# Stack Overflow Developer Survey Analysis 2019

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# OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

# EXECUTIVE SUMMARY



- Explanation of Project and Objective
- Methodology Description
  - Collecting Data
  - Analyzing Data
  - Visualising Data
- Presentation of Key Results
- Discussion of Findings
- Final Conclusion of the Research

# INTRODUCTION
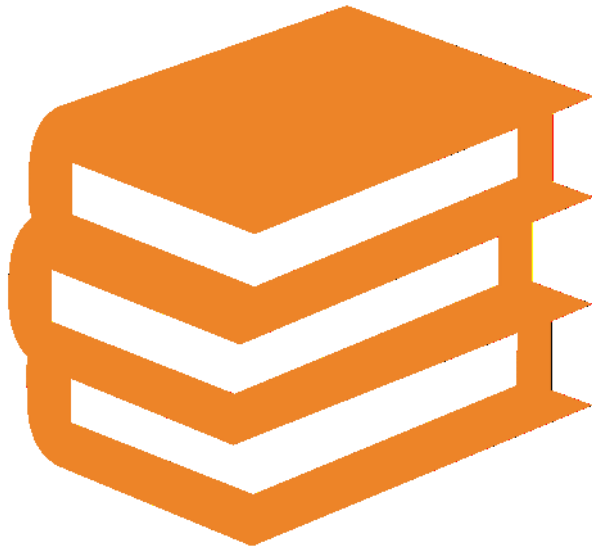
- Stack Overflow's annual Developer Survey is the largest and most comprehensive survey that aims to measure trends of technical tools.

- Over 90K developers.

- Aim of the project is to analyse trend of the technical tools.

- Two objective of this project:
  - See the next trends.
  - Detect profile of developers.

