STACK OVERFLOW DEVELOPER SURVEY 2019 REPORT

Jimoh, Upe Paula

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https://www.linkedin.com/in/upe-jimoh

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OUTLINE

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- Discussion
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EXECUTIVE SUMMARY

- This report is a summary of the analysis of the 2019 Stack Overflow Developers Survey.

- This report shows the trend in :
  - Current Technology Usage
  - Future Technology Trend
  - Demographics

  among developers around the world.

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INTRODUCTION

- Stack Overflow is a question and answer site for professional and enthusiast programmers.

- Annually, they carry out a survey to gain insight about developers around the world.

- As part of the IBM Data Analyst Capstone Project, this report gives insight on a modified survey result of the Stack Overflow Developers Survey carried out in 2019.

METHODOLOGY

- Collect and organize Report Data using Web Scraping

- Data Wrangling

- Perform Exploratory Data Analysis
  - Analyze Data Distribution
  - Handle Outliers
  - Explore Correlations

- Data Visualizations
  - Explore data further by creating visualizations to gain important insight
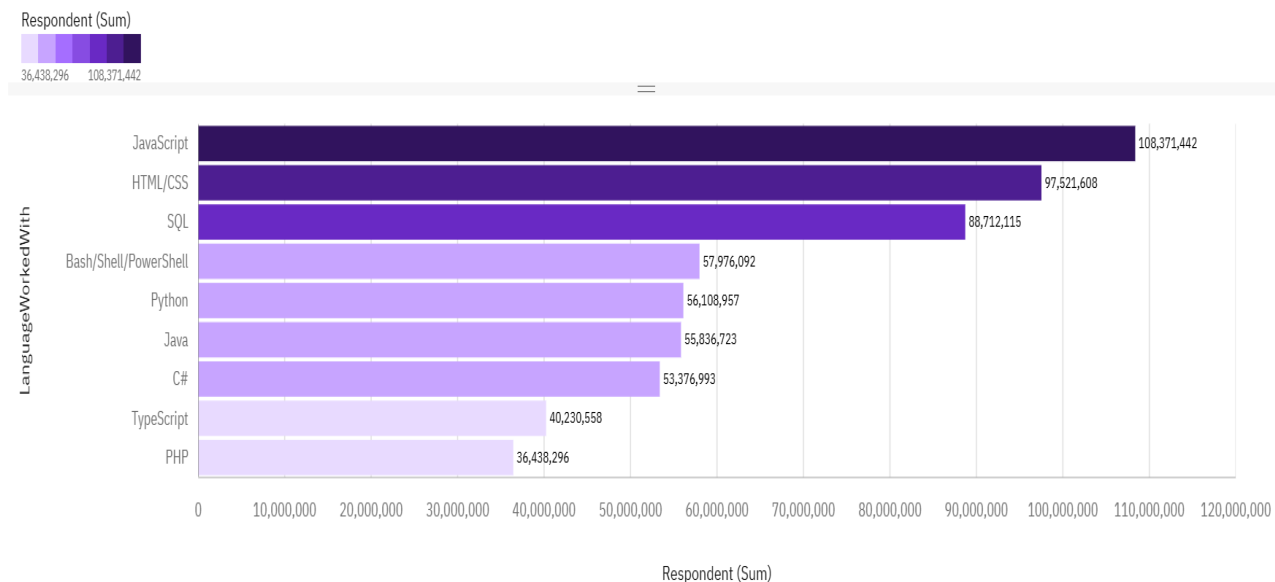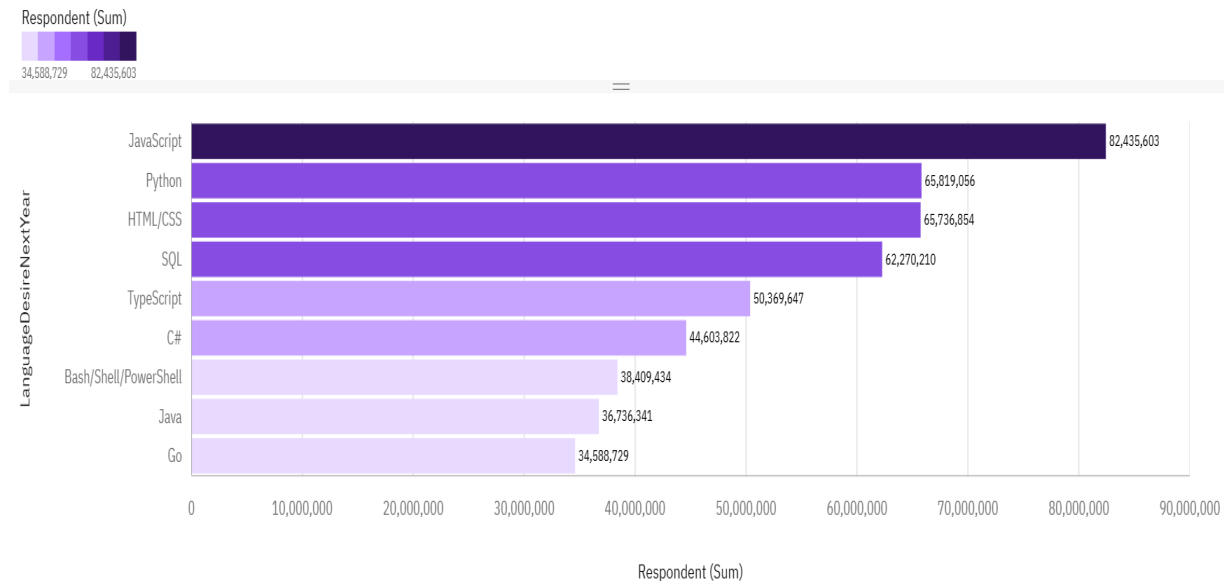 - Create a Dashboard of the most important visualizations

