STACK OVERFLOW DEVELOPER SURVEY 2019

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IBM **D**eveloper

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OUTLINE

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

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EXECUTIVE SUMMARY

- Data contextualization and analysis goal.

- Methodology description.
  - Data gathering.
  - Data analysis.
  - Data visualizations.

- Results presentation supported with graphs and trends.

- Discussion of overall findings and implications regarding the results previously exposed.

- Final conclusions of the carried out research.

INTRODUCTION

- Stack Overflow's annual Developer Survey is the largest global coding survey.

- While not fully even, it provides insights into diverse developer segments.

- Offers trends to anticipate future developer preferences and technologies.

- Characterizes developers worldwide, revealing demographics and practices.
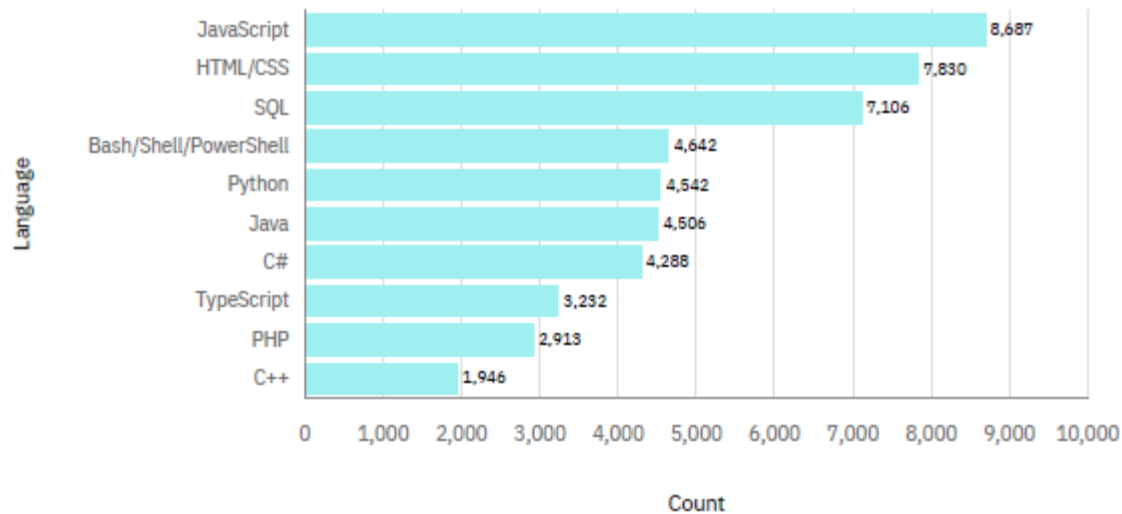
METHODOLOGY

- Collect survey data & explore its content
  - Web Scraping
  - APIs.
  - Request library.
- Data Wrangling
- Exploratory data analysis
  - Analyzing data distribution.
  - Handling outliers.
  - Correlations.
- Data Visualization
  - Highlight distribution of data, relationships, the composition and comparison of data.
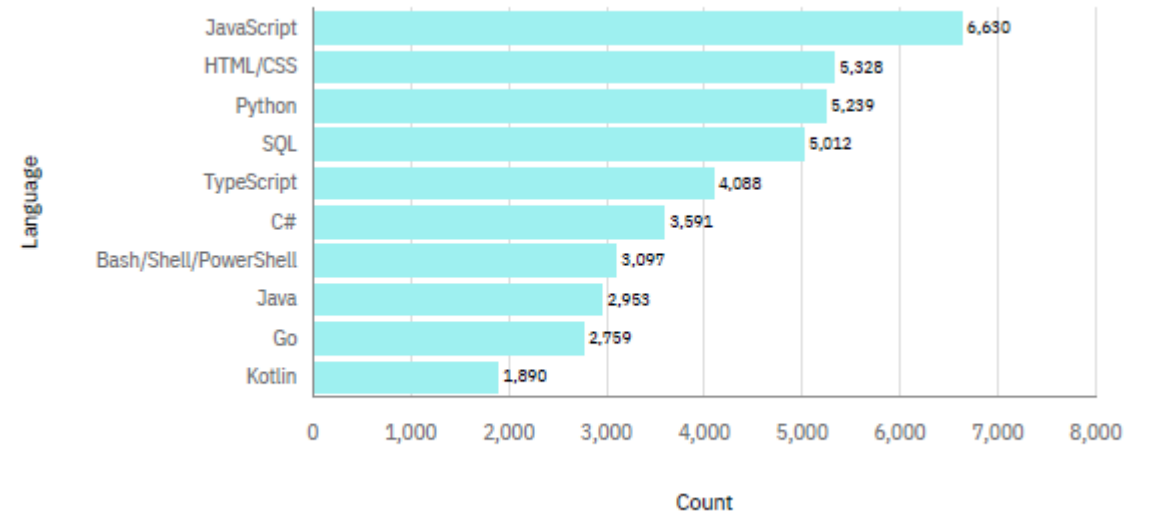- Dashboards

