Q1
Q2
Q3
Q2
Q3
Q4

The top programming language and database skills in demand

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IBM Developer

SKILLS NETWORK

OUTLINE

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

EXECUTIVE SUMMARY

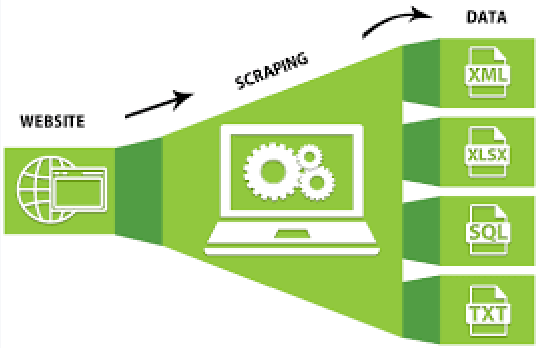
- Introduction to the data and the objectives.
- Methodology.
  - Collecting the data.
  - Analysing the data.
  - Visualising the data.
- Findings and implications accompanied with visualisations.
- Broader discussion of the results.
- Final conclusions of the data analysed.

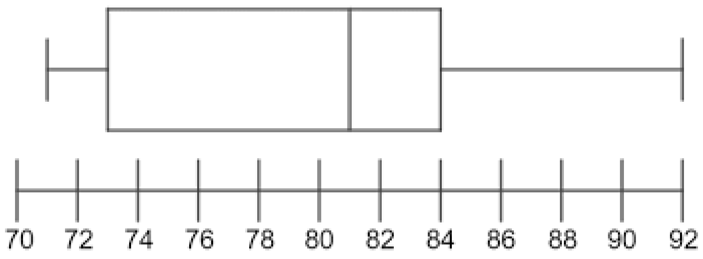
INTRODUCTION

- Programming language and database skills are critical to success for some jobs such as a web developer or data scientist.
- This report is about the top programming skills that are most in demand from various sources including:
  - Job vacancies.
  - Training portals.
  - Surveys.
- This report is mainly for an organisation involved in the global IT and business consulting services.
- The objective of this report is to understand:
  - The top programming languages in demand.
  - The top database skills in demand.

METHODOLOGY

- Collected data using APIs and web scraping tools.
- Cleaned the dataset, which involved removing duplicates, finding and imputing missing values, and normalising the data.
- Explored the data using histograms and boxplots to find outliers. Correlation analyses were also utilised.
- Visualised the data using, but not exclusive to:
    - Line charts.
    - Pie charts.
    - Stacked charts.