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RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year(2019)

Next Year(2020)

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript leads as the top language worked with in 2019 and also the most preferred in the near future.

- Python and TypeScript seem to be the fastest growing programming languages of choice in the next year.

- PHP and Java are gradually falling out of interest

Implications

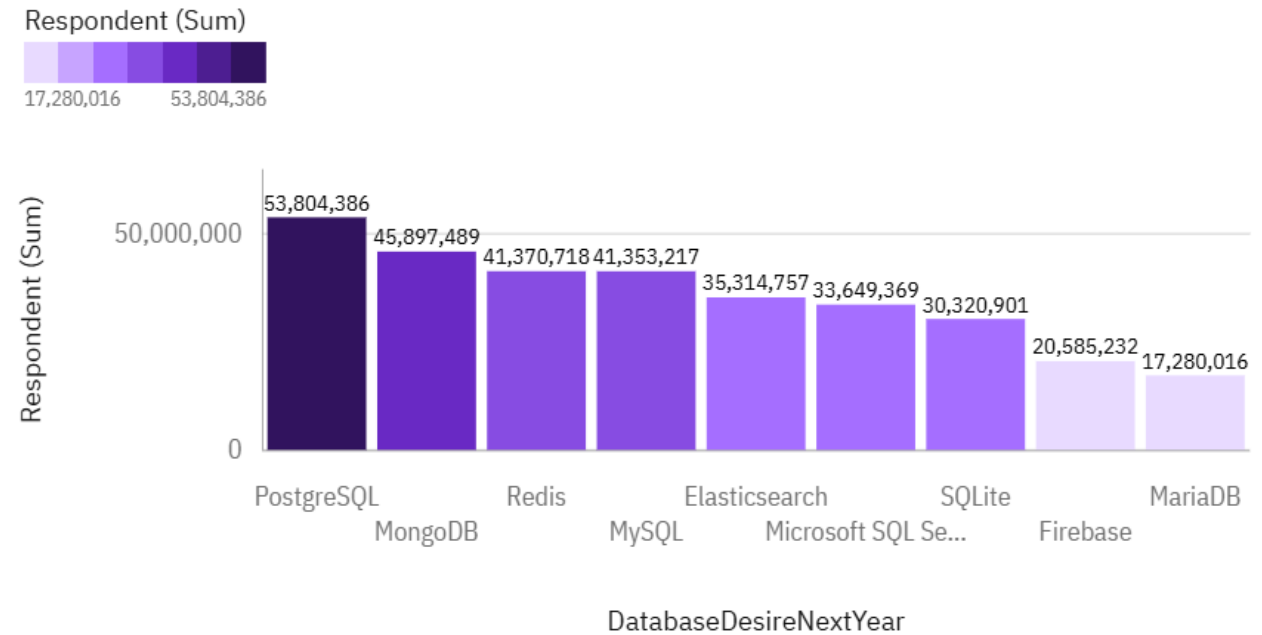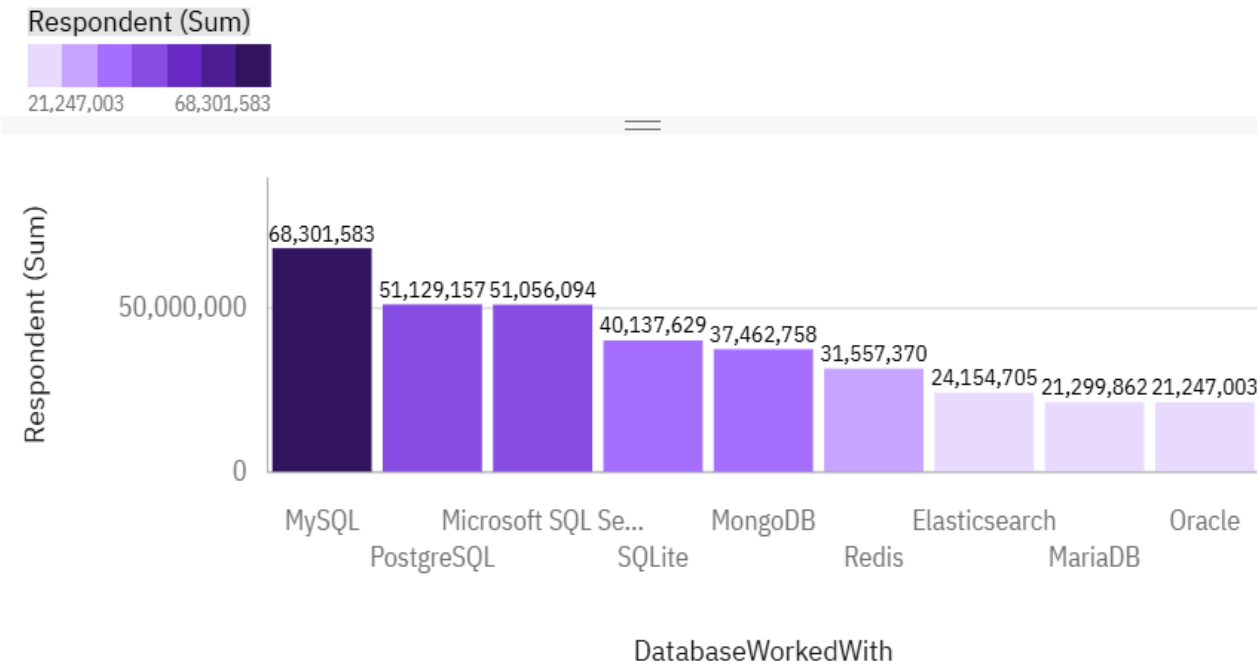- There might be a possible developer language migration from JavaScript to Python

DATABASE TRENDS

Current Year (2019)

