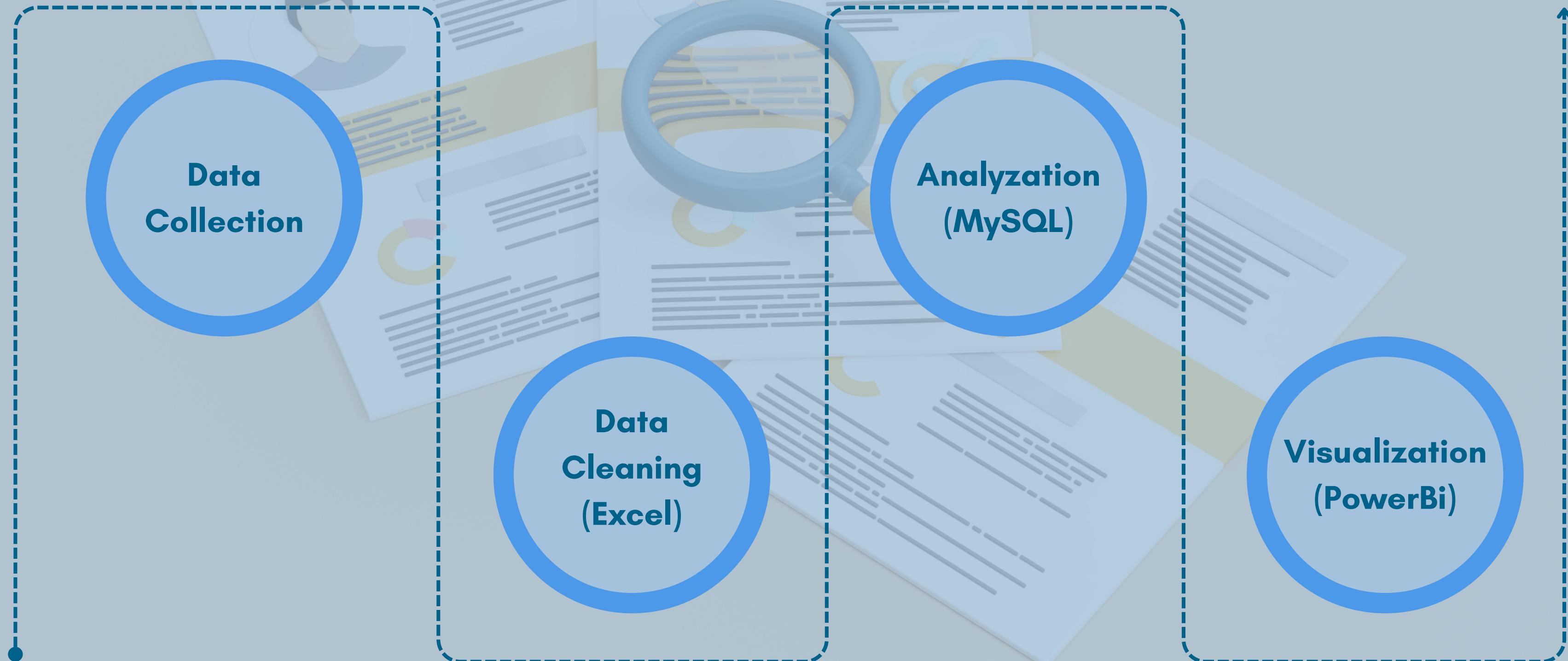
Job market analysis is crucial for understanding trends in employment, salary benchmarks, job availability, and company requirements. It helps stakeholders like HR professionals, job seekers, and recruiters make data-driven decisions. In this project, we will analyze job postings data to identify patterns and insights related to job types, salary ranges, experience levels, and more.



# Objective

- 
- 1 Analyze job market trends based on the provided job posting dataset.
  - 2 Identify salary ranges, job types, and experience requirements across various industries and locations.
  - 3 Provide a data-driven guide for employers and job seekers about market demand.
  - 4 Use SQL queries for deep analysis and DAX formulas for insightful metrics, combined with Excel data cleaning and visualization techniques.