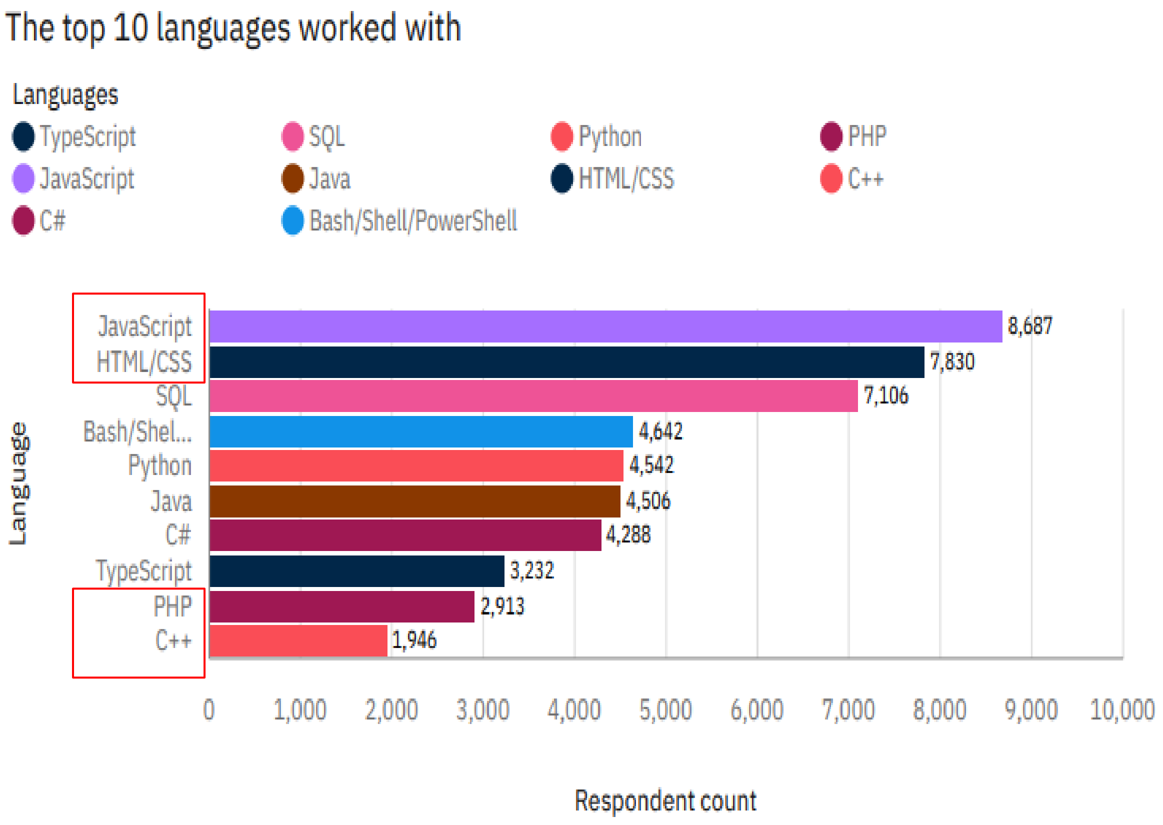




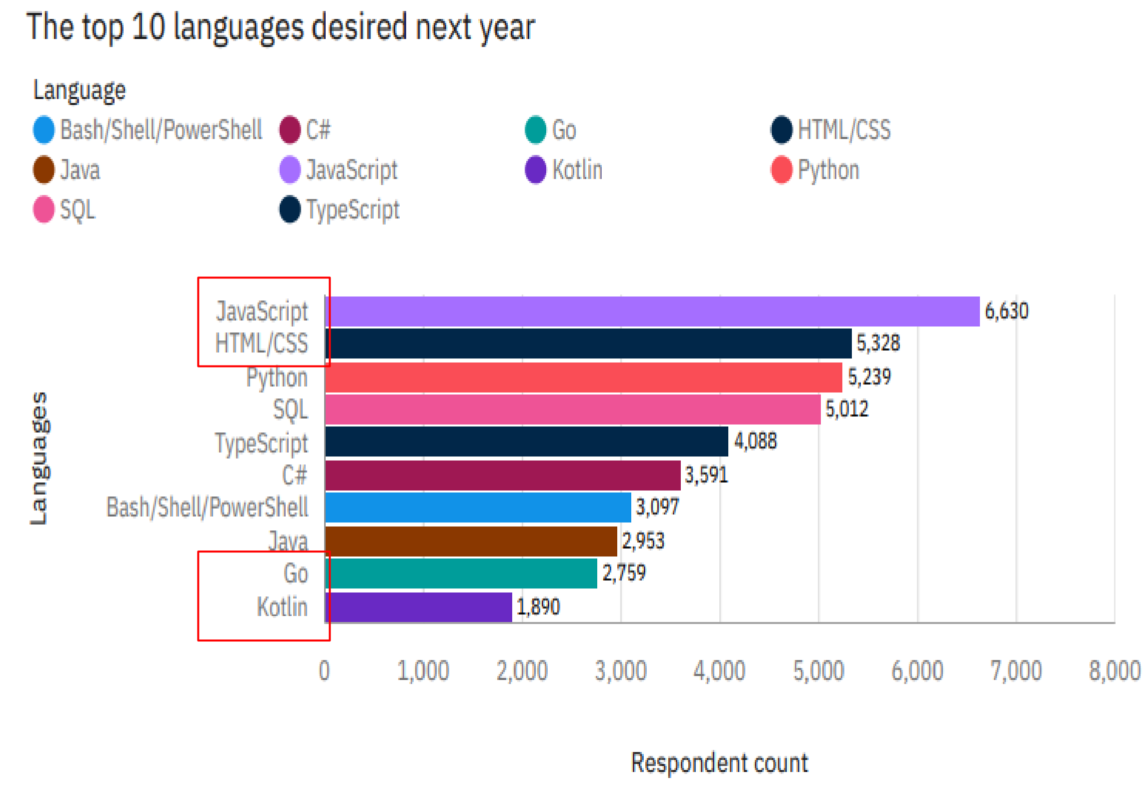
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

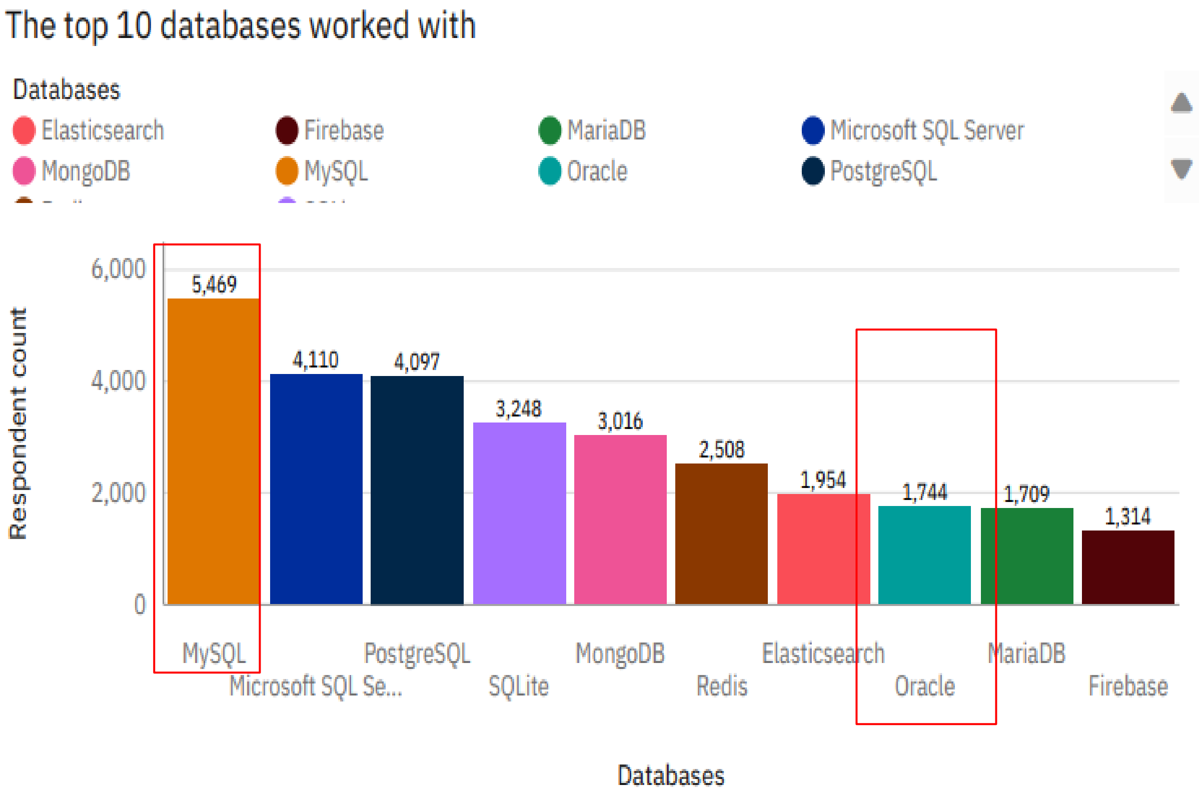
- Finding 1: In the current year, **JavaScript** was the most popular programming language to be used.
- Finding 2: For next year, most respondents said they desire to use **JavaScript**.
- Finding 3: **PHP** and **C++** are two language programmes used in the current year but are not desired language programmes for next year.

