STACK OVERFLOW SURVEY

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OUTLINE

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EXECUTIVE SUMMARY

- Skills required in IT field are ever changing
- It is important to identify full skill requirements and trends to keep pace with changing technologies to remain competitive
- This presentation shows current and future trends in programming languages, databases, platforms and webframes.

INTRODUCTION

- This presentation was created for stakeholders and business decision makers within the IT field
- The presentation helps to identify future skill requirement in the IT field necessary for people and firms to keep pace and remain competitive
- All recommendations are based on the analysis thoroughly carried out

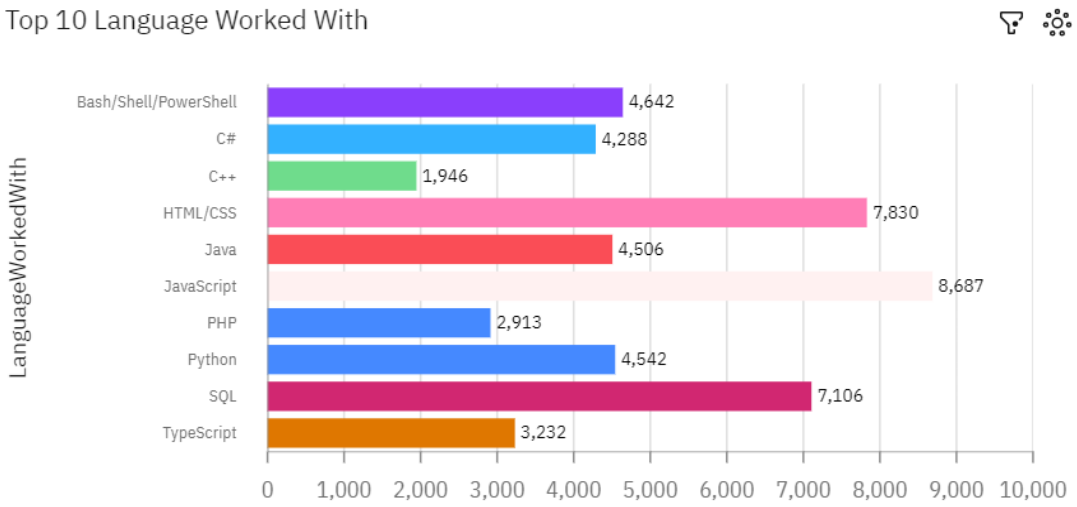
METHODOLOGY

- A modified subset of the Stack Overflow data was used. The dataset was wrangled, cleaned and processed to remove duplicates, fill missing values and normalized.
- Then the processed data underwent exploratory analysis in order to find the distribution of the data, correlation of different columns and identify outliers.
- The data was then used to visualize the distribution across features, the relationships between feature and the composition of the data
- Lastly, Cognos Dashboard Embedded was used to build a dashboard to visualize two files which are also part of the modified Stack Overflow subset data.

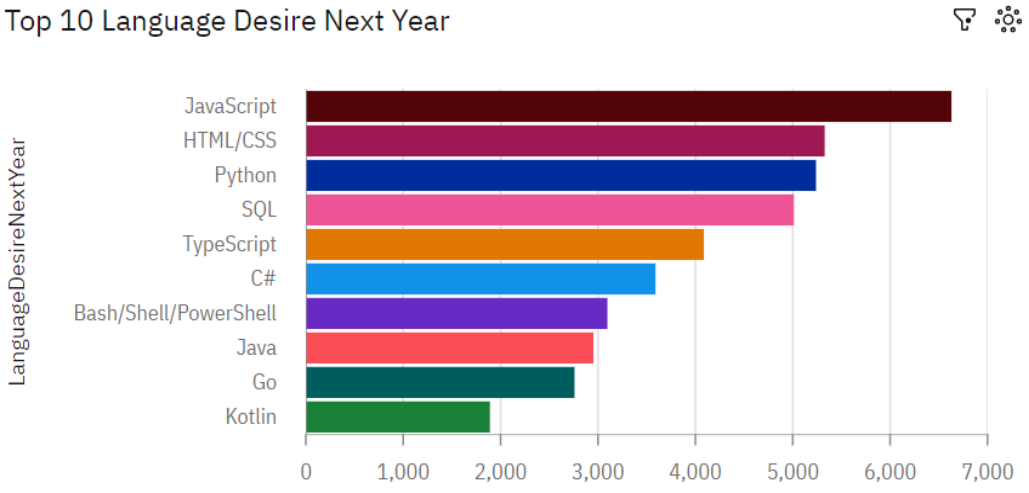
RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