Next Year (2020)

Top 10 Databases Worked With
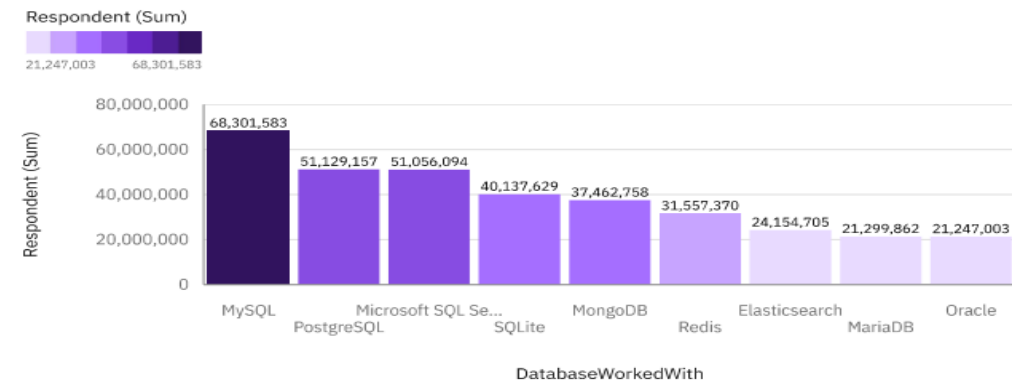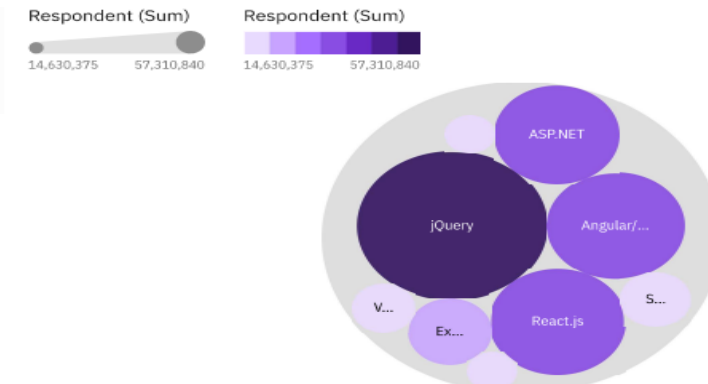
Respondent (Sum)

21,247,003   68,301,583

- MySQL: 68,301,583
- PostgreSQL: 51,129,157
- Microsoft SQL Se...: 51,056,094
- SQLite: 40,137,629
- MongoDB: 37,462,758
- Redis: 31,557,370
- Elasticsearch: 24,154,705
- MariaDB: 21,299,862
- Oracle: 21,247,003

DatabaseWorkedWith
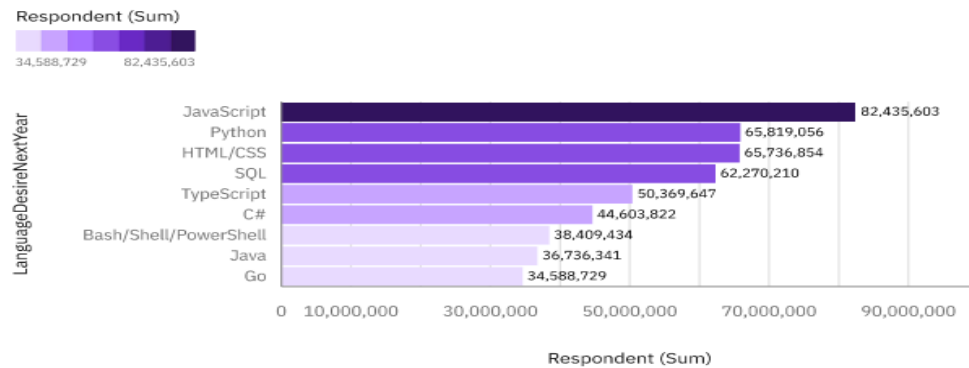
Top 10 Databases Desired Next Year