# Project Workflow



# Raw Dataset

id	Date_Posted	City	Country	Work_Typ	Gender_P	Job_Title	Specializat	Job_Portal	Company	Company_Co	Minimum_	Maximum_	Position_L	e_Qualificati	Minimum_S	Maximum_S	
															1	14	
1	07-01-2025	Singapore	Singapore	Full-Time	Male	Art Directc	Art Curato	LinkedIn	WESCO Int	1500 or abc	Industrial	1	14	Senior	B.Com	59000	93000
2	11-02-2022	Paris	France	Intern	Female	Operations	Operations	Stack Over	Hikma Pha	500 or abc	Pharmaceu	5	12	Senior	BA	62000	130000
3	05-05-2025	Beijing	China	Full-Time	Male	Event Coo	Event Plan	Jobs2Care	Baxter Int	500 or abc	Healthcare	0	14	Senior	BA	56000	109000
4	09-04-2024	Ottawa	Canada	Contract	Female	Customer	Customer	Jobs2Care	Westlake	500 or abc	Chemicals	4	14	Senior	M.Tech	57000	125000
5	08-03-2022	Madrid	Spain	Intern	Both	Procurement	Supplier Di	The Muse	Massachu	500 or abc	Insurance	4	15	Senior	M.Tech	56000	125000
6	04-08-2024	Ottawa	Canada	Part-Time	Male	Software E	DevOps En	LinkedIn	Uber Tech	500 or abc	Technolog	3	8	Senior	M.Tech	64000	103000
7	11-01-2023	Beijing	China	Temporary	Both	Marketing	Marketing	CareerBuil	Asbury Aut	500 or abc	Automotiv	3	10	Senior	MBA	55000	126000
8	06-03-2024	Singapore	Singapore	Temporary	Female	Research S	Research A	ZipRecruit	Mutual of	500 or abc	Insurance	1	10	Senior	BCA	59000	108000
9	02-11-2024	Hanoi	Vietnam	Full-Time	Male	Sales Man	Key Accou	Internships	GXO Logist	1500 or abc	Transporta	5	12	Senior	M.Tech	60000	112000
10	05-08-2022	Beijing	China	Part-Time	Male	Interior De	Commerce	CareerBuil	EQT	500 or abc	Energy	0	10	Senior	M.Com	65000	83000
11	02-10-2023	Hanoi	Vietnam	Part-Time	Both	Software I	Quality As	Idealist	Chesapeak	500 or abc	Energy	0	10	Senior	BBA	63000	96000
12	07-05-2023	Madrid	Spain	Contract	Male	Civil Engine	Water Res	FlexJobs	Qualcom	500 or abc	Technolog	3	11	Senior	B.Com	55000	95000
13	06-07-2023	Washington	USA	Full-Time	Male	Research A	Market Re	Monster	Qurate Re	500 or abc	Retail	1	9	Senior	MBA	59000	117000
14	01-03-2023	Hanoi	Vietnam	Part-Time	Female	Psychologi	Research F	Indeed	GlaxoSmit	500 or abc	Pharmaceu	4	13	Senior	M.Com	60000	82000
15	10-03-2022	Paris	France	Full-Time	Both	Web Dev	Backend W	Internships	Cummins	500 or abc	Industrial	5	9	Senior	B.Com	56000	113000
16	11-06-2024	Brussels	Belgium	Part-Time	Both	Account D	Business D	Glassdoor	Marriott Ir	500 or abc	Hospitality	1	12	Senior	M.Com	61000	109000
17	03-01-2024	Washington	USA	Contract	Female	Content W	Content St	FlexJobs	Legal & Ge	500 or abc	Financial S	4	8	Senior	BA	62000	111000
18	04-10-2023	City of Por	Mauritius	Contract	Male	Paralegal	Real Estate	Idealist	Hilton Wo	500 or abc	Hospitality	0	15	Senior	BA	59000	115000
19	02-08-2023	Bangkok	Thailand	Intern	Male	UX/UI Des	Interaction	Internships	Barclays	500 or abc	Financial S	3	13	Senior	BCA	60000	129000
20	07-01-2025	City of Por	Mauritius	Contract	Female	Systems A	Business S	Stack Over	Northern	1500 or abc	Financial S	1	12	Senior	BCA	59000	119000
21	03-04-2022	Brussels	Belgium	Temporary	Both	Network A	Systems A	Snagajob	Linde plc	500 or abc	Industrial	4	14	Senior	B.Tech	59000	104000
22	07-05-2023	Brussels	Belgium	Intern	Both	Customer	Customer	Jobs2Care	The Kraft	500 or abc	Food and B	1	10	Senior	BA	63000	86000
23	09-11-2022	Hanoi	Vietnam	Full-Time	Both	Social M	Content Ci	Stack Over	Grafton Gr	500 or abc	Building M	3	10	Senior	BCA	57000	117000
24	06-12-2023	Ottawa	Canada	Contract	Female	Operations	Operations	CareerBuil	Domino's	1500 or abc	Food and B	4	8	Senior	B.Com	65000	99000
25	01-03-2024	City of Por	Mauritius	Contract	Male	Front-End	Front-End	Stack Over	Unilever Un	500 or abc	Consumer G	2	12	Senior	B.Tech	55000	128000