Implications

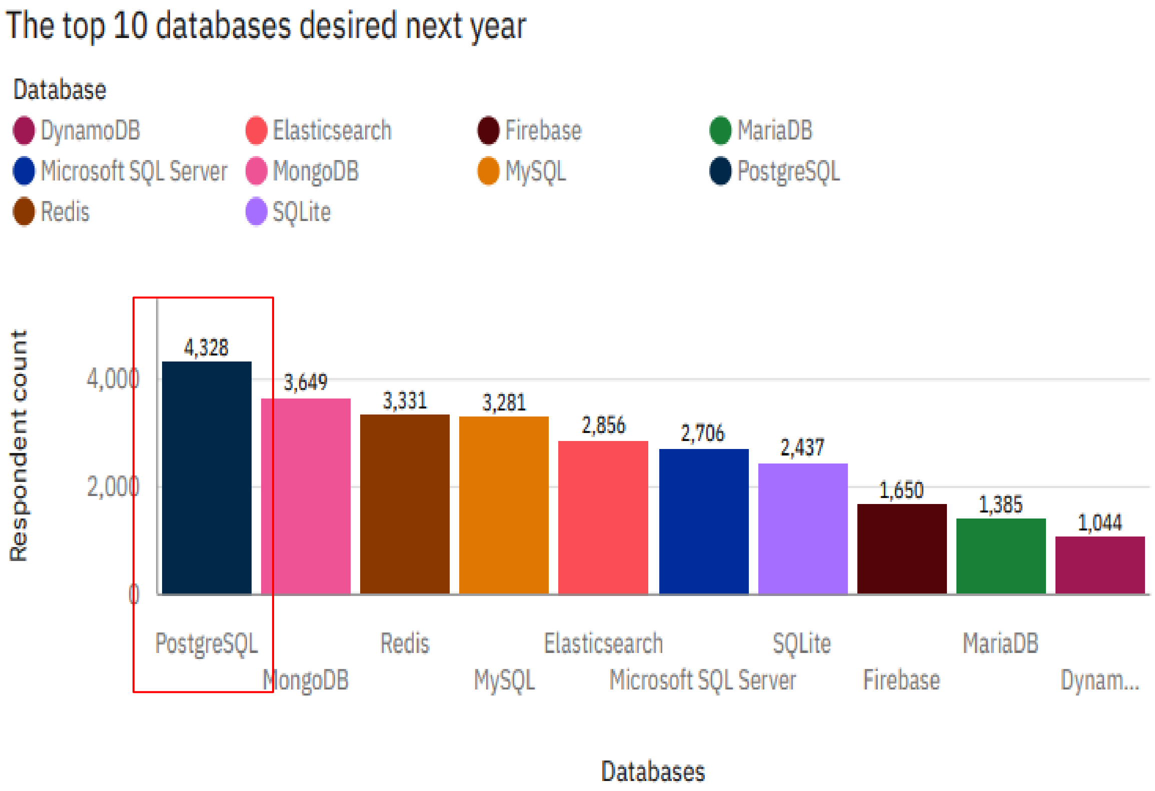
- Implication 1: In the current year, most respondents liked using **JavaScript** as a programming language.
- Implication 2: For next year, most respondents will continue using **JavaScript**.
- Implication 3: **PHP** and **C++** will not be as popular next year in comparison to the current year. For next year, respondents are choosing other programmes such as **Go** and **Kotlin**.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- Finding 1: In the current year, **MySQL** was the most popular database to be used.
- Finding 2: For next year, most respondents desire to use **PostgreSQL**.
- Finding 3: **Oracle** is not in the top 10 databases that are desired for next year.

Implications

- Implication 1: In the current year, most respondents worked with **MySQL**.
- Implication 2: For next year, **MySQL** will not be the most desirable database to work with. Instead, **PostgreSQL** will be the most desired database to work with.
- Implication 3: **Oracle** will not be a popular database to be working with for next year.

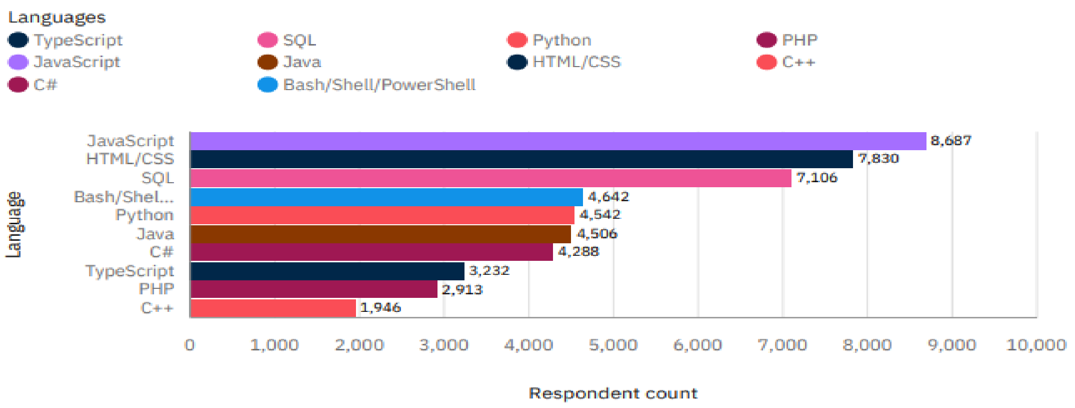
DASHBOARD

https://github.com/jameslaptop/capstone-project/blob/900ff2ad2a7fff9e9ee7fea7e27483bebaae8271/Capstone%20project%20dashboard.pdf