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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Language	Count
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

Language	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

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is the top leading language
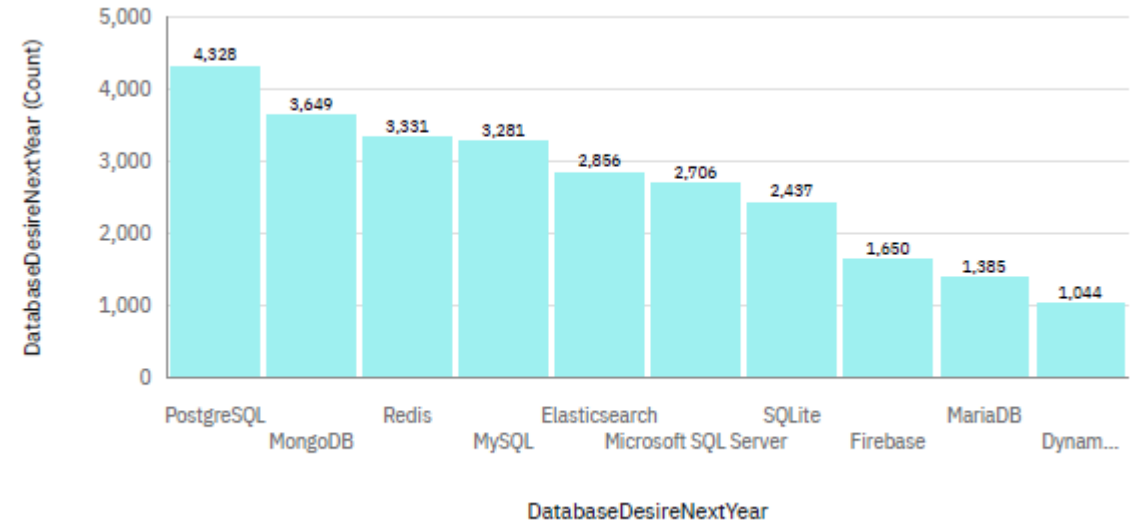- Python & TypeScript are fast-growing languages

Implications

- Possible developers migration from JavaScript to TypeScript.
- Python with JavaScript or TypeScript is a plus point

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DATABASE TRENDS

Current Year
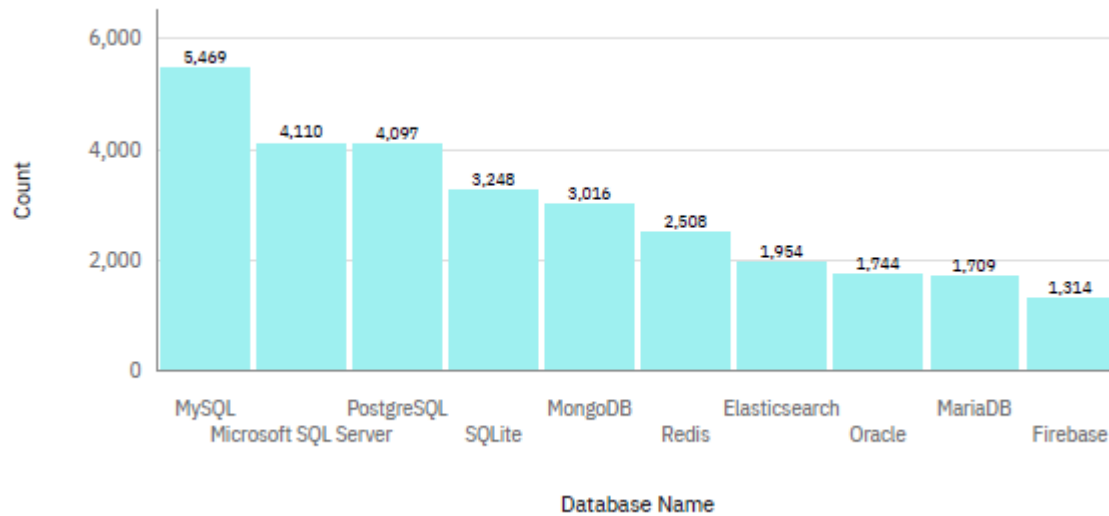
Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL as most used database.
- Lack of interest in Microsoft SQL Server and SQLite.
- Increasing interest in PostgreSQL and MongoDB.