# Data Cleaning

## Remove Duplicates

Select the columns where duplication is likely (for example: Company

## Handle Missing Values

Missing data can cause errors in analysis. It's important to either fill in or handle missing values properly or remove rows with too many missing values

## Standardize Data Formats

Convert Date\_Posted to Standard Date FormatText Formatting

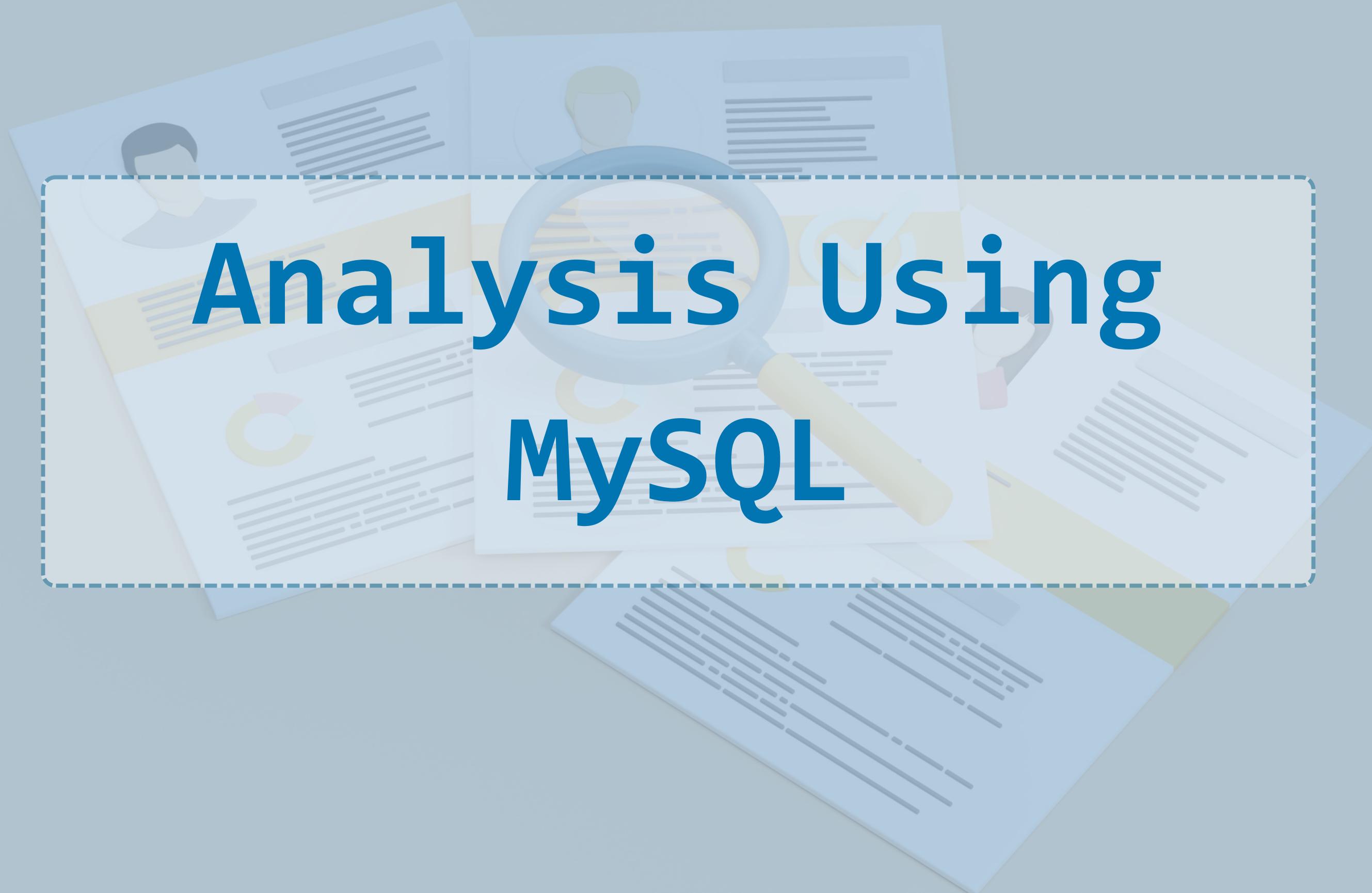
## Remove and Add Columns

Some columns may not be needed or some may be for analysis and can clutter your dataset.