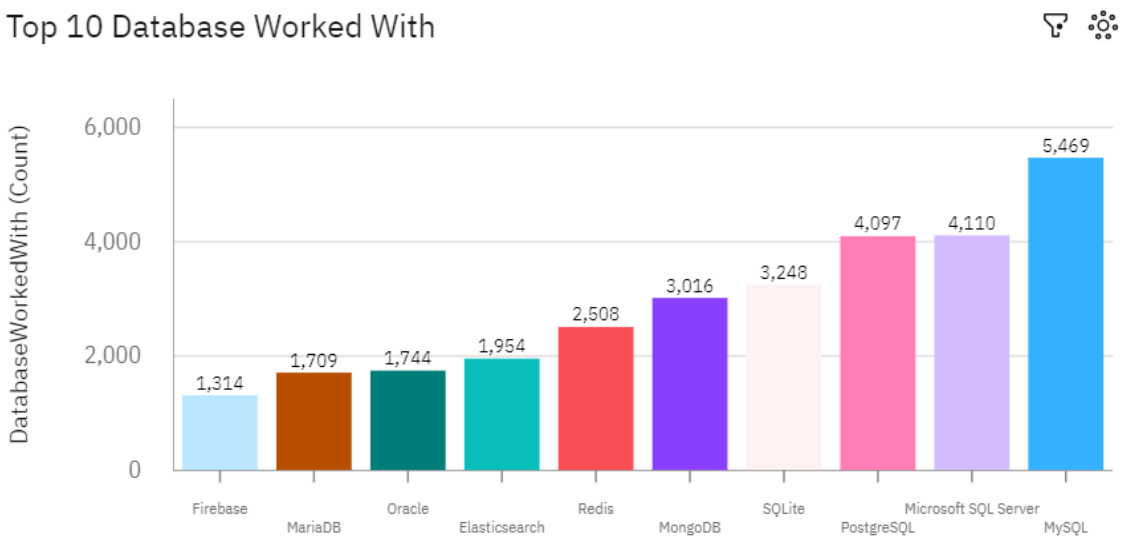
- Javascript and HTML/CSS continues to be the top two most popular programming languages for this year and next
- Python and Typescript have gained more interest for next year programming aspirants
- There have been a decrease in interest for SQL and Bash/Shell/Powershell

Implications

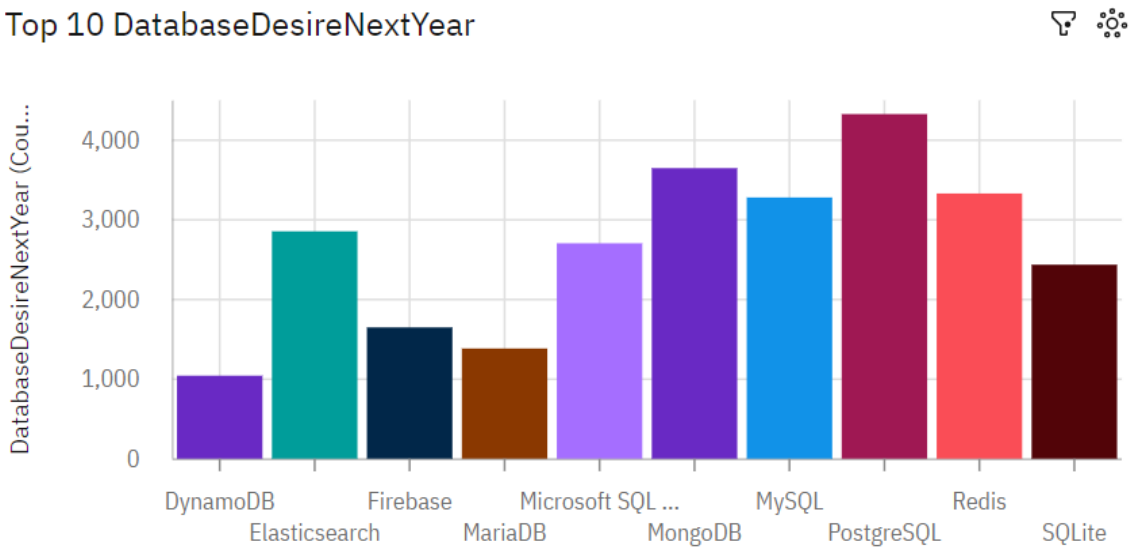
- Continue to employ similar number of people who are skilled with Javascript and HTML/CSS
- There should be an increase in the employment of people skilled with Python and Typescript
- Employ less individuals who are skilled with SQL and Bash/Shell/Powershell