# METHODOLOGY

- Collect Data
  - Web Scraping
  - APIs
- Data Wrangling
  - Clean Data
- Exploratory Data Analysis
  - Distribution Analysis
  - Handling Outliers
  - Finding Correlations
- Data Visualization
  - Create Dashboards
  - Highlight Findings
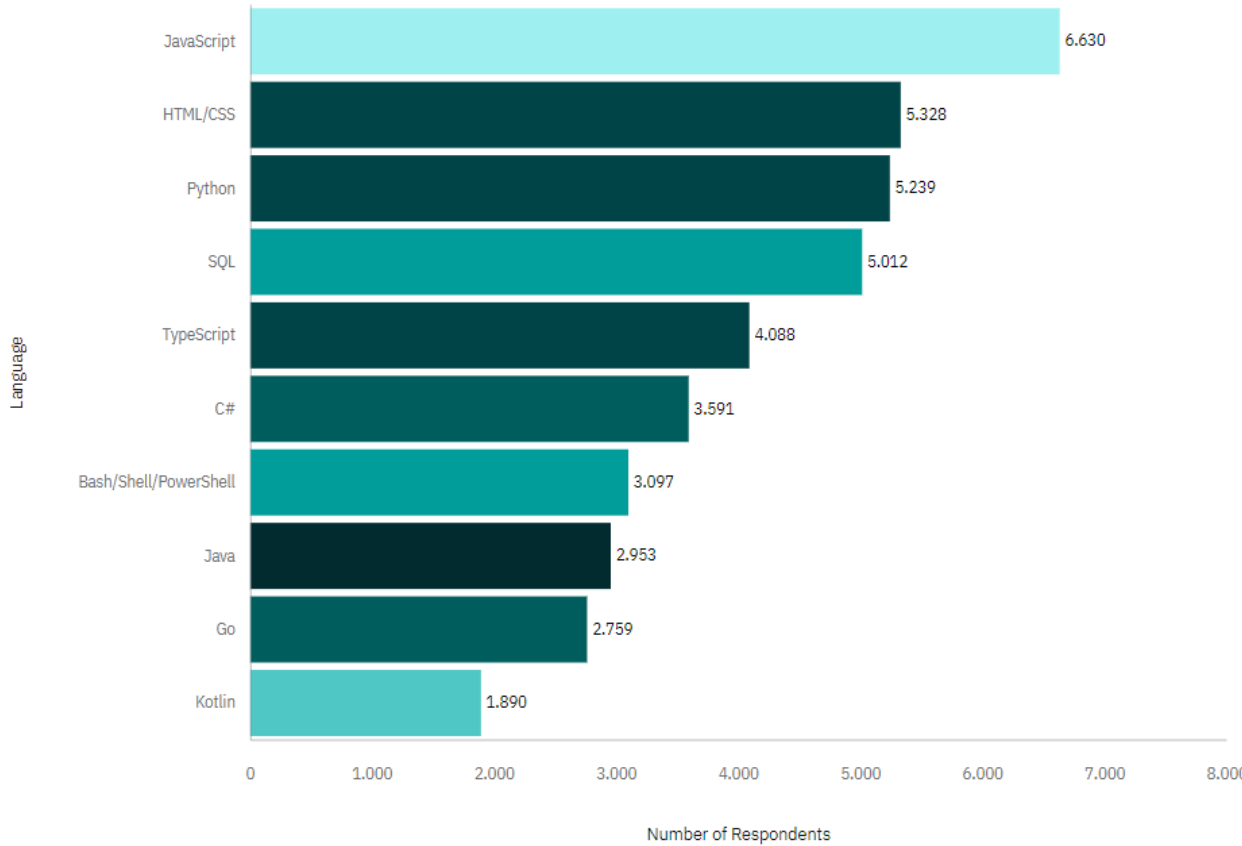
# RESULTS
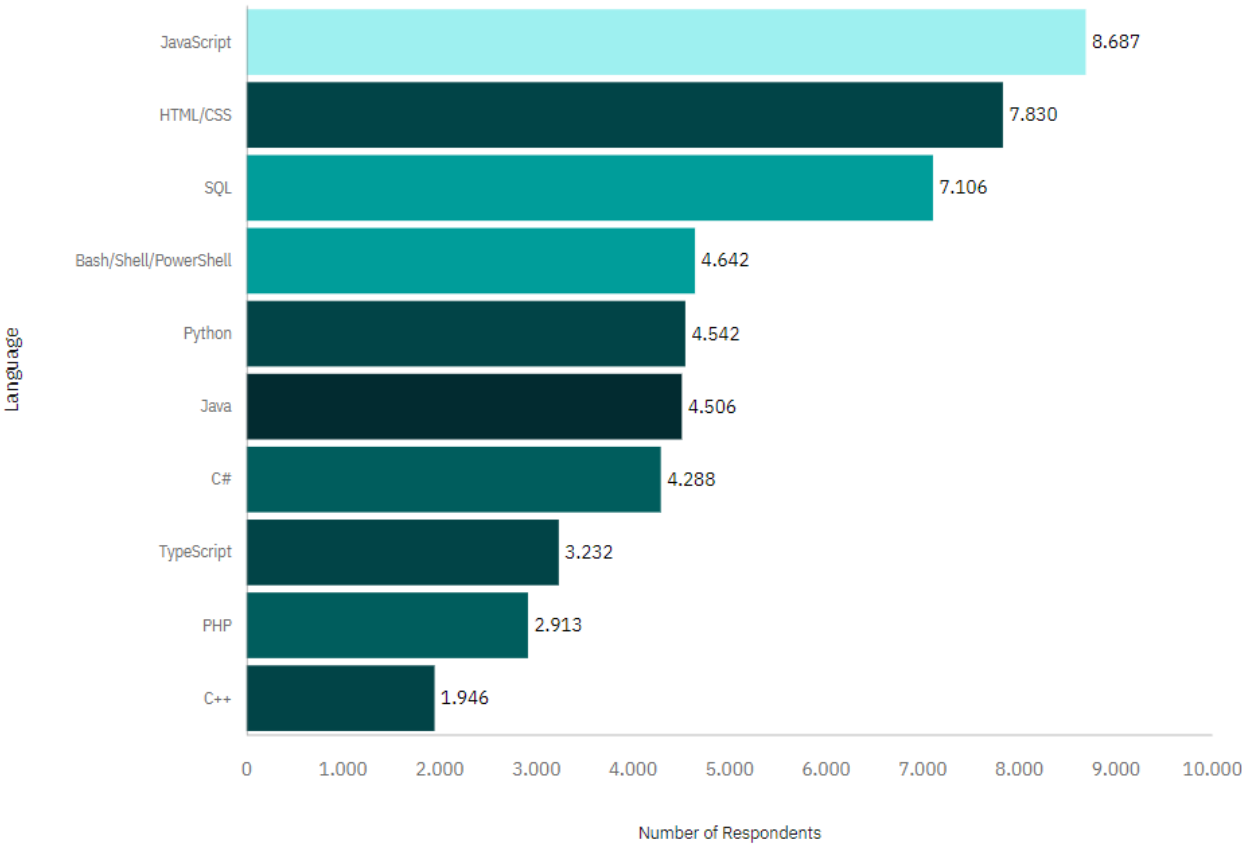
# PROGRAMMING LANGUAGE TRENDS