# Cleaned Data

Date_Posted	Year	Month	City	Country	Work_Type	Gender_Preference	Job_Title	Specialization	Job_Portrait	Company	Company_Size	Company_Sector	Minimun_Salary	Maximum_Salary	Position_Level	Qualification	Minimum_Salary	Maximum_Salary	Avg_Salary
07-01-2025	2025	1	Singapore	Singapore	Full-Time	Male	Art Director	Art Curator	LinkedIn	WESCO International	500 or above	Industrial	1	14	Senior	B.Com	59000	93000	76000
11-02-2022	2022	2	Paris	France	Intern	Female	Operations Manager	Operations Director	Stack Overflow	Hikma Pharmaceuticals	500 or above	Pharmaceuticals	5	12	Senior	BA	62000	130000	96000
05-05-2025	2025	5	Beijing	China	Full-Time	Male	Event Coordinator	Event Planner	Jobs2Careers	Baxter International	500 or above	Healthcare	0	14	Senior	BA	56000	109000	82500
09-04-2024	2024	4	Ottawa	Canada	Contract	Female	Customer Support	Account Manager	Jobs2Careers	Westlake Chemicals	500 or above	Chemicals	4	14	Senior	M.Tech	57000	125000	91000
08-03-2022	2022	3	Madrid	Spain	Intern	Both	Procurement Specialist	Supplier Diver	The Muse	Massachusetts	500 or above	Insurance	4	15	Senior	M.Tech	56000	125000	90500
04-08-2024	2024	8	Ottawa	Canada	Part-Time	Male	Software Engineer	DevOps Engineer	LinkedIn	Uber Technologies	500 or above	Technology	3	8	Senior	M.Tech	64000	103000	83500
11-01-2023	2023	1	Beijing	China	Temporary	Both	Marketing Specialist	Marketing Analyst	CareerBuilder	Asbury Autotech	500 or above	Automotive	3	10	Senior	MBA	55000	126000	90500
06-03-2024	2024	3	Singapore	Singapore	Temporary	Female	Research Scientist	Research Analyst	ZipRecruiter	Mutual of C	500 or above	Insurance	1	10	Senior	BCA	59000	108000	83500
02-11-2024	2024	11	Hanoi	Vietnam	Full-Time	Male	Sales Manager	Key Account Manager	Internships.com	GXO Logistics	500 or above	Transportation	5	12	Senior	M.Tech	60000	112000	86000
05-08-2022	2022	8	Beijing	China	Part-Time	Male	Interior Designer	Commercial Intern	CareerBuilder	EQT	500 or above	Energy	0	10	Senior	M.Com	65000	83000	74000
02-10-2023	2023	10	Hanoi	Vietnam	Part-Time	Both	Software Tester	Quality Assurance	Idealist	Chesapeake	500 or above	Energy	0	10	Senior	BBA	63000	96000	79500
07-05-2023	2023	5	Madrid	Spain	Contract	Male	Civil Engineer	Water Resource	FlexJobs	Qualcomm	500 or above	Technology	3	11	Senior	B.Com	55000	95000	75000
06-07-2023	2023	7	Washington	USA	Full-Time	Male	Research Analyst	Market Researcher	Indeed	Monster	500 or above	Retail	1	9	Senior	MBA	59000	117000	88000
01-03-2023	2023	3	Hanoi	Vietnam	Part-Time	Female	Psychologist	Research Psychologist	Indeed	GlaxoSmithKline	500 or above	Pharmaceuticals	4	13	Senior	M.Com	60000	82000	71000
10-03-2022	2022	3	Paris	France	Full-Time	Both	Web Developer	Backend Developer	Internships.com	Cummins	500 or above	Industrial	5	9	Senior	B.Com	56000	113000	84500
11-06-2024	2024	6	Brussels	Belgium	Part-Time	Both	Account Manager	Business Development	Glassdoor	Marriott International	500 or above	Hospitality	1	12	Senior	M.Com	61000	109000	85000