Implications

- Microsoft SQL Server and SQLite losing ground in the market.
- PostgreSQL and MongoDB establishment in the market.

DASHBOARD

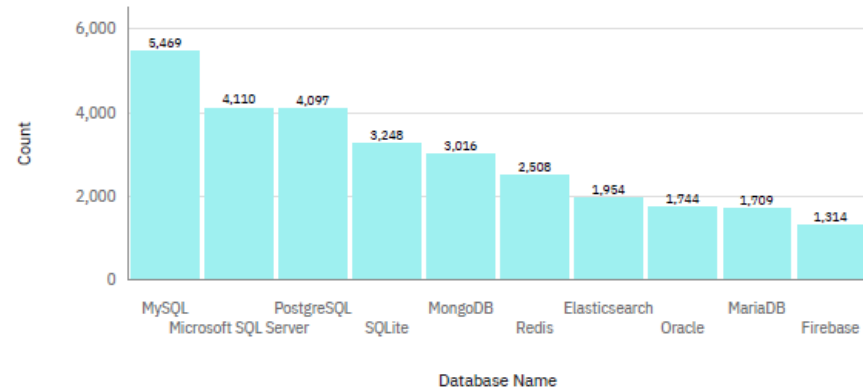https://github.com/saiful-shaakil/ibm-data-analyst-capstone-project/blob/main/Week_5/Cognos_Final_Dashboard.pdf

DASHBOARD TAB 1
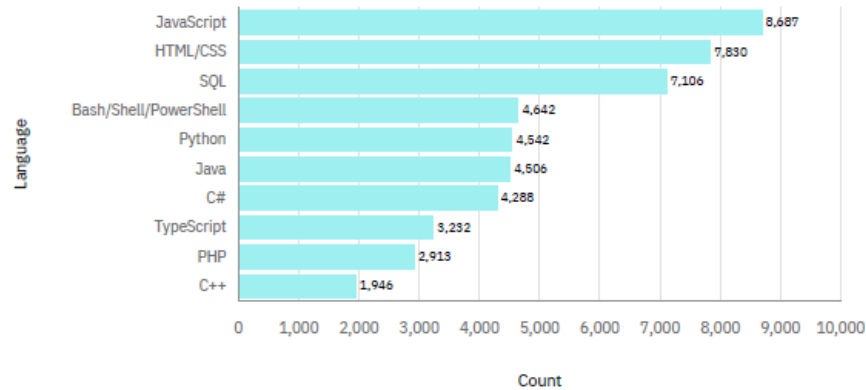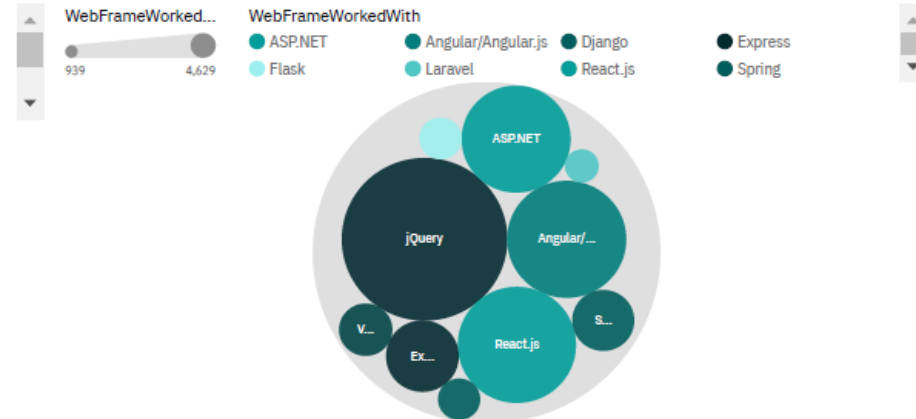
DASHBOARD TAB 2