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Interest in MySQL, SQLite and Microsoft SQL Server has decreased as compared to the current year
- PostgreSQL and MongoDB has gained more relevance across database aspirants
- There is also an increase in Redis and Elasticsearch for next year

Implications

- Employ less people skilled with MySQL, SQLite and Microsoft SQL Server
- Increase the employment of people skilled with PostgreSQL and MongoDB
- Employ more people skilled with Redis and Elasticsearch

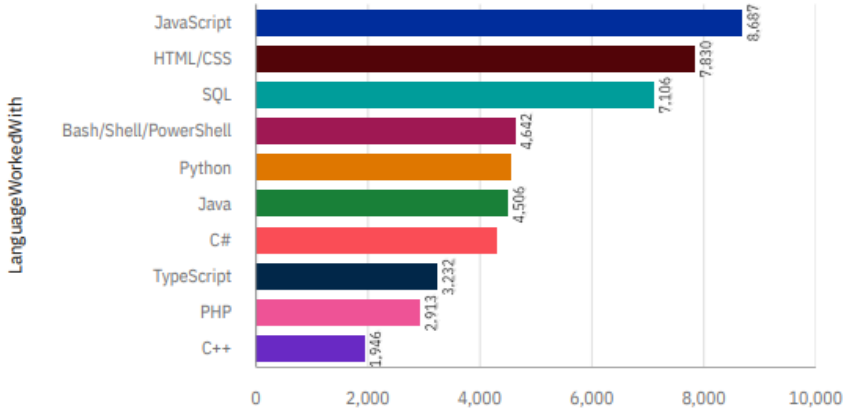
DASHBOARD

https://eu1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2Fdashboard&action=view&mode=dashboard&subView=model000001856f9e86e7_00000000

