IT Skill Trend

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EXECUTIVE SUMMARY

- Analyze and identify the most in-demand IT Skill for 2025
- Diverse data sources (job postings and industry survey)
- Key findings:
  - Top programming languages
  - Database skills in-demand
- Recommendations and actions
- Conclusion

INTRODUCTION

- Technology evolves more rapidly than ever

- Organizations need to constantly explore and adopt new technologies

- Demand for programming and database skills are constantly shifting

- This project mines the most in-demand IT skills in the market for 2025

METHODOLOGY

- Data sources:
  - Stack Overflow survey data
  - "Jobs on Naukri.com" from Kaggle.com
  - Skill Network cloud storage

- Data obtain through web scraping:
  - Extract from HTML and Json
  - Read file directly

- Processed, analyzed and visualized in Jupyter Notebook with Python programming language

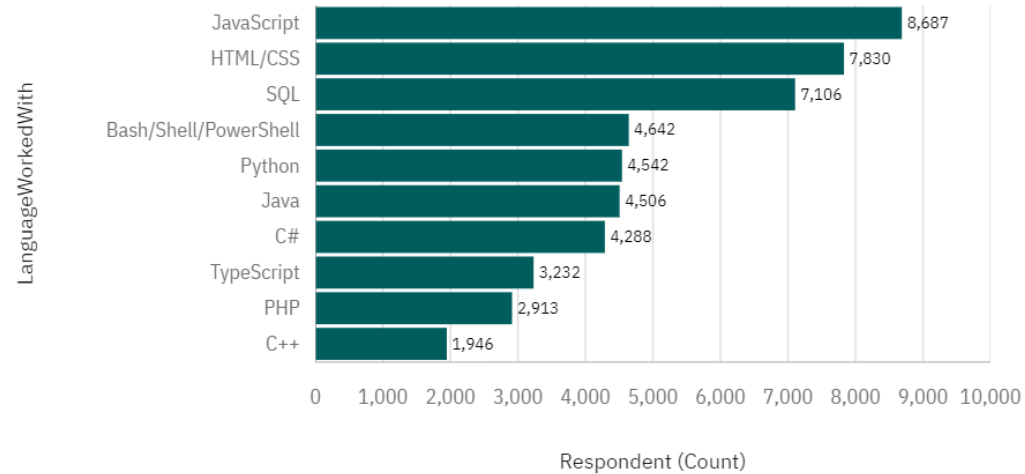- Create dashboard in Cognos Analytics
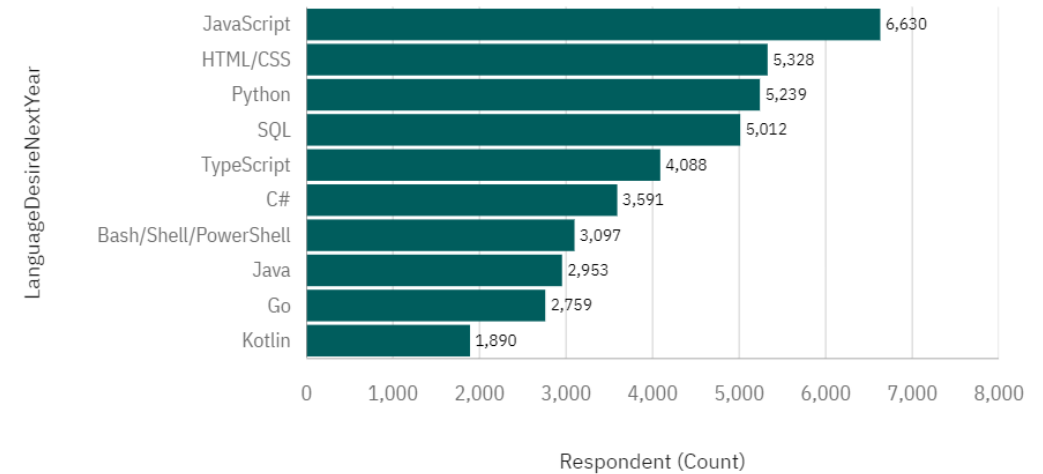
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS remain the top programming languages in 2025
- Python rise to Top 3 in 2025
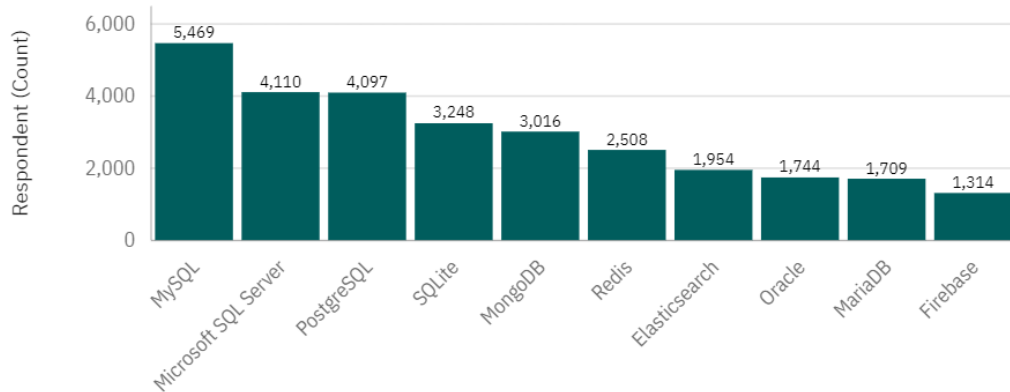- Java, PHP and C++ no longer in the Top 10 in 2025