Future Technology Trend

Top 10 Language Desire Next Year

Language	Count
JavaScript	6,630
HTML/CSS	5,328
Python	5,239
SQL	5,012
TypeScript	4,088
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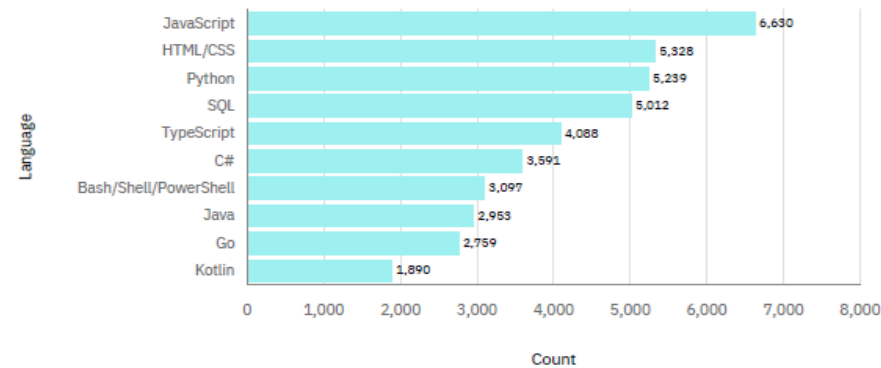
Top 10 Database Desire Next Year

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; Dynam... 1,044
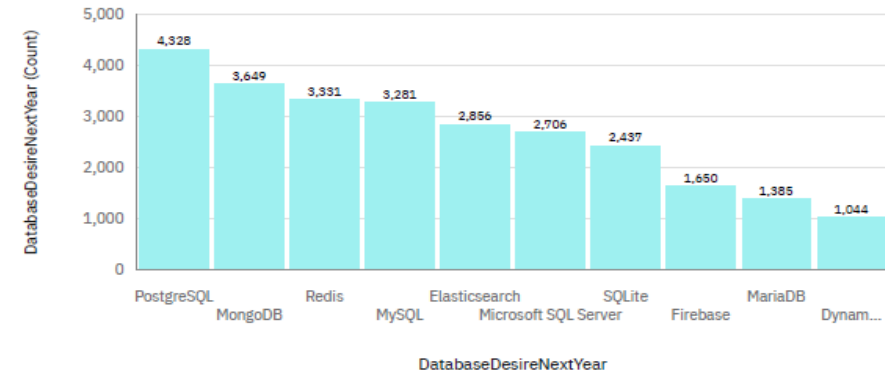
Platform Desire Next Year

PlatformDesireNe... 0 — 5,865
PlatformDesireNe... 0 — 5,865

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

Top 10 Web Frame Desire Next Year

WebFrameDesire... 970 — 4,714

WebFrameDesireNextYear
● ASP.NET ● Angular/Angular.js ● Django ● Express
● Flask ● React.js ● Ruby on Rails ● Spring
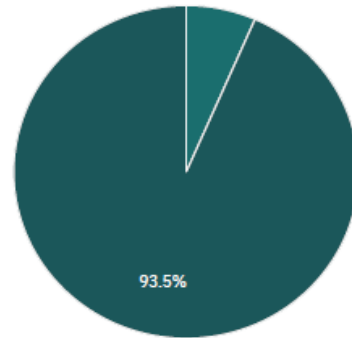● Vue.js ● jQuery

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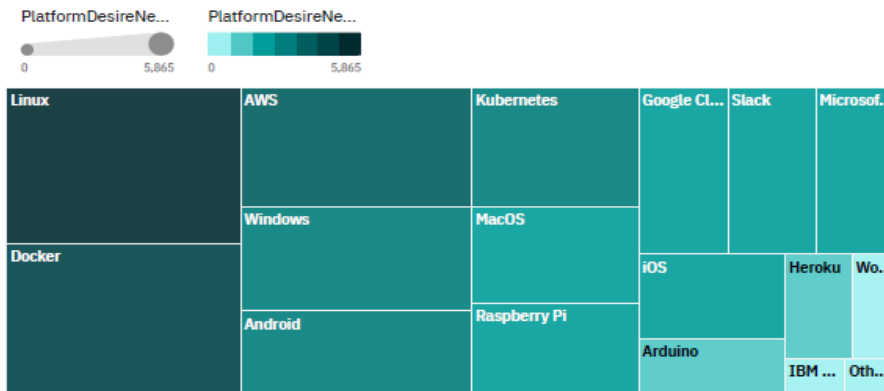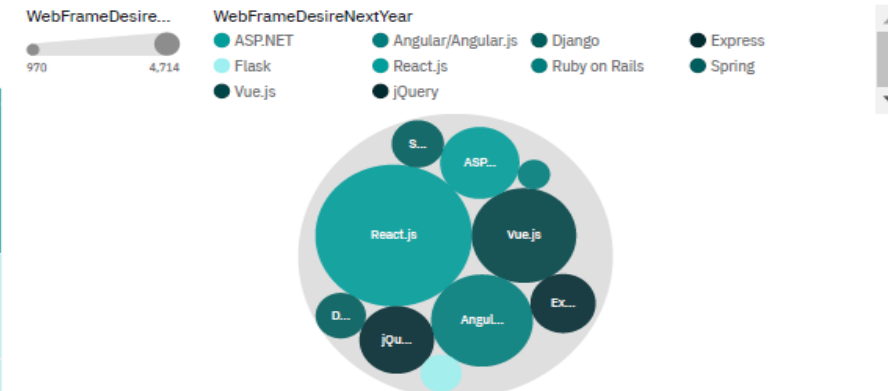
DASHBOARD TAB 3