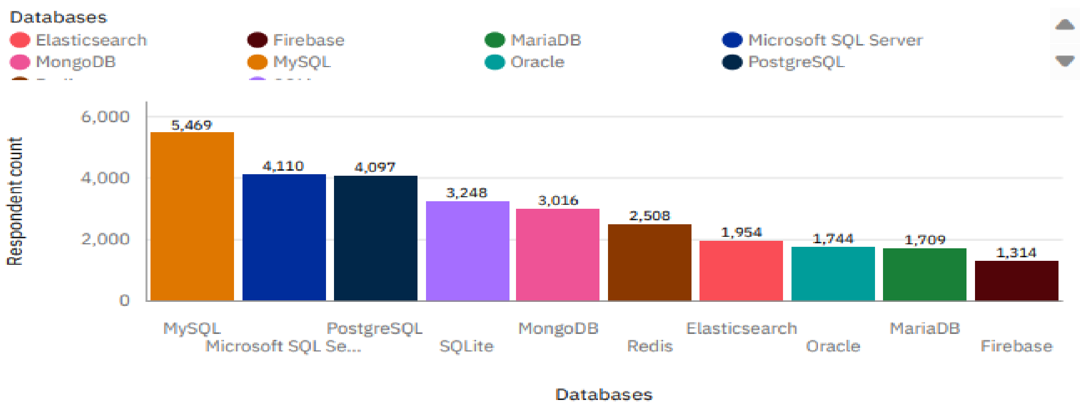
DASHBOARD TAB 1

Current Technology Usage

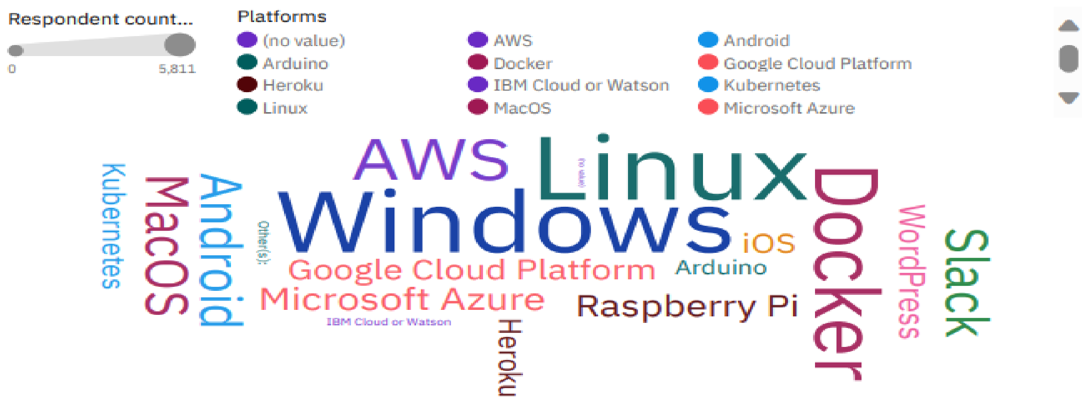
The top 10 languages worked with



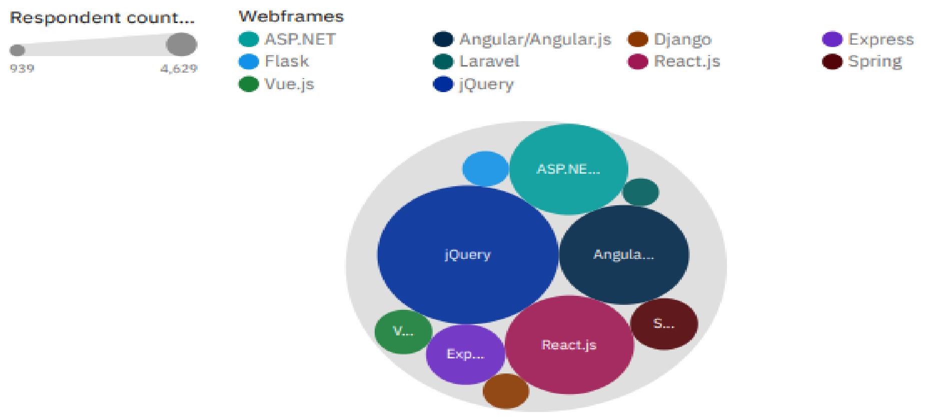
The top 10 databases worked with



Platforms worked with



The top 10 web frames worked with



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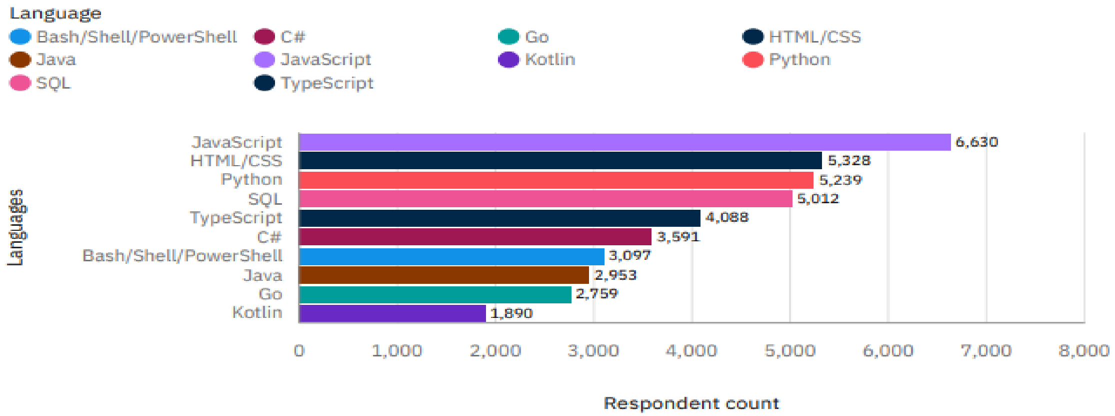
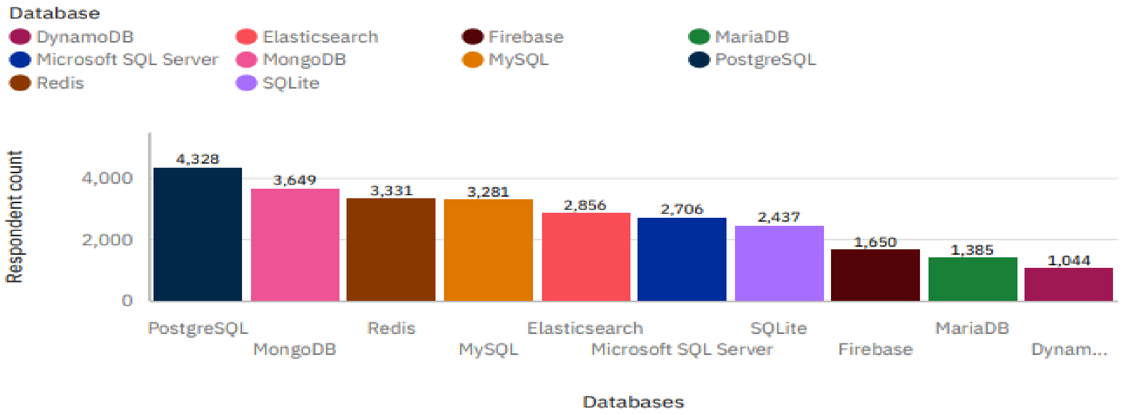
DASHBOARD TAB 2