Implications

- While JavaScript and HTML/CSS remains the most in-demand programming language, Python also becomes more important and needed by the market

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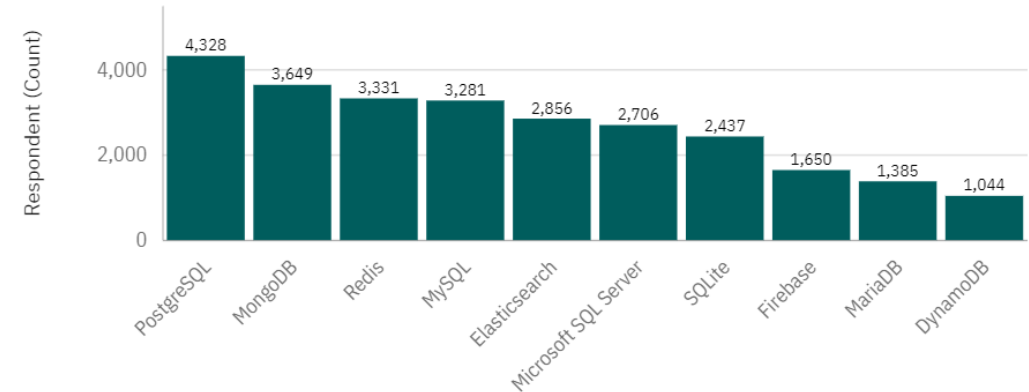
DATABASE TRENDS

Current Year

Top 10 DatabaseWorkedWith

Next Year

Top 10 DatabaseDesireNextYear

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL and SQLite both drop in the ranking

- PostgreSQL, MongoDB and Redis rise and become the Top 3 in-demand database in 2025

- Oracle and Firebase no longer in the Top 10 in 2025

Implications

- Relational database (PostgreSQL) remains competency in the market while

- Non-relational databases (MongoDB and Redis) become more popular in 2025

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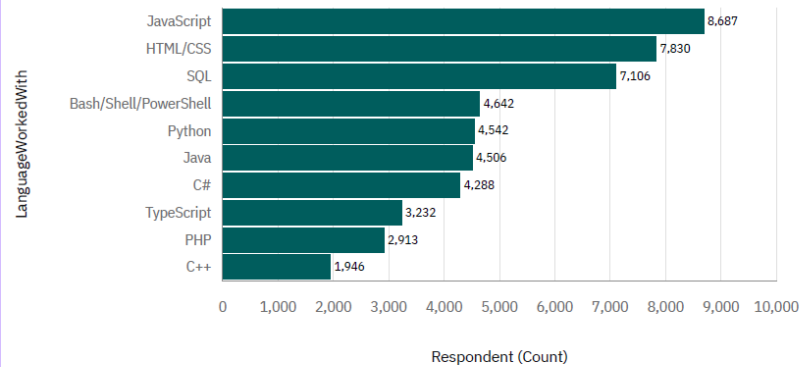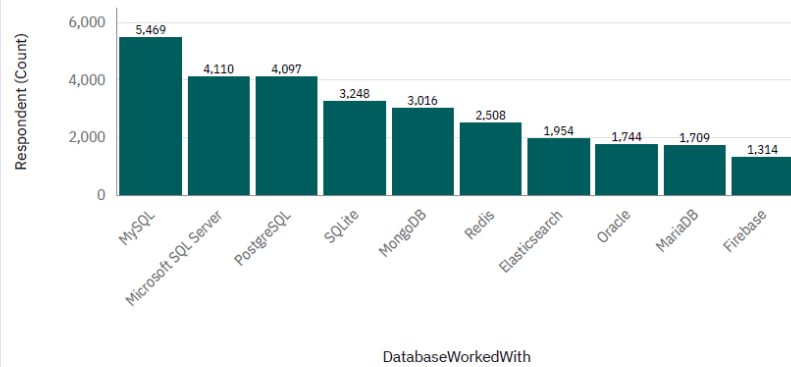
SKILLS NETWORK