Demographics

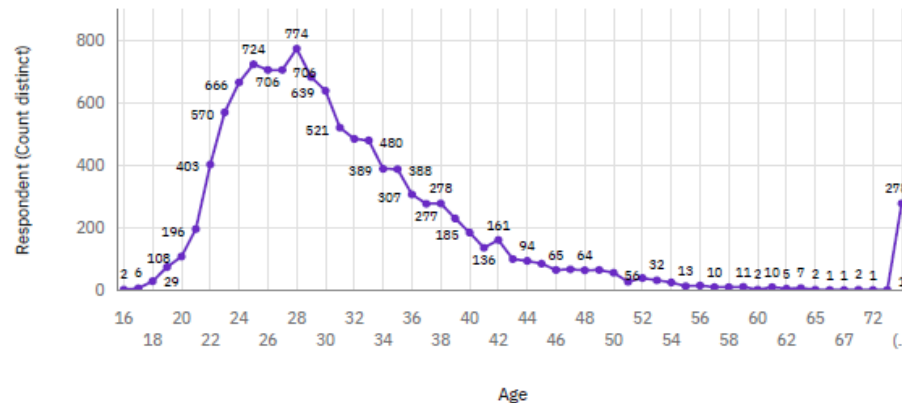### Respondent Classified by Gender

Gender
- Woman ● Man

93.5%

Respondent Count for Countries

Country
- Australia
- Austria
- Hungary
- Israel
- Argentina
- United Arab Emirates
- South Africa
- Iran
- Nicaragua

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Respondent Count by Age
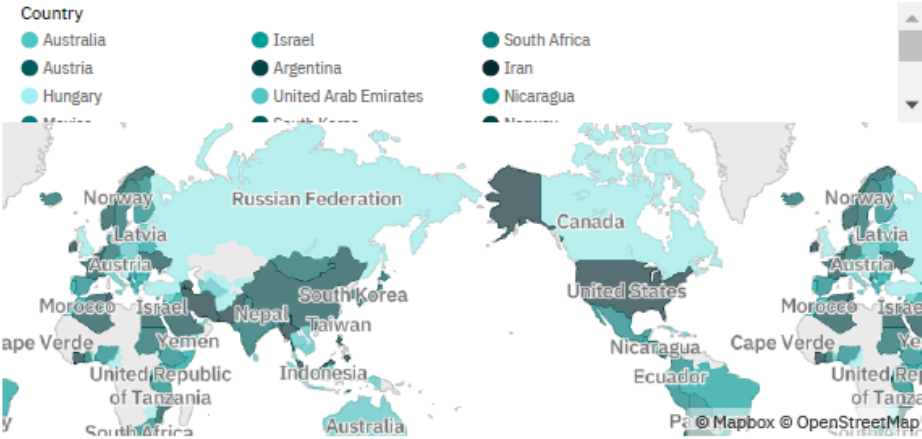
Respondent by Gender, Classified by Formal Education Level