## Current Year

## Next Year

Top 10 Language

Top 10 Language



**Current Year — Top 10 Language**

| Language | Number of Respondents |
|---|---|
| JavaScript | 8.687 |
| HTML/CSS | 7.830 |
| SQL | 7.106 |
| Bash/Shell/PowerShell | 4.642 |
| Python | 4.542 |
| Java | 4.506 |
| C# | 4.288 |
| TypeScript | 3.232 |
| PHP | 2.913 |
| C++ | 1.946 |

**Next Year — Top 10 Language**

| Language | Number of Respondents |
|---|---|
| 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 |

# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

## Findings

- JavaScript and HTML/CSS keep leading position.
- Python and TypeScript is getting importance.
- Some languages lost their popularity meanwhile another languages such as Go gain popularity.
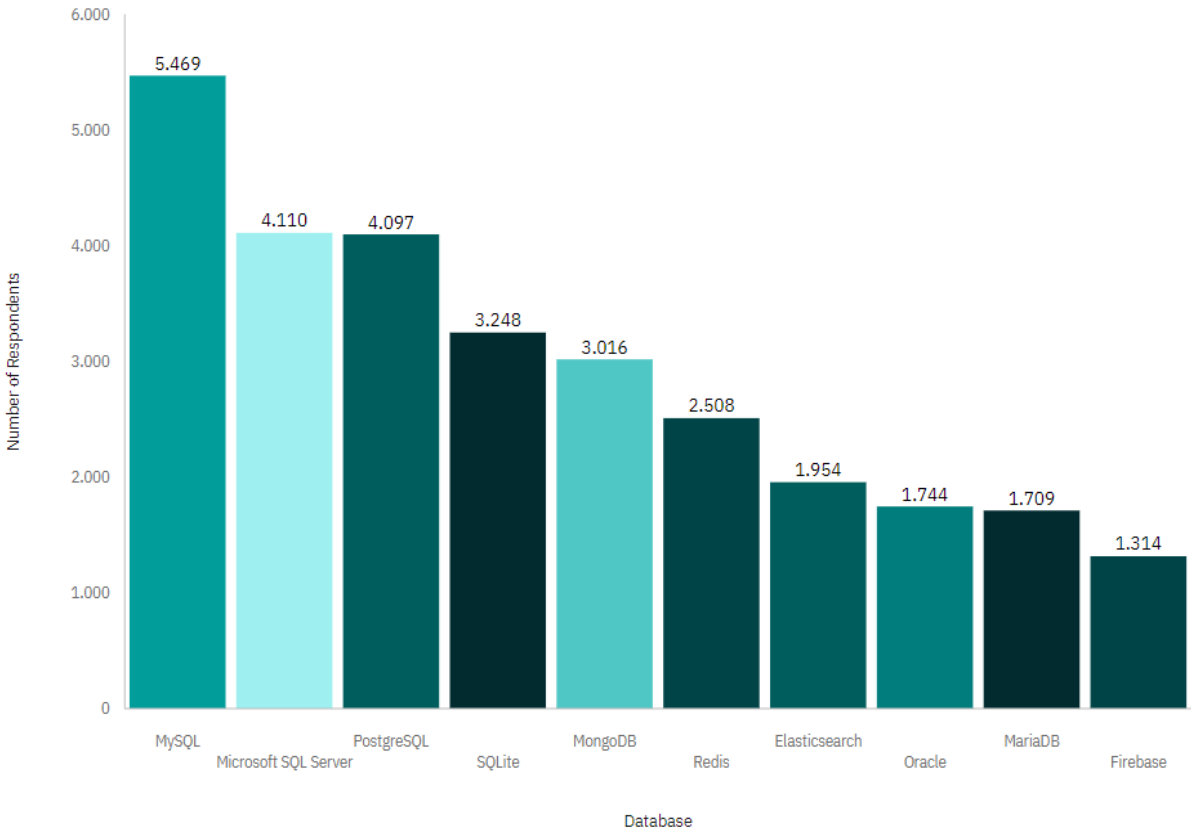
## Implications