Respondent (Sum)

17,280,016   53,804,386

- PostgreSQL: 53,804,386
- MongoDB: 45,897,489
- Redis: 41,370,718
- MySQL: 41,353,217
- Elasticsearch: 35,314,757
- Microsoft SQL Se...: 33,649,369
- SQLite: 30,320,901
- Firebase: 20,585,232
- MariaDB: 17,280,016

DatabaseDesireNextYear

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL was the most preferred database this year.

- PostgreSQL closely followed by MongoDB seem to be the fastest growing databases of choice in the next year.

- Firebase and MariaDB are gradually becoming databases of interest to developers.

Implications

- Relational databases seem to still be the leading databases of choice in the future.
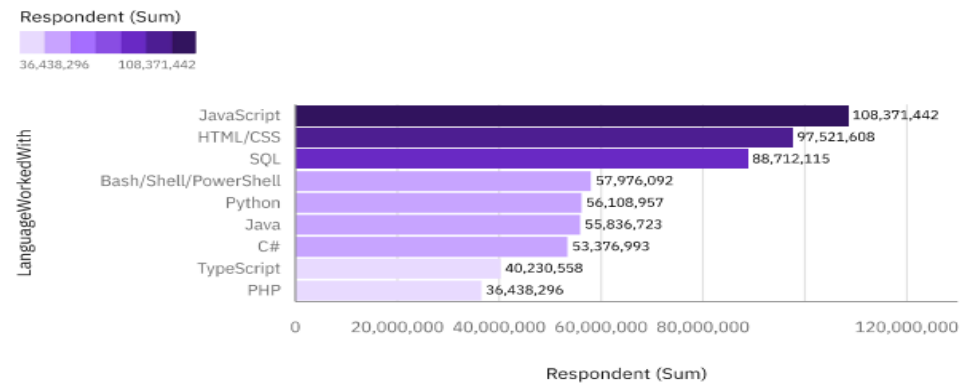
- Open-source databases are becoming more popular.