03-01-2024	2024	1	Washington	USA	Contract	Female	Content Writer	Content Strategist	FlexJobs	Legal & General	500 or above	Financial Services	4	8	Senior	BA	62000	111000	86500
04-10-2023	2023	10	City of Po	Mauritius	Contract	Male	Paralegal	Real Estate Paralegal	Idealist	Hilton Worldwide	500 or above	Hospitality	0	15	Senior	BA	59000	115000	87000
02-08-2023	2023	8	Bangkok	Thailand	Intern	Male	UX/UI Designer	Interaction Designer	Internships.com	Barclays	500 or above	Financial Services	3	13	Senior	BCA	60000	129000	94500
07-01-2025	2025	1	City of Po	Mauritius	Contract	Female	Systems Analyst	Business Systems	Stack Overflow	Northern Trust	500 or above	Financial Services	1	12	Senior	BCA	59000	119000	89000
03-04-2022	2022	4	Brussels	Belgium	Temporary	Both	Network Admin	Systems Administrator	Snagajob	Linde plc	500 or above	Industrial Gases	4	14	Senior	B.Tech	59000	104000	81500
07-05-2023	2023	5	Brussels	Belgium	Intern	Both	Customer Support	Customer Support	Jobs2Careers	The Kraft Heinz	500 or above	Food and Beverage	1	10	Senior	BA	63000	86000	74500
09-11-2022	2022	11	Hanoi	Vietnam	Full-Time	Both	Social Media Manager	Content Creator	Stack Overflow	Grafton Group	500 or above	Building Materials	3	10	Senior	BCA	57000	117000	87000
06-12-2023	2023	12	Ottawa	Canada	Contract	Female	Operations Manager	Operations Director	CareerBuilder	Domino's Pizza	500 or above	Food and Beverage	4	8	Senior	B.Com	65000	99000	82000
01-03-2024	2024	3	Singapore	Singapore	Intern	Female	Event Coordinator	Event Planner	Idealist	Chevron	500 or above	Energy	3	13	Senior	B.Tech	55000	108000	81500
01-02-2022	2022	2	Canberra	Australia	Temporary	Both	Systems Admin	Database Admin	Stack Overflow	Kraft Heinz	500 or above	Food and Beverage	5	12	Senior	B.Com	64000	84000	74000
06-09-2024	2024	9	Brussels	Belgium	Temporary	Female	Project Coordinator	Project Manager	The Muse	BT Group	500 or above	Telecommunications	3	11	Senior	BBA	65000	106000	85500
01-09-2024	2024	9	Ottawa	Canada	Part-Time	Female	Account Executive	Key Account Executive	Stack Overflow	Rite Aid	500 or above	Retail	3	13	Senior	BCA	63000	81000	72000
07-01-2022	2022	1	Beijing	China	Temporary	Female	Process Engineer	Industrial Engineer	Idealist	Victrex	500 or above	Chemicals	3	13	Senior	BBA	58000	82000	70000
06-03-2023	2023	3	Tokyo	Japan	Temporary	Male	Environmental Analyst	Environmental Manager	The Muse	Cairn Energy	51-500	Energy	1	15	Senior	MCA	61000	86000	73500
03-06-2023	2023	6	Paris	France	Part-Time	Both	Family Law Attorney	Child Custody Lawyer	Jobs2Careers	Fortescue Metals	500 or above	Mining and Metals	3	12	Senior	M.Com	61000	108000	84500
05-09-2022	2022	9	Tokyo	Japan	Full-Time	Both	Systems Admin	Database Admin	Stack Overflow	Siemens AG	500 or above	Technology and Engineering	2	10	Senior	BBA	55000	119000	87000
07-02-2025	2025	2	Ottawa	Canada	Part-Time	Both	Graphic Designer	UI/UX Designer	CareerBuilder	Workspace	51-500	Real Estate	2	11	Senior	BCA	60000	88000	74000
12-02-2022	2022	2	City of Po	Mauritius	Temporary	Female	QA Analyst	Automation Test Engineer	Idealist	Valero Energy	500 or above	Energy	1	12	Senior	MBA	59000	101000	80000