- Possible for developers to learn new languages.
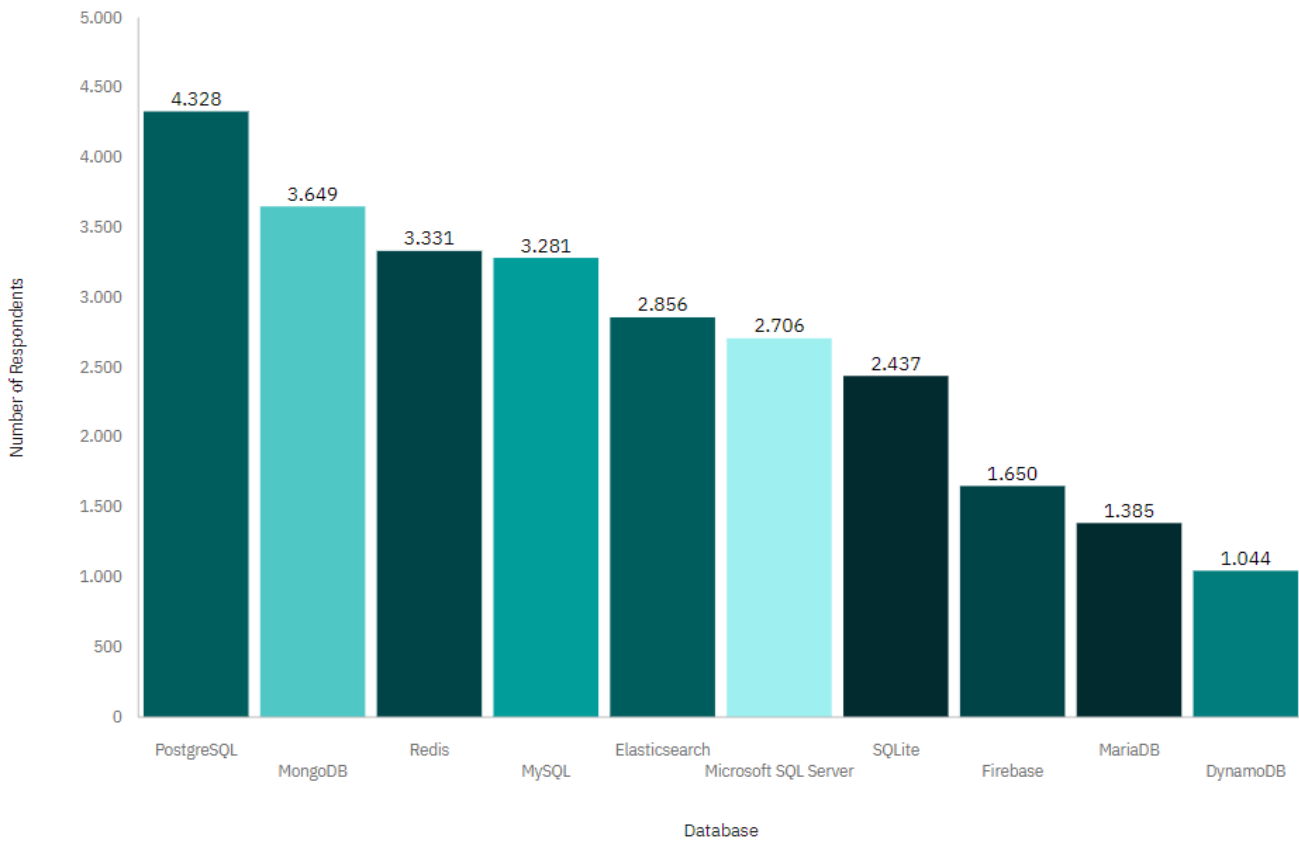- Shifting used languages.

# DATABASE TRENDS

## Current Year

## Next Year

Top 10 Database

Top 10 Database

# DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- Using database management system is not stable.
- MySQL lost its popularity meanwhile PostgreSQL took its place.
- Oracle was not popular anymore, dynamoDB gained popularity.