DASHBOARD

https://github.com/llh139/IBM-Data-Analyst-Capstone-Project.git
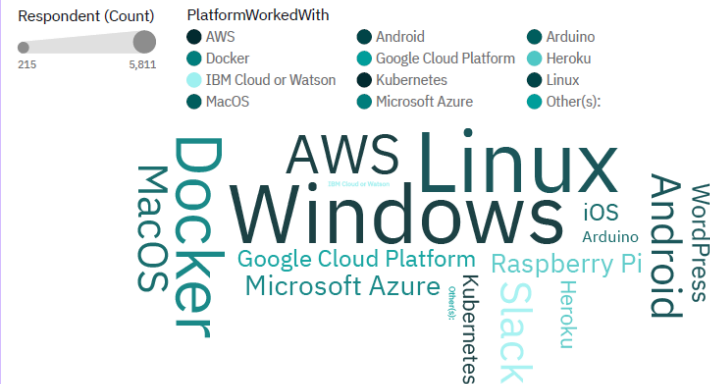
DASHBOARD TAB 1

Top 10 LanguageWorkedWith

Top 10 DatabaseWorkedWith

PlatformWorkedWith

Top 10 WebFrameWorkedWith

DASHBOARD TAB 2

Top 10 LanguageDesireNextYear

LanguageDesireNextYear	Respondent (Count)
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
C#	3,591
Bash/Shell/PowerShell	3,097
Java	2,953
Go	2,759
Kotlin	1,890

Top 10 DatabaseDesireNextYear

DatabaseDesireNextYear	Respondent (Count)
PostgreSQL	4,328
MongoDB	3,649
Redis	3,331
MySQL	3,281
Elasticsearch	2,856
Microsoft SQL Server	2,706
SQLite	2,437
Firebase	1,650
MariaDB	1,385
DynamoDB	1,044

PlatformDesireNextYear

Respondent (Count) 307 – 5,865

Linux, Docker, AWS, Windows, Android, Kubernetes, MacOS, Raspberry Pi, Google Cl..., Slack, iOS, Arduino, Heroku, Wo..., Microsof..., IBM ..., Oth...

Top 10 WebFrameDesireNextYear

Respondent (Count) 970 – 4,714

React.js, Vue.js, Angular..., ASP.N..., jQu..., Ex..., S..., D..., F...

DASHBOARD TAB 3

DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS are the most in-demand programming language while Python becomes more essential

- PostgreSQL, MongoDB and Redis become the Top 3 in-demand database in 2025

Implications

- Recruit more programmer or train existing programmer with experience and solid knowledge in JavaScript, HTML/CSS and Python to provide more comprehensive, competitive and quality IT solution, especially website development solution

- Revise the current database compatibility with current and future use, as well as the cost efficiency
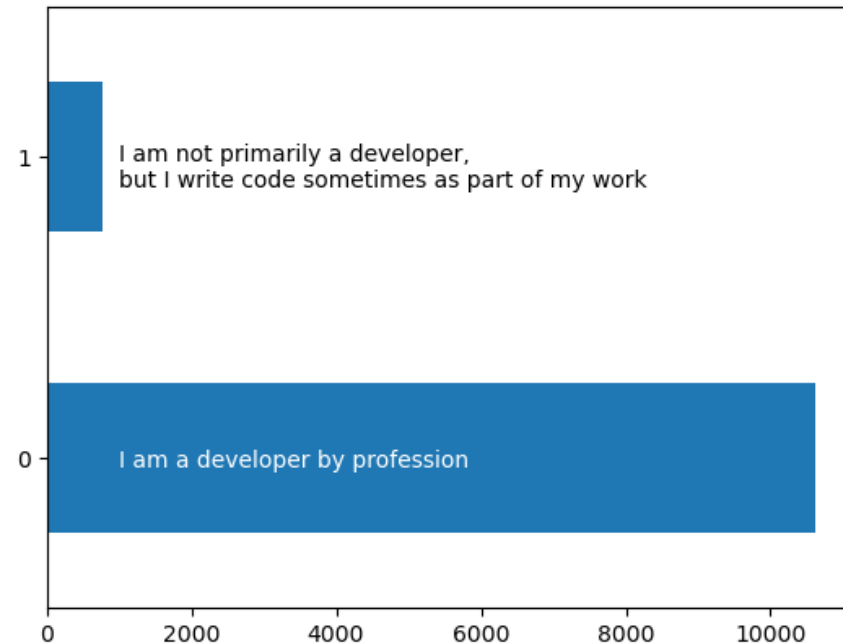
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CONCLUSION