# Analysis Using MySQL



# Total Job Postings by Sector

```
SELECT  
    company_sector, COUNT(Company) AS total_postings  
FROM  
    job_market_analysis  
GROUP BY company_sector  
ORDER BY  
    Total_Postings DESC  
LIMIT 10;
```

company_sector	total_postings
Financial Services	935
Energy	677
Retail	585
Insurance	484
Technology	420
Healthcare	391
Automotive	355
Manufacturing	289
Real Estate	271
Telecommunications	246

# Query

# Output

# Average Salary by Job Title

```
SELECT  
    job_title,  
    CONCAT('$', FORMAT(AVG(avg_salary) / 80, 0)) AS average_salary_in_usd  
FROM  
    job_market_analysis  
GROUP BY job_title;
```

Query

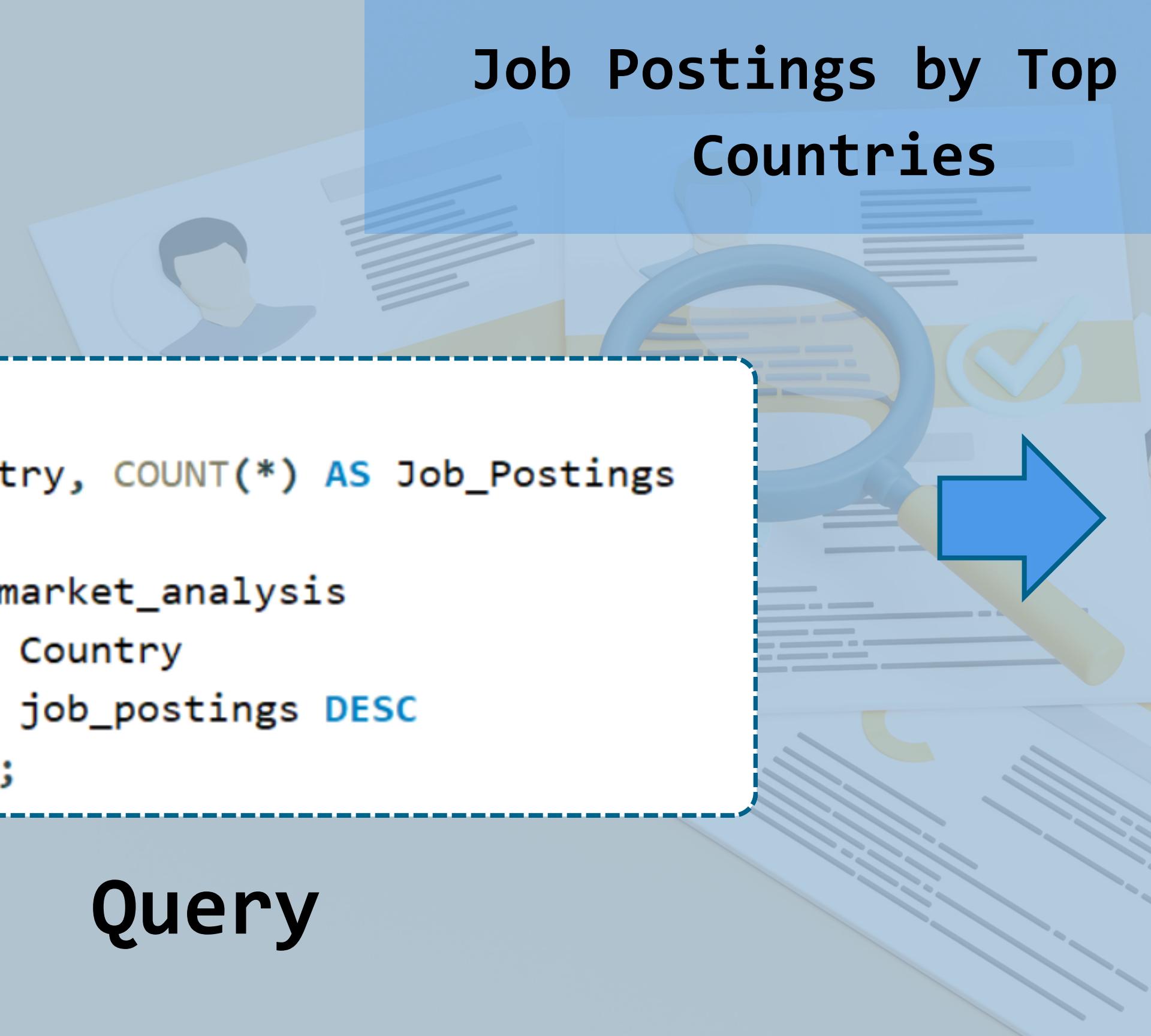
Output

job_title	average_salary_in_usd
Art Director	\$1,030
Operations Manager	\$1,036
Event Coordinator	\$1,024
Customer Success Manager	\$1,012
Procurement Manager	\$1,015
Software Engineer	\$1,029
Marketing Director	\$1,050
Research Scientist	\$1,055
Sales Manager	\$1,022
Interior Designer	\$1,009
Software Tester	\$1,033
Civil Engineer	\$1,036
Research Analyst	\$1,036
Psychologist	\$1,042
Web Developer	\$1,022