Implications

- Good to know more than one database management system.
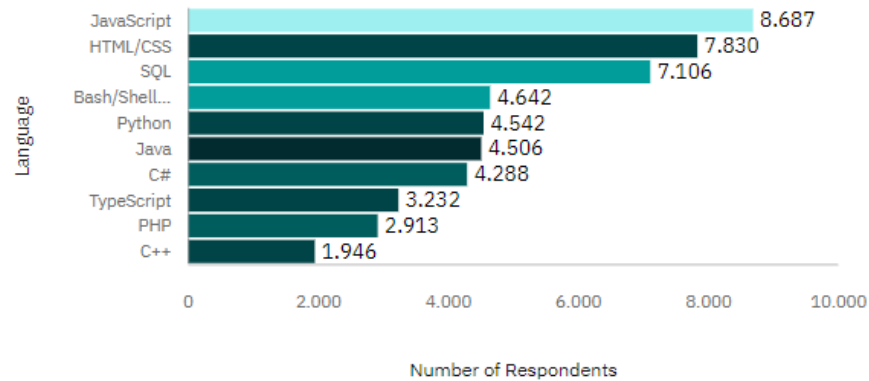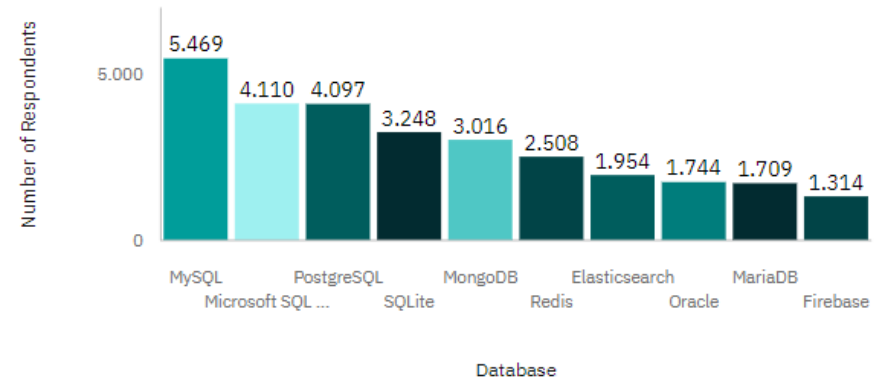- Follow-up trends are important.