- JavaScript, HTML/CSS and Python are the utmost in-demand programming languages

- PostgreSQL, MongoDB and Redis are the potential dominant database in 2025

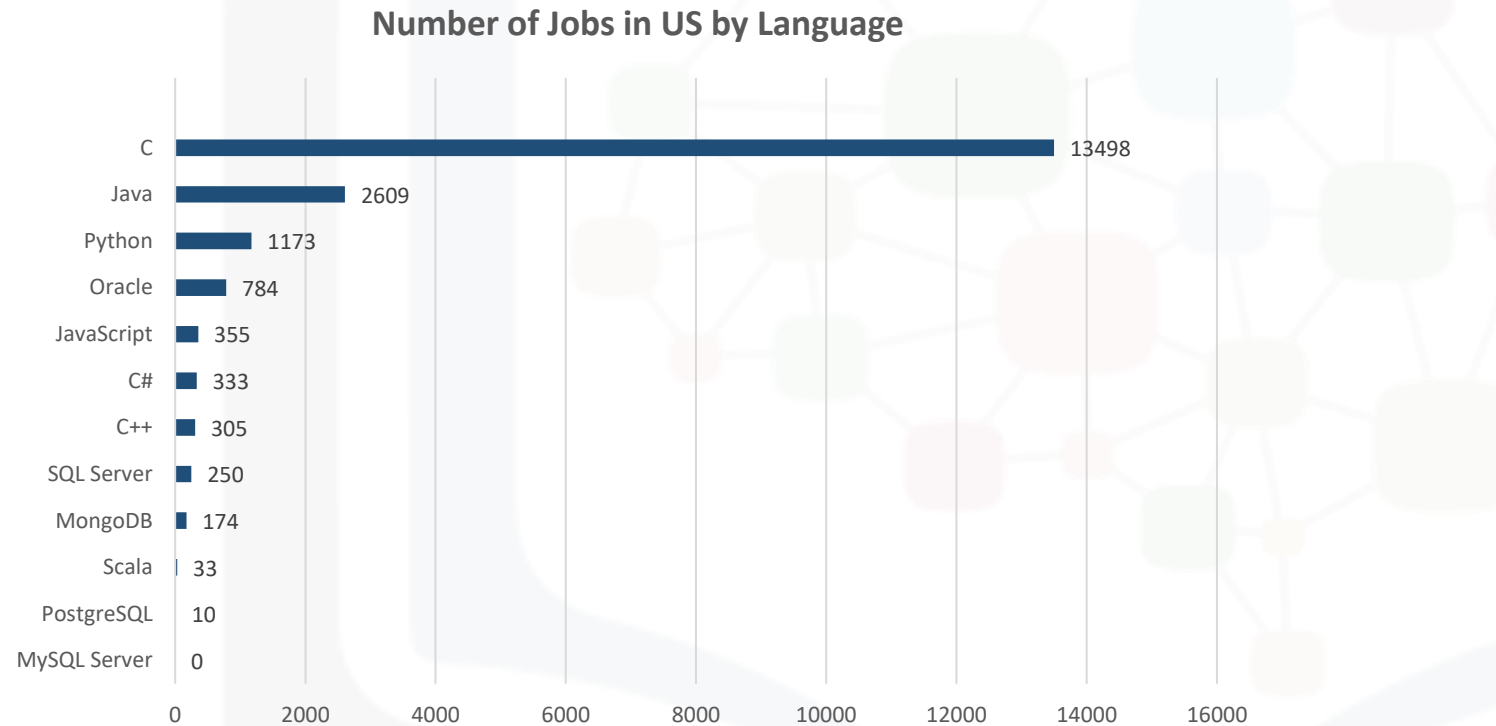- Equip more professionals with the mentioned IT skills will help providing more all-rounded solution and consultance