Future Technology Trend

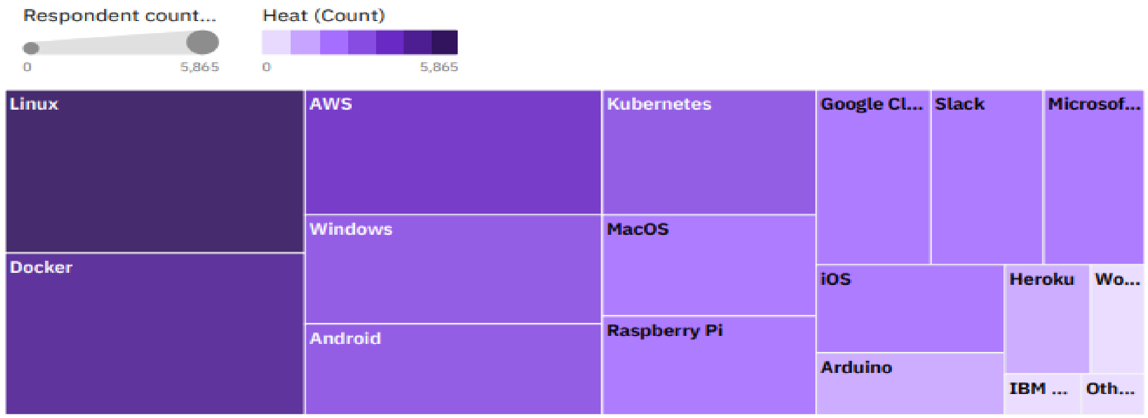
The top 10 languages desired next year



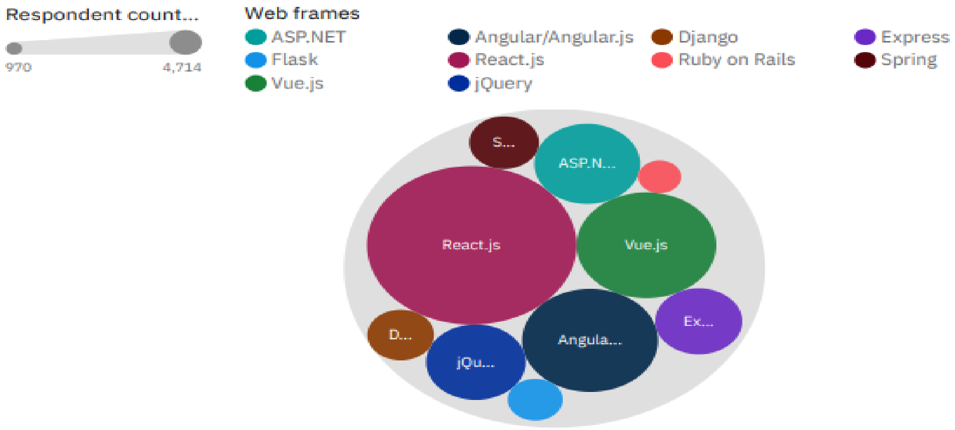
The top 10 databases desired next year



Platforms desired next year



The top 10 web frames desired next year



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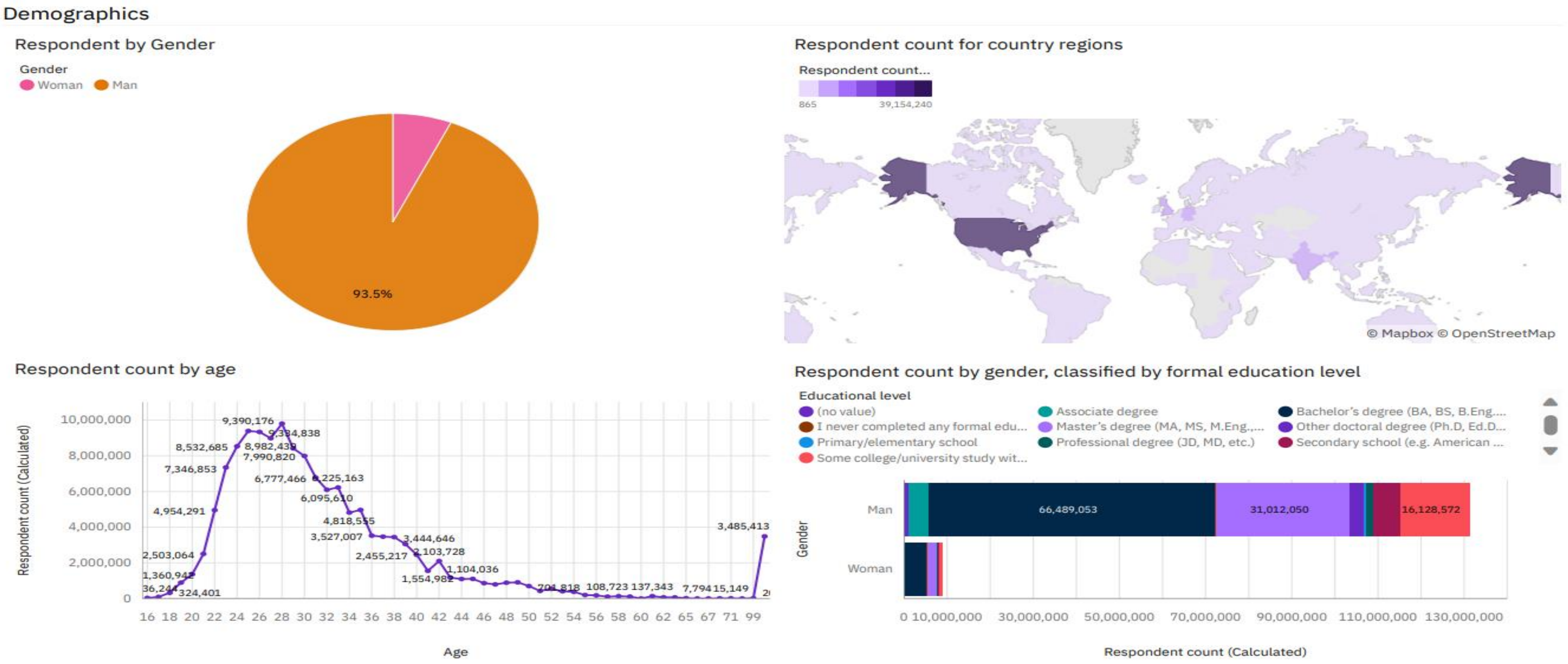
DASHBOARD TAB 3


Demographics
Respondent by Gender
Gender
Woman
Man
93.5%
Respondent count for country regions
Respondent count...
865
39,154,240
© Mapbox © OpenStreetMap
Respondent count by age
Respondent count (Calculated)
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
9,390,176
9,334,838
8,532,685
8,982,439
7,990,820
7,346,853
6,777,466
6,225,163
6,095,610
4,954,291
4,818,555
3,527,007
3,444,646
2,103,728
2,455,217
2,503,064
1,104,036
1,554,982
1,360,942
36,244
324,401
701,818
108,723
137,343
7,794
15,149
3,485,413
16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 65 67 71 99
Age
Respondent count by gender, classified by formal education level
Educational level
(no value)
I never completed any formal edu...
Primary/elementary school
Some college/university study wit...
Associate degree
Master's degree (MA, MS, M.Eng.,...
Professional degree (JD, MD, etc.)
Bachelor's degree (BA, BS, B.Eng....
Other doctoral degree (Ph.D, Ed.D...
Secondary school (e.g. American ...
Gender
Man
Woman
66,489,053
31,012,050
16,128,572
0 10,000,000 30,000,000 50,000,000 70,000,000 90,000,000 110,000,000 130,000,000
Respondent count (Calculated)

DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- Finding 1: **JavaScript** remains the most popular programming language for the current year and next year.
- Finding 2: **PostgreSQL** will be the most desirable database to work with for next year.
- Finding 3: The majority of the respondents have a bachelor's degree.