# DASHBOARD

https://github.com/kadnur/PythonProject/
blob/main/Dashboard.pdf

# DASHBOARD TAB 1
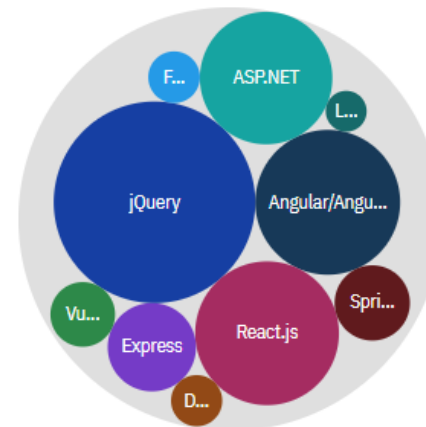
# DASHBOARD  TAB  2



## Top 10 Language
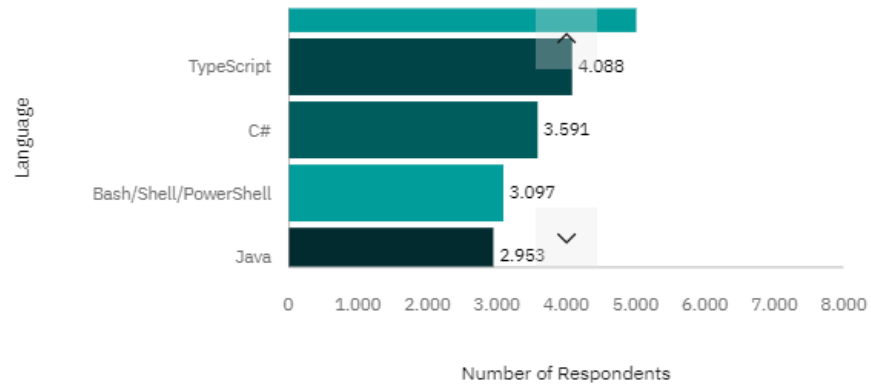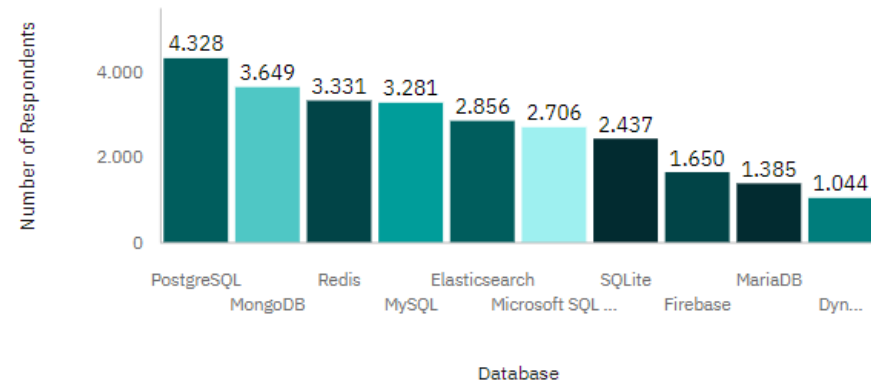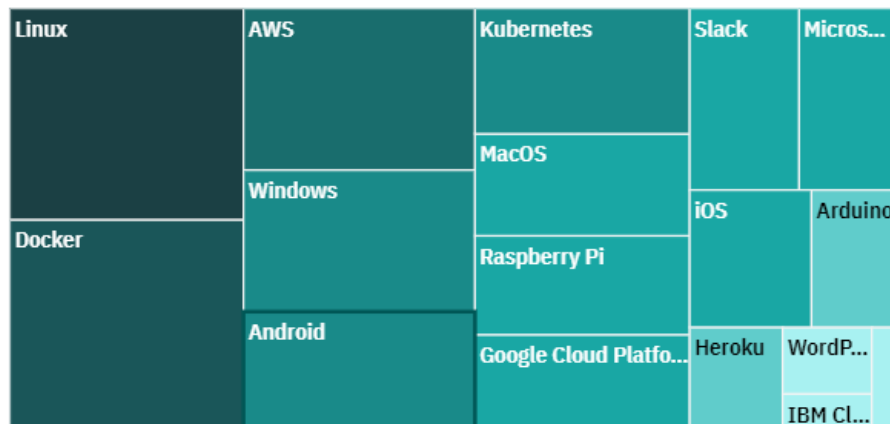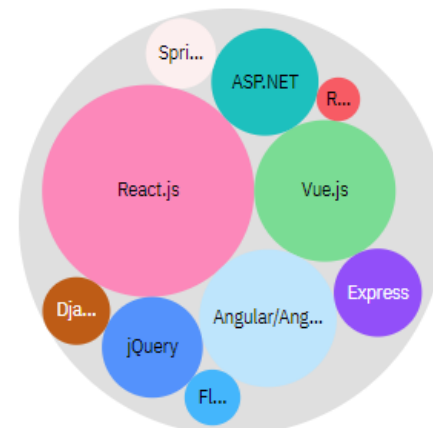
| Language | Number of Respondents |
| --- | --- |
| TypeScript | 4.088 |
| C# | 3.591 |
| Bash/Shell/PowerShell | 3.097 |
| Java | 2.953 |

## Top 10 Database

| Database | Number of Respondents |
| --- | --- |
| PostgreSQL | 4.328 |
| MongoDB | 3.649 |
| Redis | 3.331 |
| MySQL | 3.281 |
| Elasticsearch | 2.856 |
| Microsoft SQL ... | 2.706 |
| SQLite | 2.437 |
| Firebase | 1.650 |
| MariaDB | 1.385 |
| Dyn... | 1.044 |

## Top Platforms

Linux, Docker, AWS, Windows, Android, Kubernetes, MacOS, Raspberry Pi, Google Cloud Platfo..., Slack, iOS, Heroku, Micros..., Arduino, WordP..., IBM Cl...

## Top 10 WebFrame

Spri..., ASP.NET, R..., React.js, Vue.js, Dja..., jQuery, Angular/Ang..., Express, Fl...