## Job Postings by Top 10 Countries

```
SELECT
    Country, COUNT(*) AS Job_Postings
FROM
    job_market_analysis
GROUP BY Country
ORDER BY job_postings DESC
LIMIT 10;
```

Query



	Country	Job_Postings
▶	Vietnam	680
	Japan	670
	UK	666
	Australia	652
	Belgium	648
	Thailand	646
	China	643
	Spain	642
	France	640
	Portugal	636

Output

## Job Postings by Top 10 Countries

```
SELECT  
    Work_type, COUNT(*) AS Total_jobs  
FROM  
    job_market_analysis  
GROUP BY Work_type;
```

Query

	Work_type	Total_jobs
▶	Full-Time	2087
	Intern	2006
	Contract	2050
	Part-Time	2046
	Temporary	2018

Output

# Job Portals by Number of Postings

```
SELECT
    job_portal, COUNT(*) AS total_postings
FROM
    job_market_analysis
GROUP BY job_portal
ORDER BY total_postings DESC;
```

Query

Output

job_portal	total_postings
Jobs2Careers	851
Stack Overflow Jobs	841
FlexJobs	838
USAJOBS	826
SimplyHired	825
Internships.com	817
Snagajob	813
The Muse	797
Idealist	747
LinkedIn	426
Dice	420
Monster	418
ZipRecruiter	417
Glassdoor	401
CareerBuilder	390
Indeed	380

## Salary Distribution by Work Type

```
SELECT
  work_type,
  CONCAT('$', FORMAT(AVG(avg_salary) / 80, 0)) AS average_salary
FROM
  job_market_analysis
GROUP BY work_type;
```

	work_type	average_salary
▶	Full-Time	\$1,033
	Intern	\$1,030
	Contract	\$1,028
	Part-Time	\$1,034
	Temporary	\$1,028

Query

Output

## Gender Preference Breakdown by top 10 job titles with high job postings

```
SELECT  
    gender_preference,  
    job_title,  
    COUNT(*) AS total_postings  
FROM  
    job_market_analysis  
WHERE  
    gender_preference IS NOT NULL  
GROUP BY gender_preference, job_title  
ORDER BY total_postings DESC  
Limit 10;
```

gender_preference	job_title	total_postings
Both	UX/UI Designer	104
Male	UX/UI Designer	103
Female	UX/UI Designer	102
Female	Software Engineer	65
Both	Software Engineer	61
Female	Digital Marketing Specialist	58
Male	Software Engineer	57
Both	Executive Assistant	55
Both	Digital Marketing Specialist	54
Both	Network Engineer	53

# Query

# Output

## Total Job Postings Over 5-Year Intervals

```
SELECT  
    (YEAR) AS PostingYear,  
    COUNT(*) AS TotalJobPostings  
FROM  
    job_market_analysis  
GROUP BY  
    (YEAR)  
ORDER BY  
    PostingYear;
```