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APPENDIX

Respondent Demographics - Main Branch

1 — I am not primarily a developer,
but I write code sometimes as part of my work

0 — I am a developer by profession

0   2000   4000   6000   8000   10000

JOB POSTINGS

Number of Jobs in US by Language

Language	Number of Jobs
C	13498
Java	2609
Python	1173
Oracle	784
JavaScript	355
C#	333
C++	305
SQL Server	250
MongoDB	174
Scala	33
PostgreSQL	10
MySQL Server	0

POPULAR LANGUAGES

Average Annual Salary by Language

Language	Salary
Swift	$130.80
Python	$114.38
C++	$113.87
Javascript	$110.98
Java	$101.01
Go	$94.08
R	$92.04
C#	$88.73
SQL	$84.79
PHP	$84.73

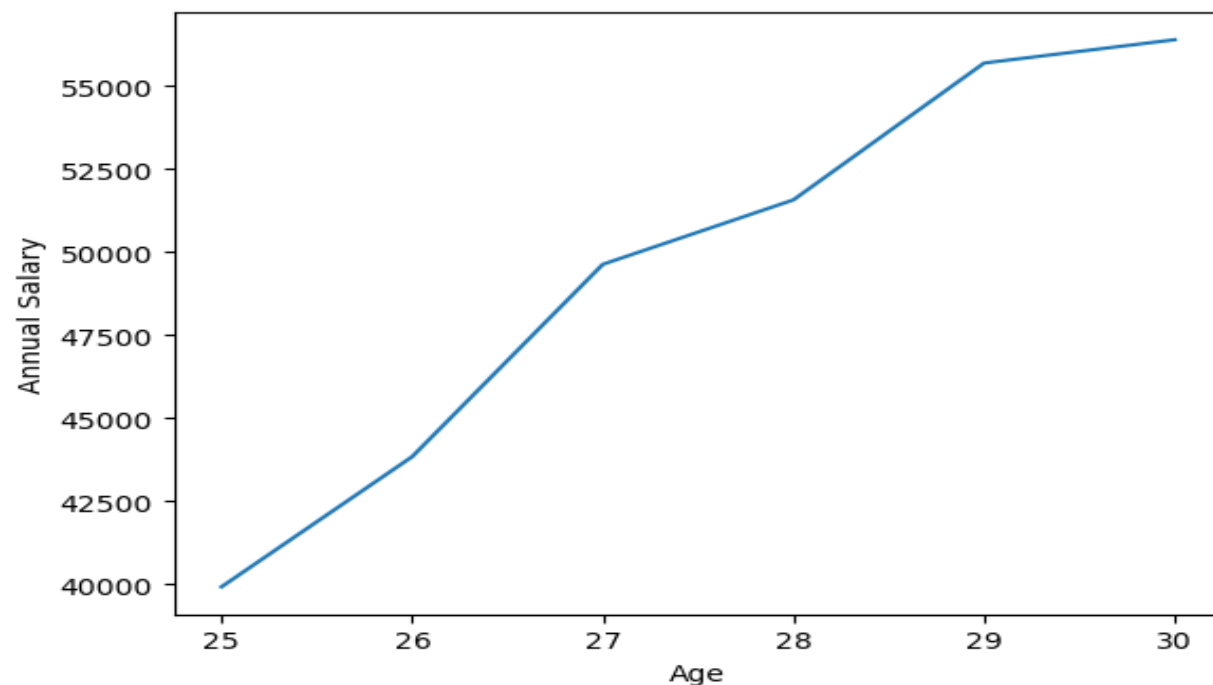$- $20.00 $40.00 $60.00 $80.00 $100.00 $120.00 $140.00