# DASHBOARD TAB 3
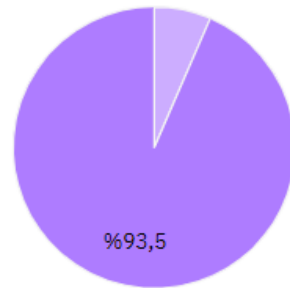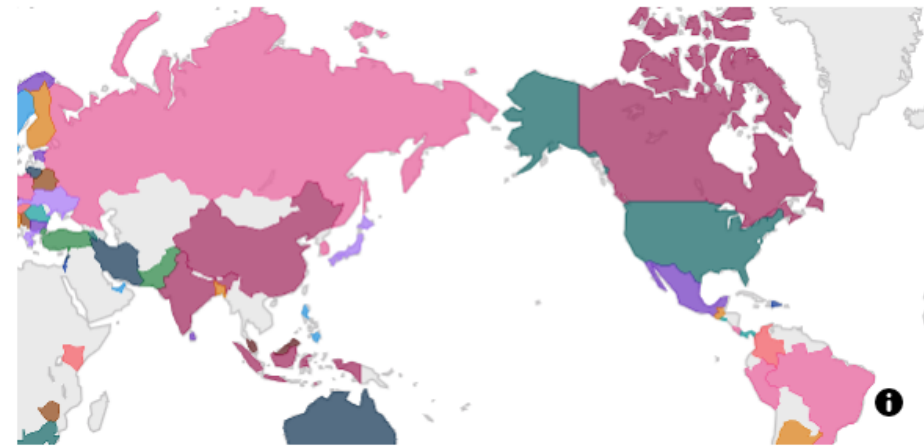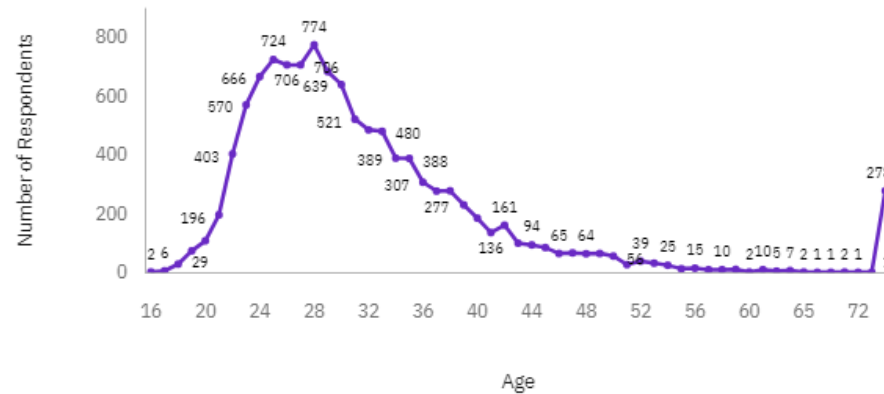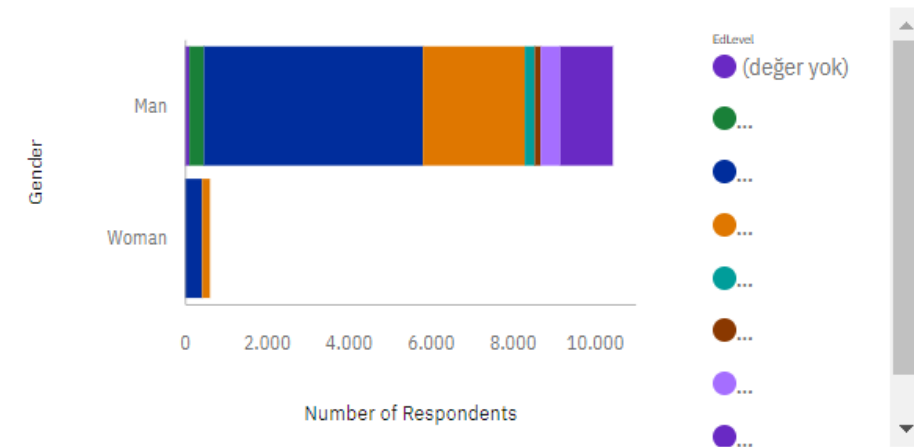
# DISCUSSION

# OVERALL FINDINGS & IMPLICATIONS

## Findings

- Men are more interested in technology than women. Developers are generally located in developed countries.
- JavaScript is most popular language and Type Script is starting to be popular.
- Database management system is not stable.