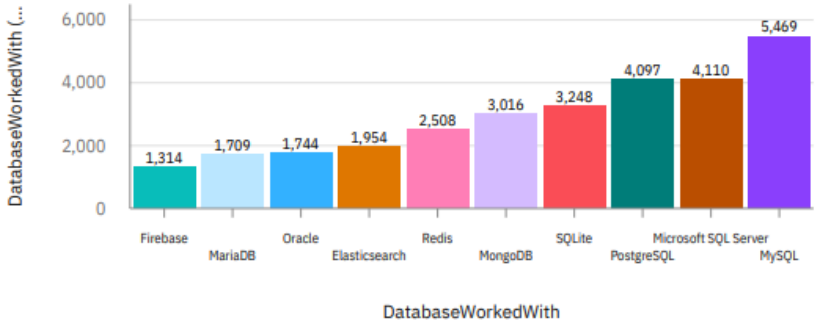
DASHBOARD TAB 1

Dashboard for Current Technology

Top 10 Languages Worked with

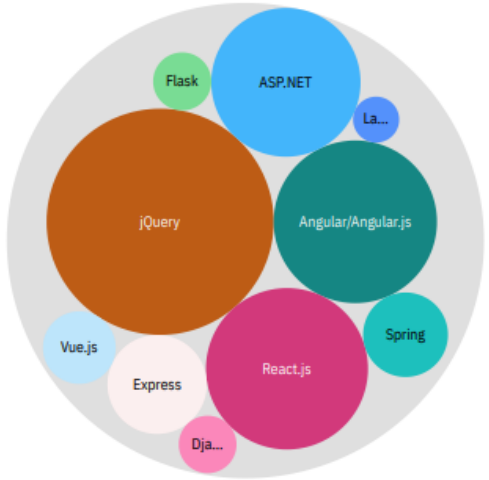


Top 10 Database Worked with



Top 10 Platform Worked With

Top 10 WebFrame Worked With



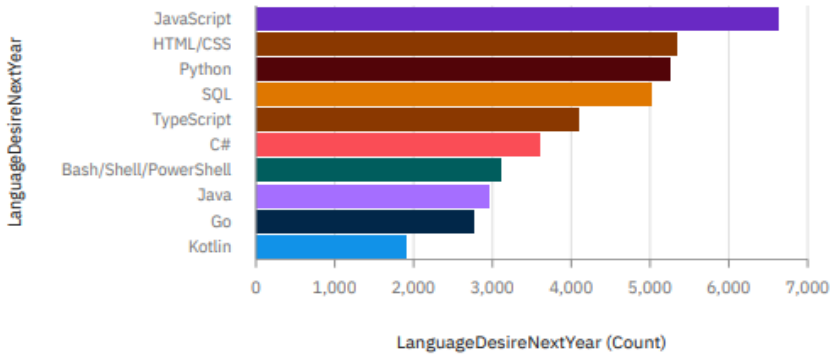
IBM Developer

SKILLS NETWORK

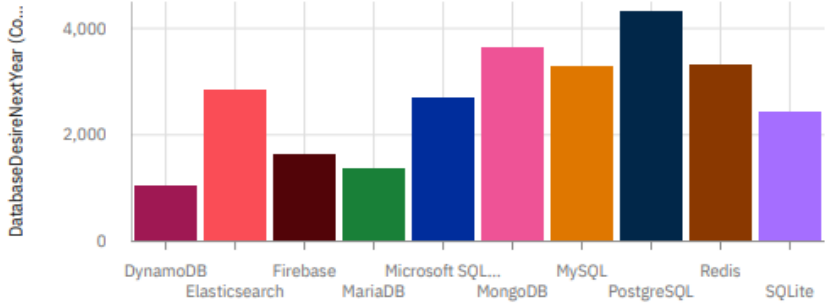
DASHBOARD TAB 2

Future Technology Trend