Age (Average)
29.67   30.87

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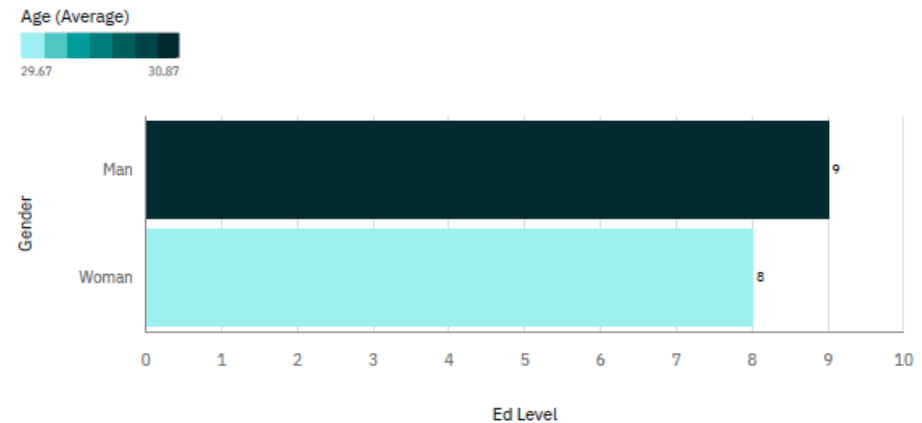
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript widely used and TypeScript getting popular.

- Python are getting noticed more than ever because of AI,ML,DL

- Developers mostly located in developed countries.

Implications

- JavaScript and TypeScript web frames gaining followers.

- Global polarization of developers location and gender.

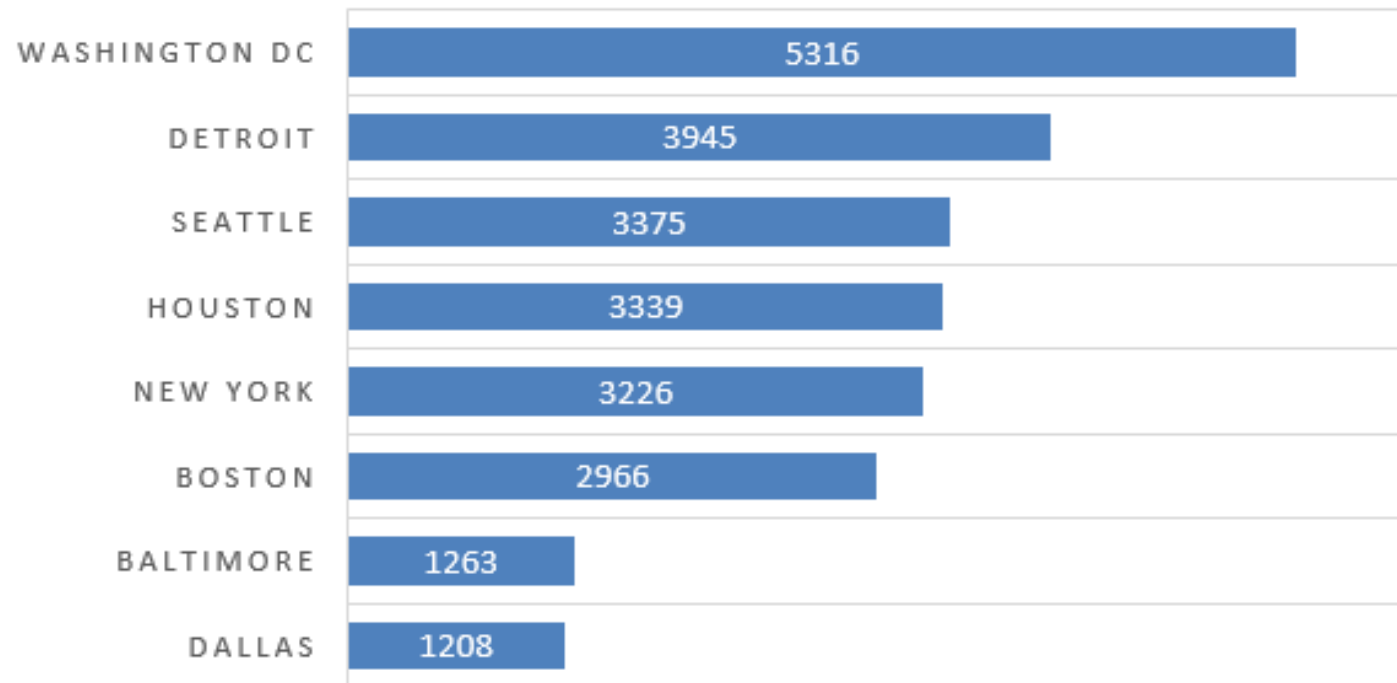- Young developers without postgrad studies on its majority.

CONCLUSION

- Developers possess distinct traits and characteristics that shape their work.

- Provides valuable insights into the popularity trends of various tools, platforms, and programming languages.

- Highlights the need to expand access to the tech job market in developing countries.

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APPENDIX

JOB POSTINGS

POPULAR LANGUAGES