Implications

- Implication 1: **JavaScript** always outperforms the other programming languages among the respondents.
- Implication 2: The demand for different database skills changes each year. In the current year, **MySQL** was the most popular, but next year **PostgreSQL** is most desirable.
- Implication 3: The most demand for programming languages and database skills comes from respondents with a bachelor's degree.

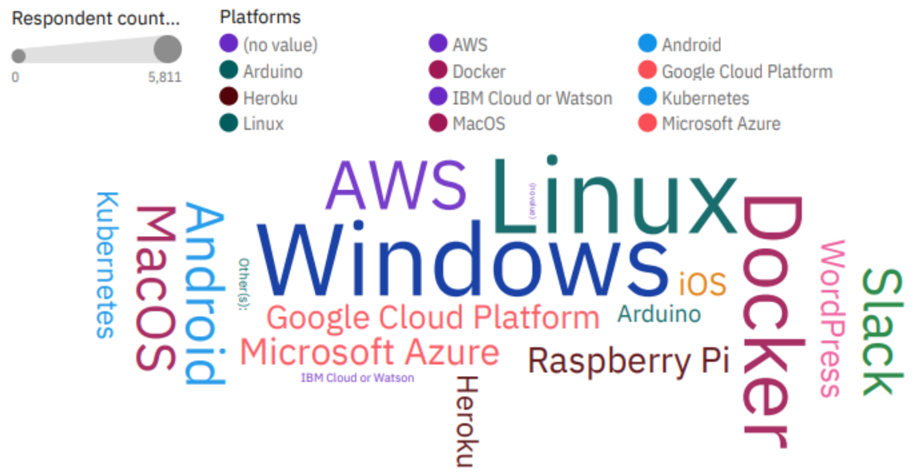
CONCLUSION

- Point 1: JavaScript and HTML/CSS are the two most popular programming languages this year and the two most desirable for next year.
- Point 2: MySQL is the most popular database worked with in the current year, but next year PostgreSQL will be most popular.
- Point 3: The majority of the respondents have a bachelor's degree.

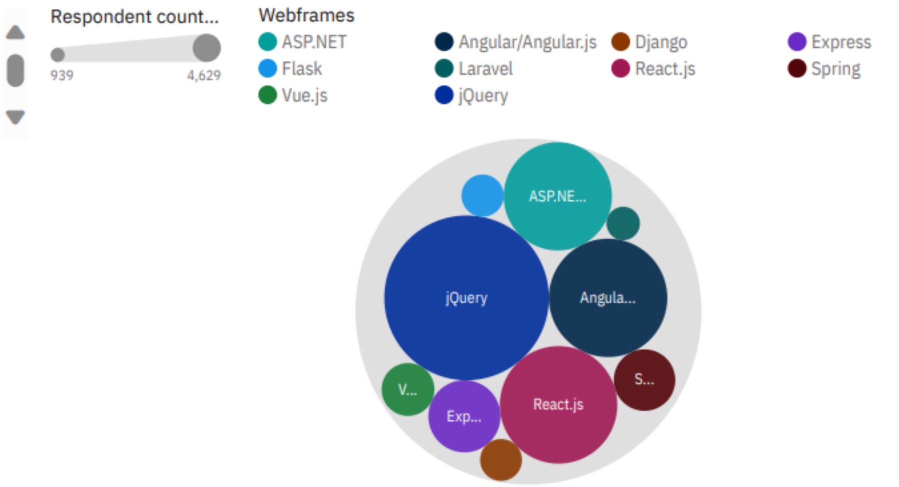
APPENDIX

Here are the graphs I did not reference during this presentation:

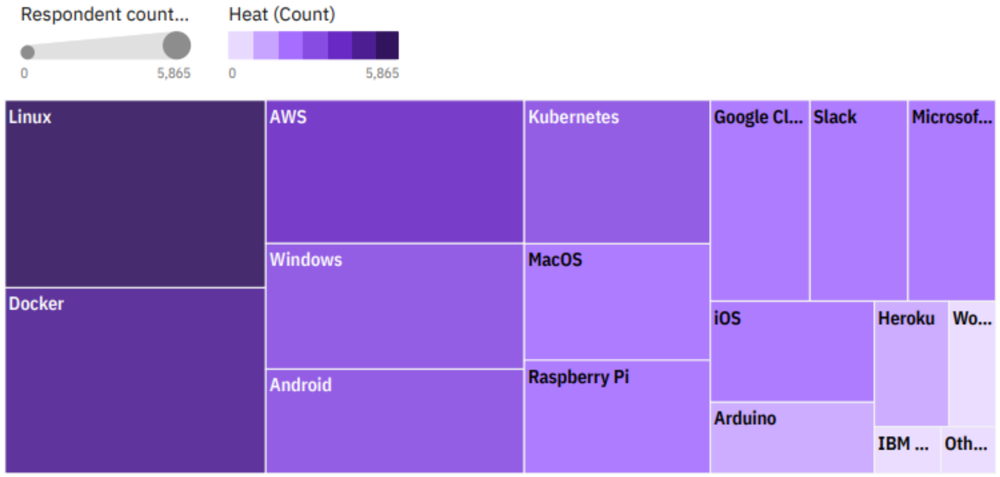
Platforms worked with



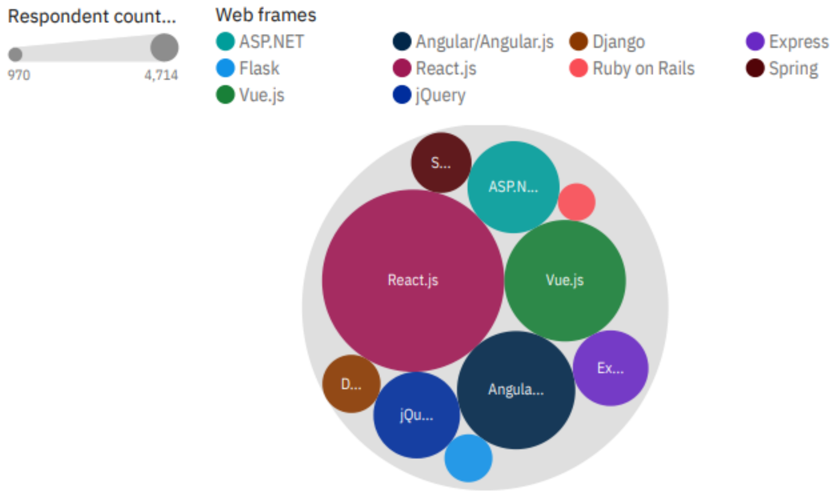
The top 10 web frames worked with



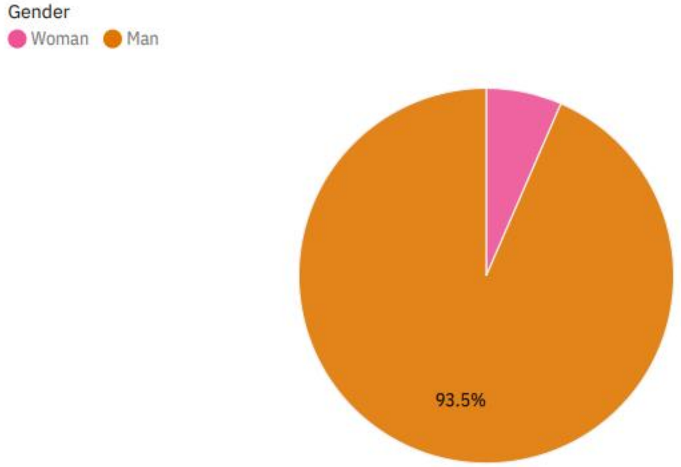
Platforms desired next year



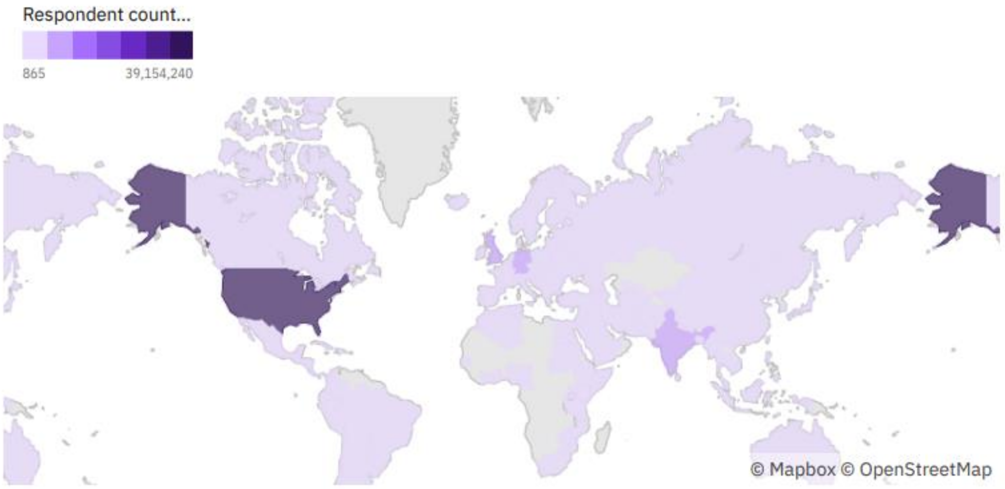
The top 10 web frames desired next year



Demographics



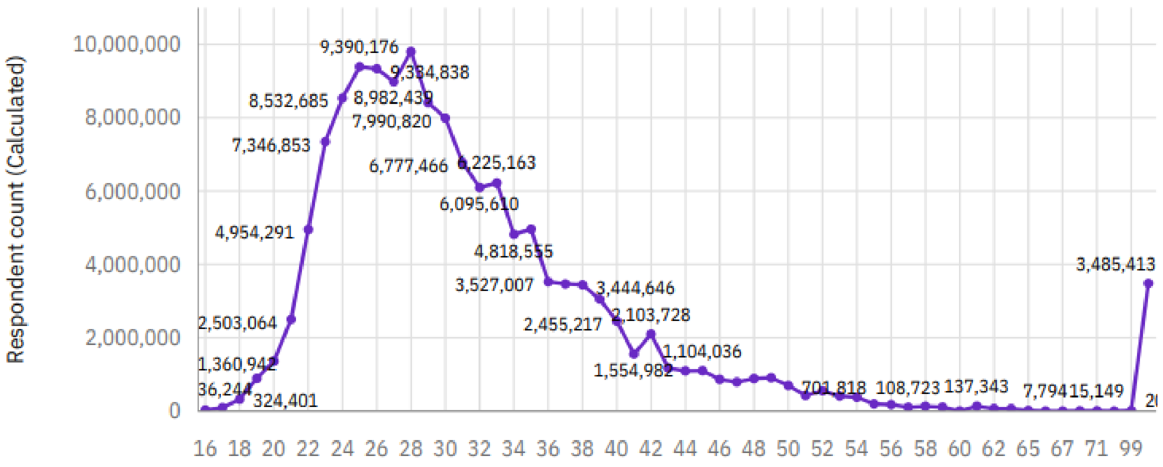
Respondent by Gender