Thousands
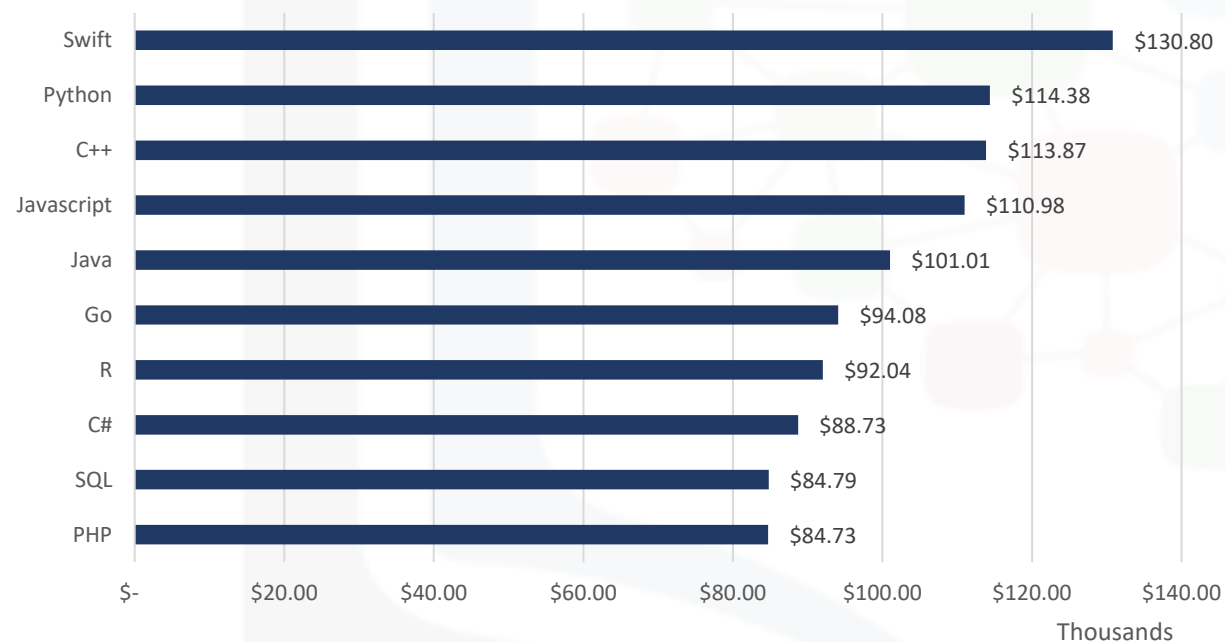
POPULAR DATABASE

Databases that Respondents Currently Working With (1 DB ONLY)
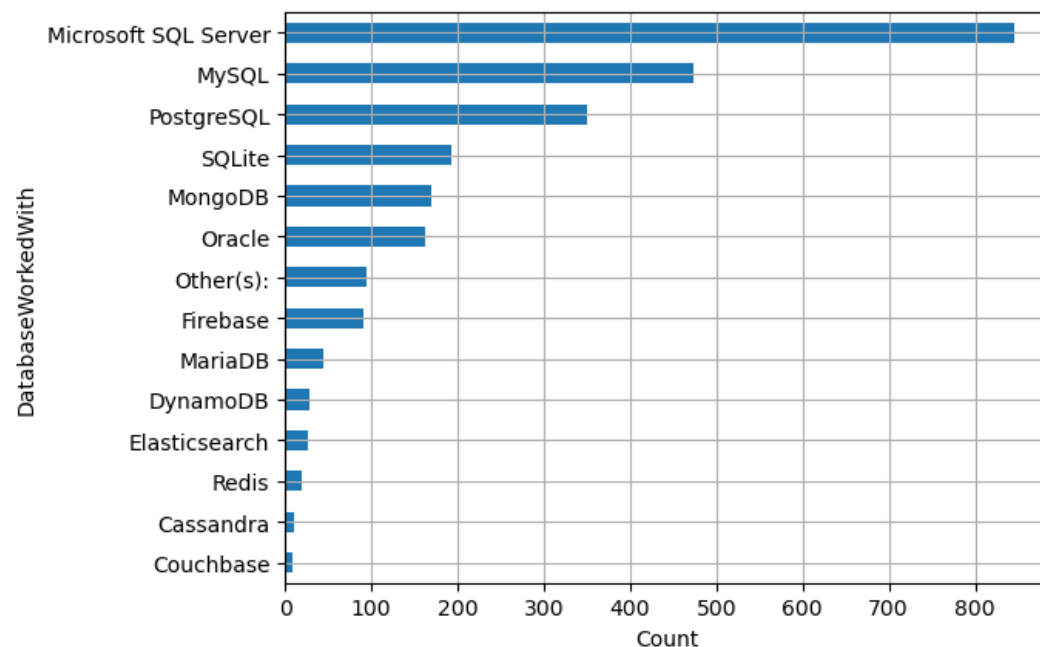
RESPONDENT SALARY

Median Annual Salary for Ages from 25 to 30

PROGRAMMER WORKING HABIT

Median WorkWeekHrs and CodeRevHrs for the Age Group 30 to 35