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DASHBOARD

IBM Cognos Dashboard GitHub Link

DASHBOARD TAB 1
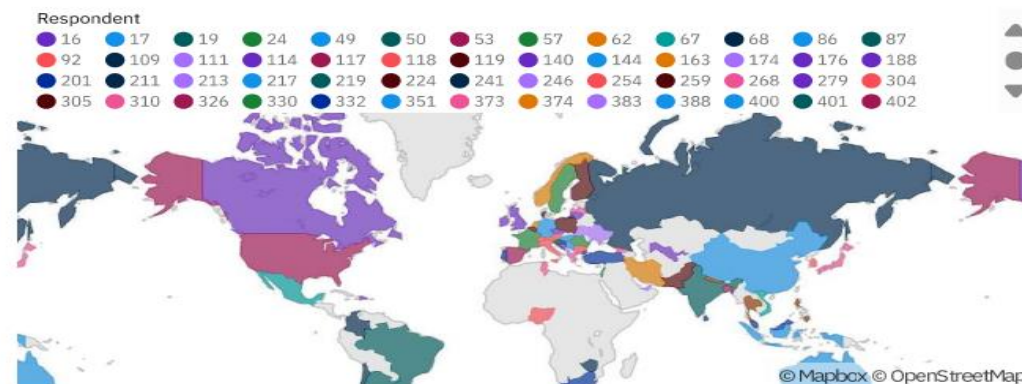
DASHBOARD TAB 2
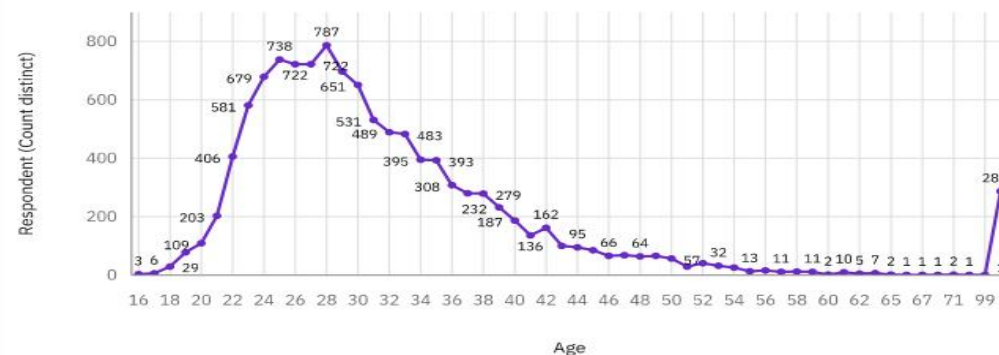
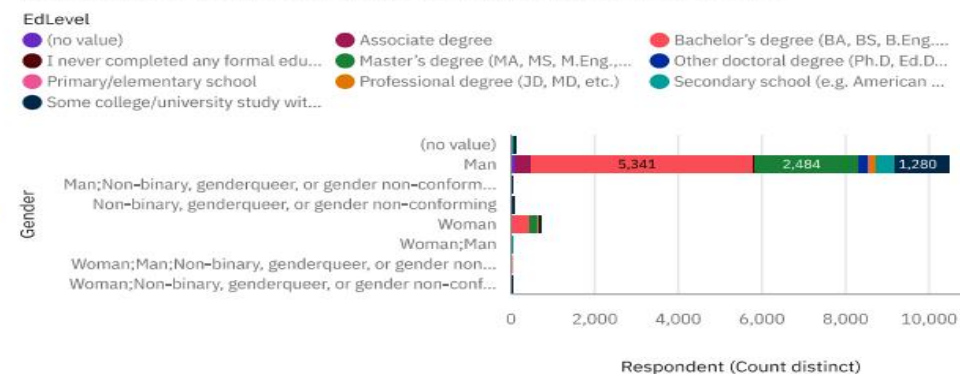# DASHBOARD TAB 3

Demographics

Respondent by Gender
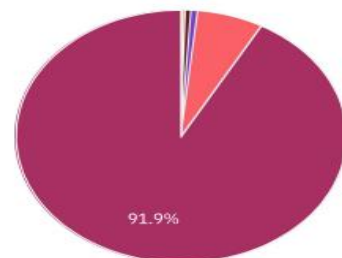
Respondent Count by Country

Respondent Count by Age

Respondent Count by Gender, classified by Formal Education Level

DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript is the most popular programming language among developers.

- Over 90% of developers that took the survey are male and most of the participants are between the ages of 24 and 32.

- Majority of the participants have at least a Bachelor's Degree or higher.

Implications

- Other genders are not well represented in the analysis as they make up a very small percent(<10%)