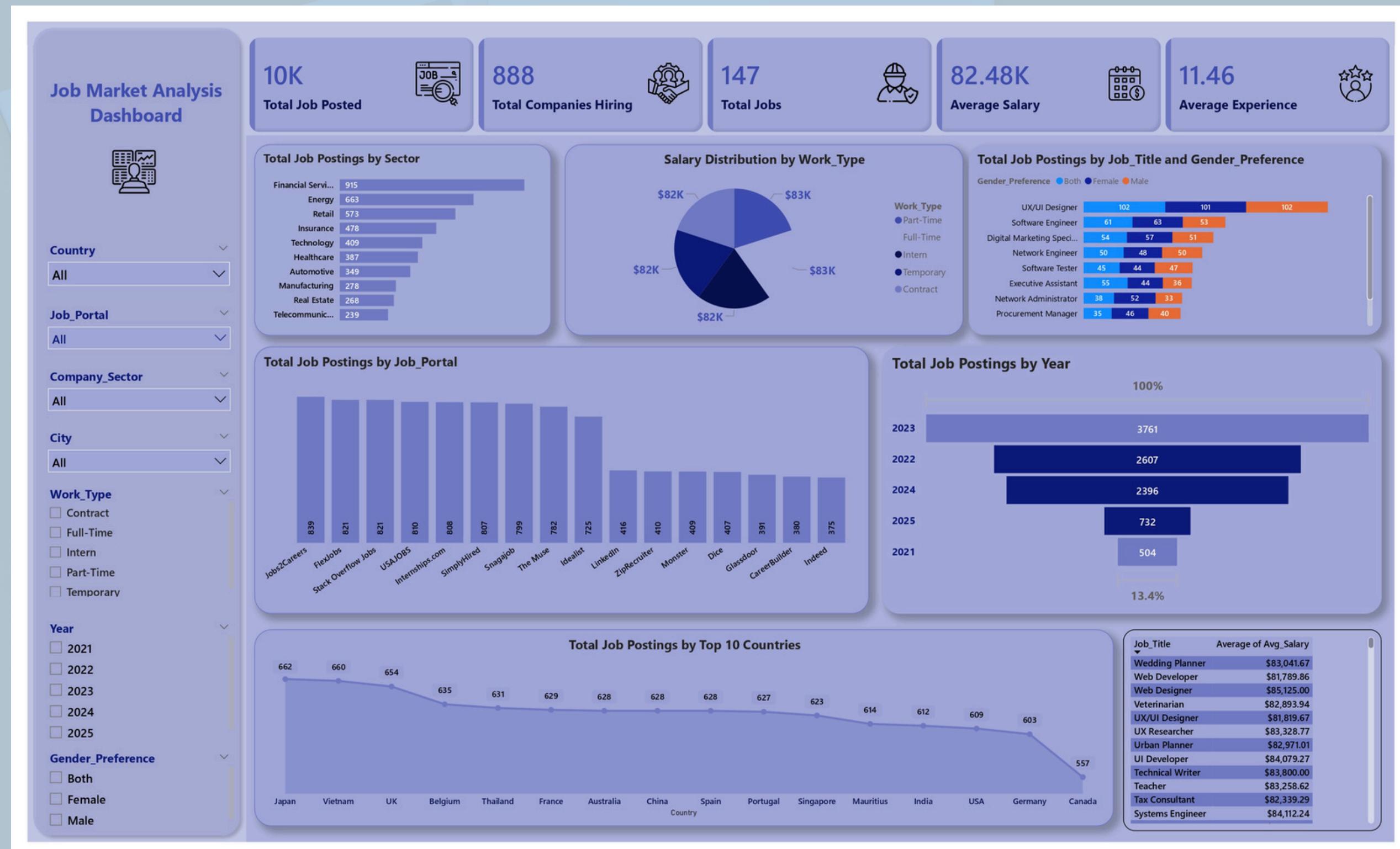


	PostingYear	TotalJobPostings
▶	2021	509
	2022	2657
	2023	3846
	2024	2449
	2025	746

# Query

# Output

# Job Market Analysis Dashboard



# Job Market Analysis Overview

In analyzing the recent job market data, we have uncovered several key trends that offer insights into the overall employment landscape. These findings highlight both the demand for talent and the qualifications that companies are seeking. Below are the main takeaways from our analysis:

- **A total of 10,000 job postings were recorded during the analysis period.**
- **888 companies were actively hiring across various industries.**
- **The total number of distinct job roles available was 147, showing a diverse range of opportunities.**
- **The average salary offered across all job postings was \$82,480, reflecting competitive compensation in the market.**
- **On average, the required experience for the roles was 11 years, indicating a strong preference for experienced candidates.**

# Conclusion



This job market analysis provides a valuable understanding of the hiring landscape, helping both employers and job seekers navigate their next steps with more clarity. The significant demand, as seen in **10,000 job postings**, coupled with competitive salaries, shows that companies are **investing heavily in securing top talent**. However, the preference for professionals with an average of 11 years of experience suggests that seasoned candidates are particularly in demand.

Overall, the data reveals a dynamic job market where diversity in roles and industries exists, but where experience remains a key differentiator for job seekers. This analysis serves as a foundation for making informed decisions on recruitment strategies and career growth in the current economic climate.

# THANK YOU