## Implications

- Developers are polarized by geography and gender.
- Language trend is changing, good to learn new trends.
- Trends in databases are changing quickly, and we need to adapt at the same speed.
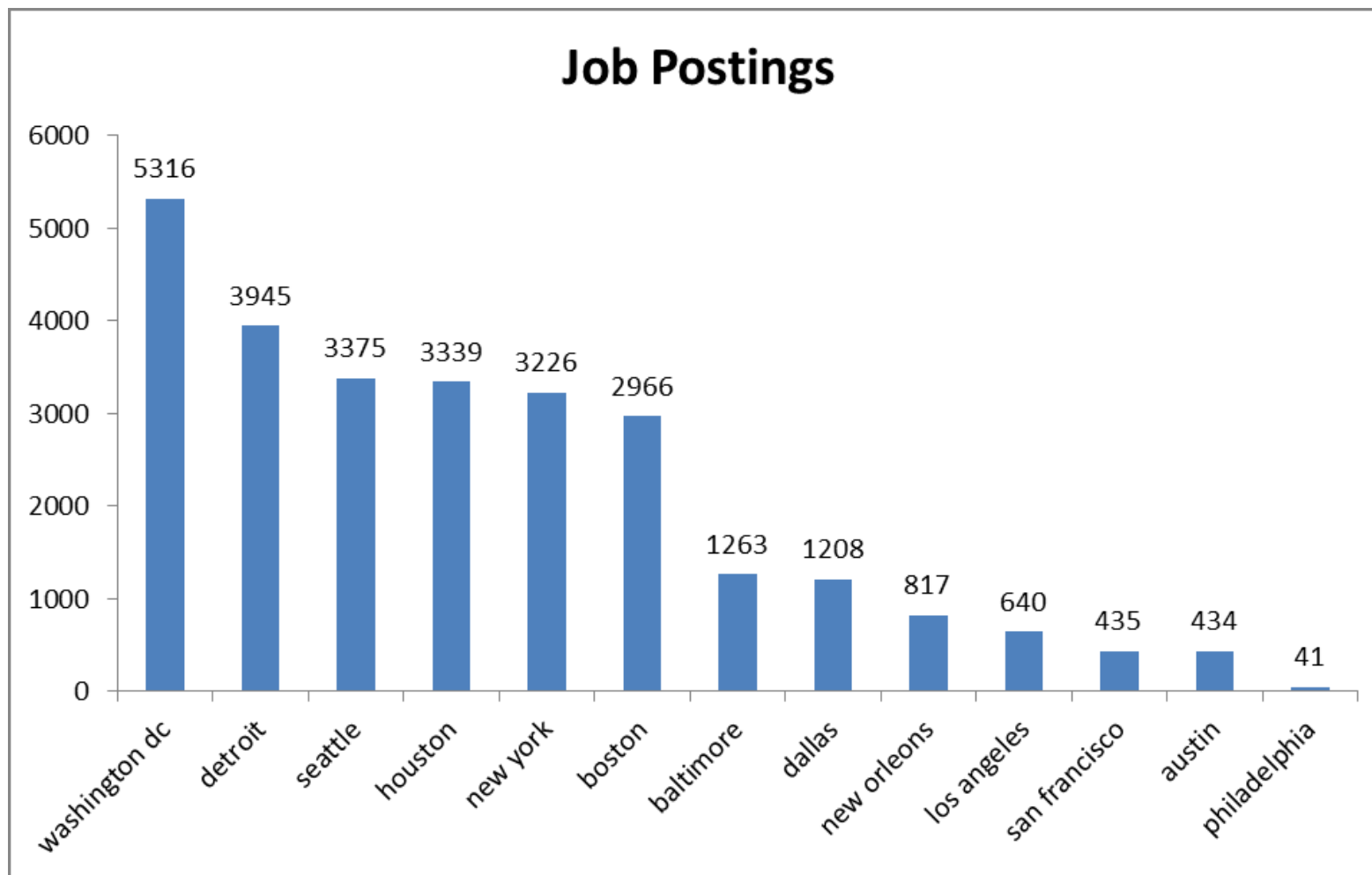
# CONCLUSION

- Accurate trends in database and language can be obtained.
- There is a direct proportion between developed countries and where most developers live.
- Technology and tools shift and change quickly.

# APPENDIX
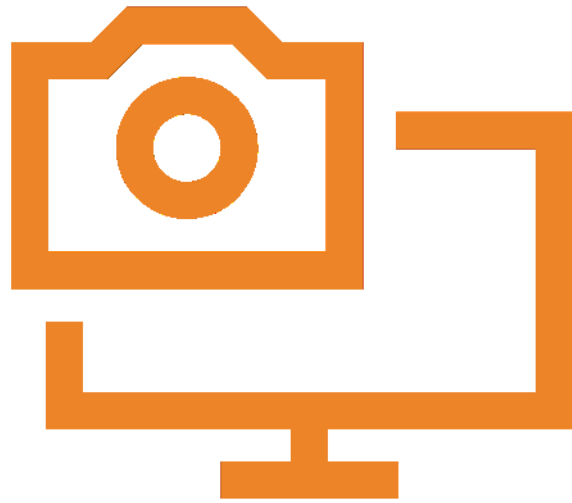
# JOB POSTINGS

# POPULAR LANGUAGES