Respondent count for country regions

Respondent count...
865
39,154,240
© Mapbox © OpenStreetMap

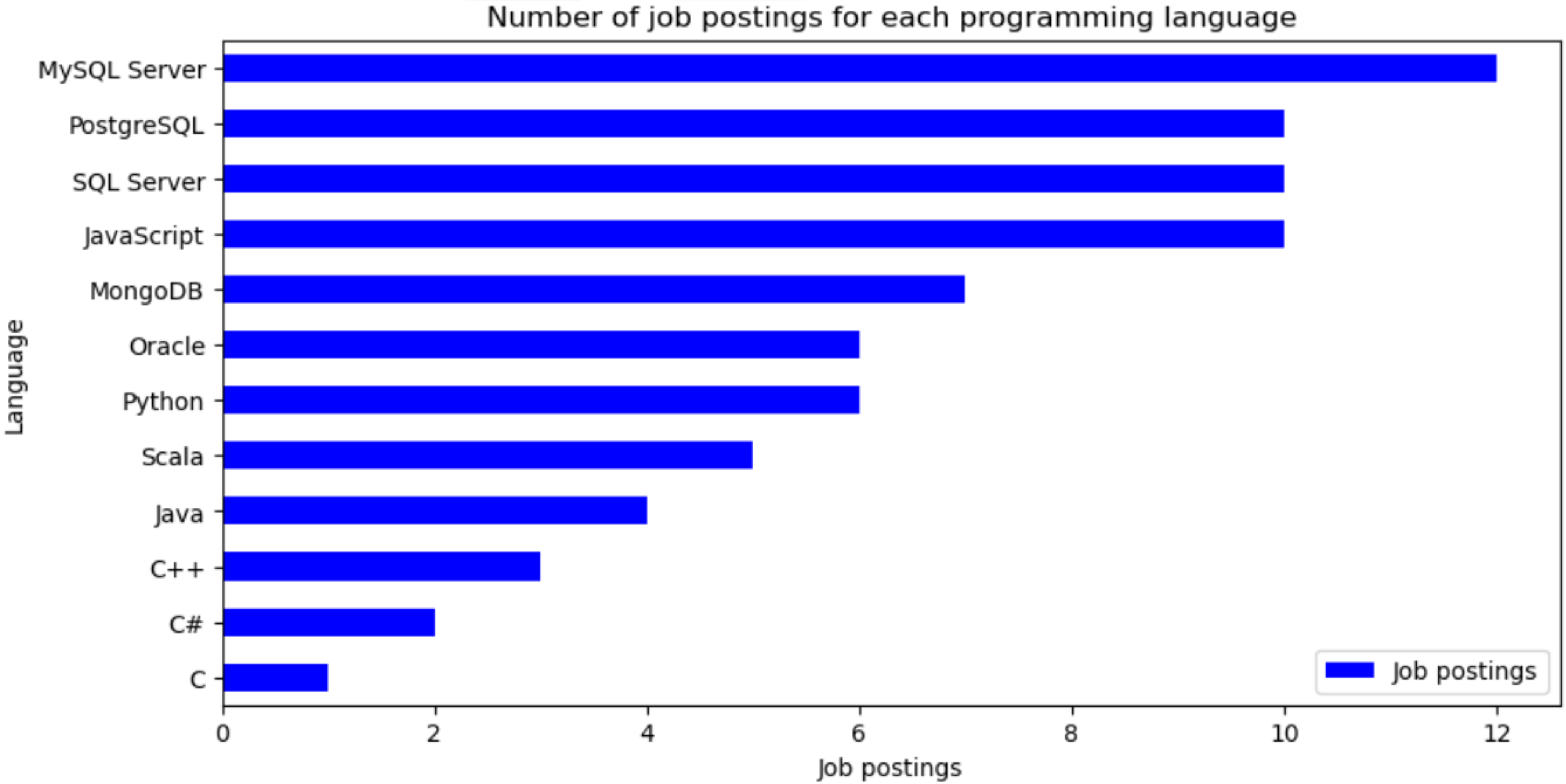
Respondent count by age



References

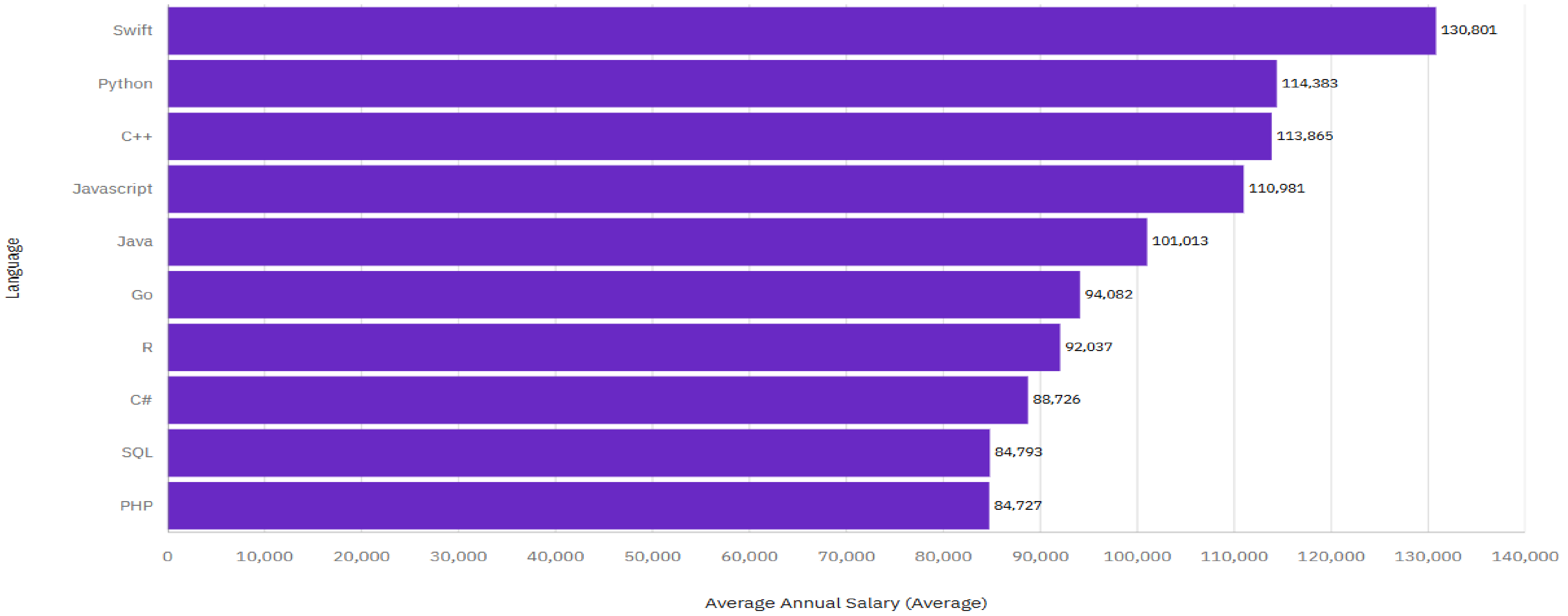
- https://www.coursera.org/articles/coding-jobs

JOB POSTINGS



POPULAR LANGUAGES

Average Annual Salary by Language



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