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CONCLUSION

- The programming languages and databases that were mostly used this year(2019) may not all be relevant in the next year. To stay relevant as a developer, changes in skill requirements are needed:
  - Programming languages like JavaScript, Python, HTML/CSS, SQL, TypeScript should be learned, and
  - Developers should learn how to use databases like PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch
  - Developers should also learn to use React.js and Vue.js web frames.
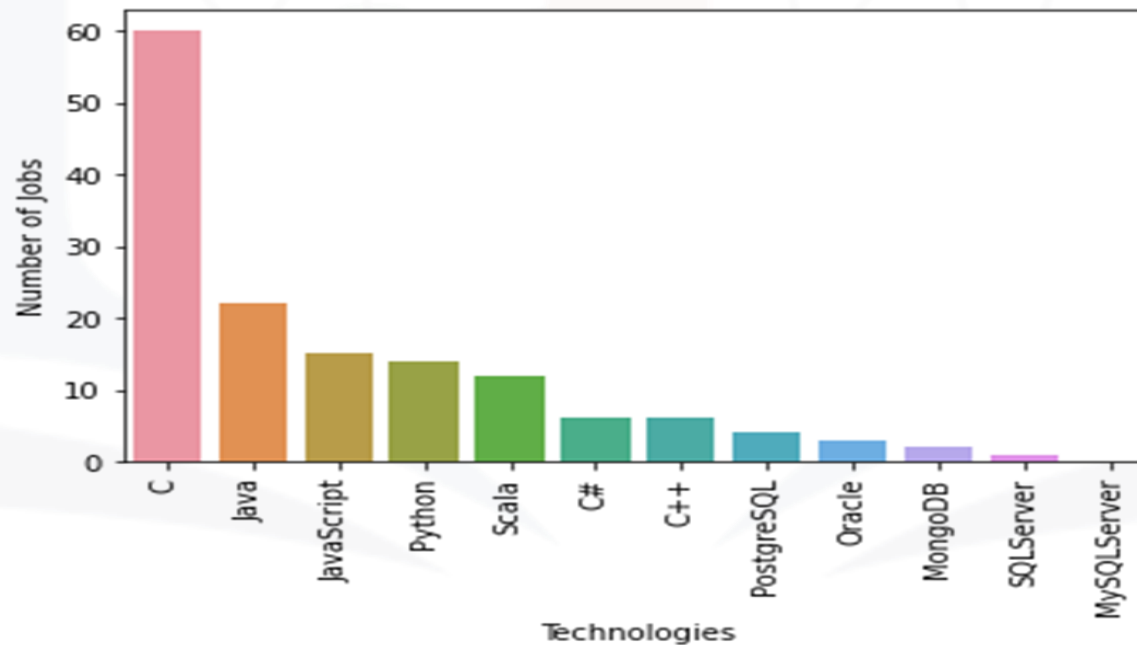
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APPENDIX

Top 5 Databases that developers will be interested in next year
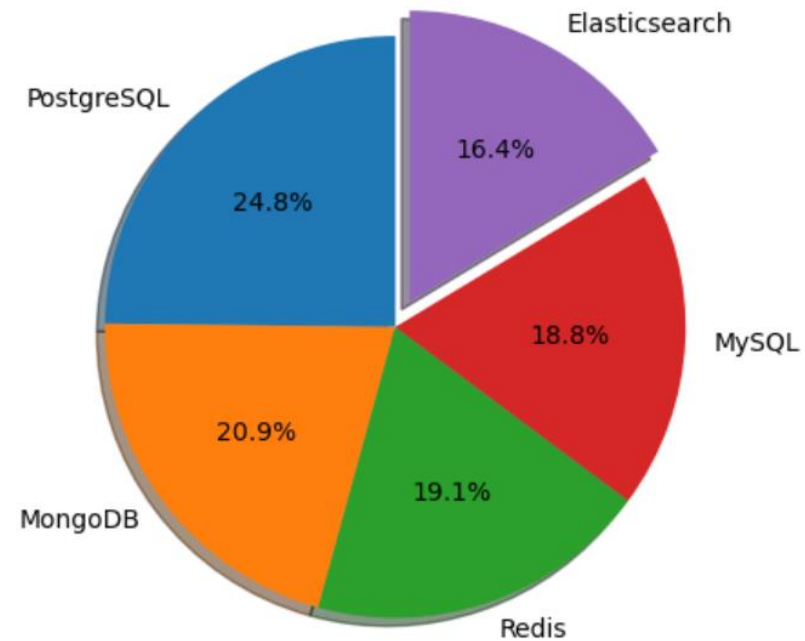
JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named "job-postings.xlsx". Present that data using a bar chart here. Order the bar chart in the descending order of the number of job postings.

POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named "popular-languages.csv". Present that data using a bar chart here. Order the bar chart in the descending order of salary.