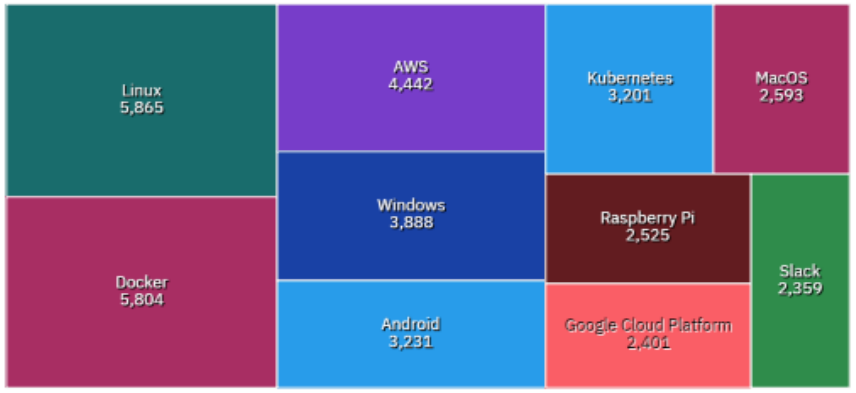
Top 10 Language Desire Next Year



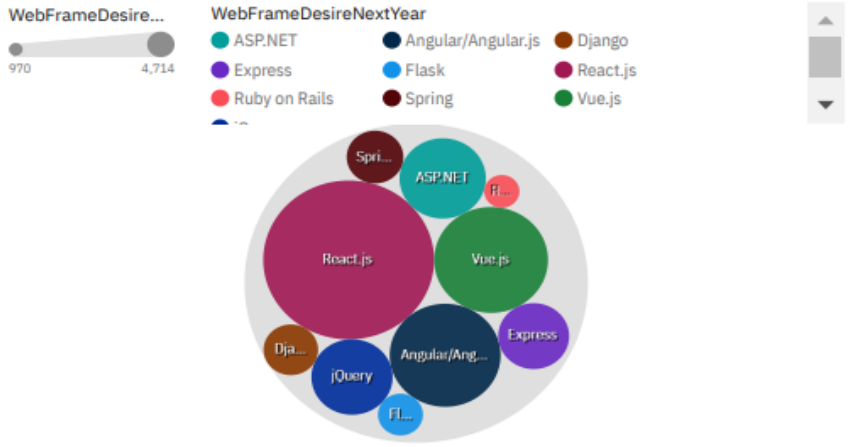
Top 10 DatabaseDesireNextYear



Top 10 Platform DesireNextYear



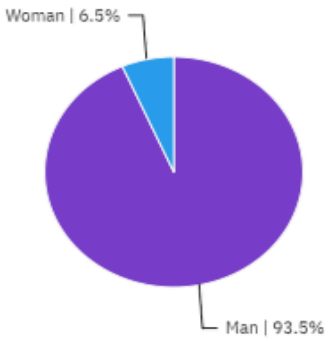
Top 10 WebFrameDesireNextYear



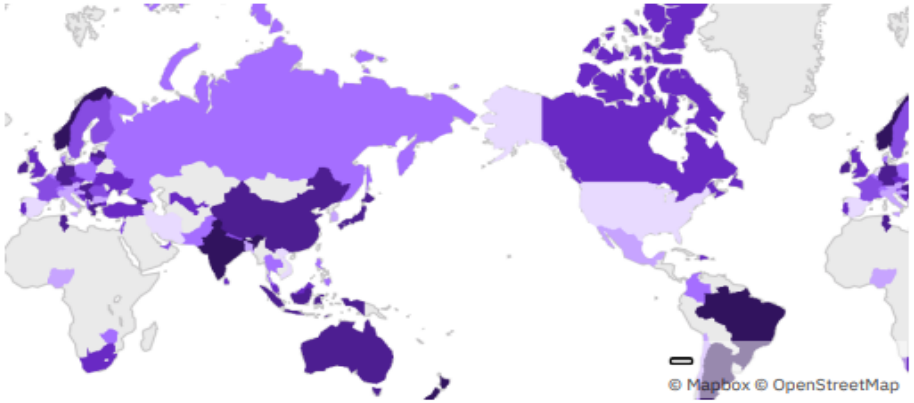
DASHBOARD TAB 3

demographics dashboard

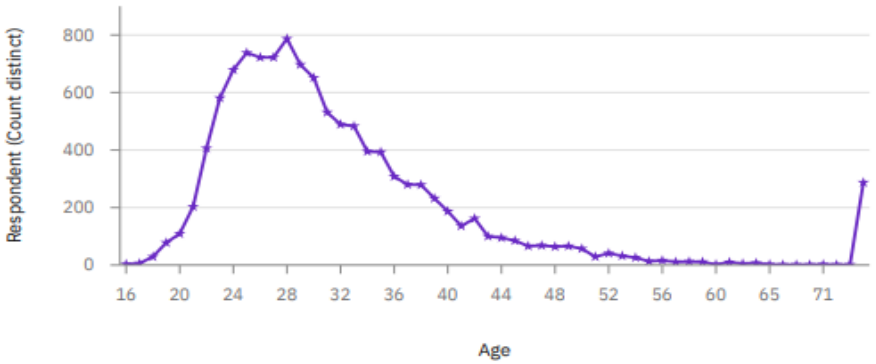
Respondent by Gender



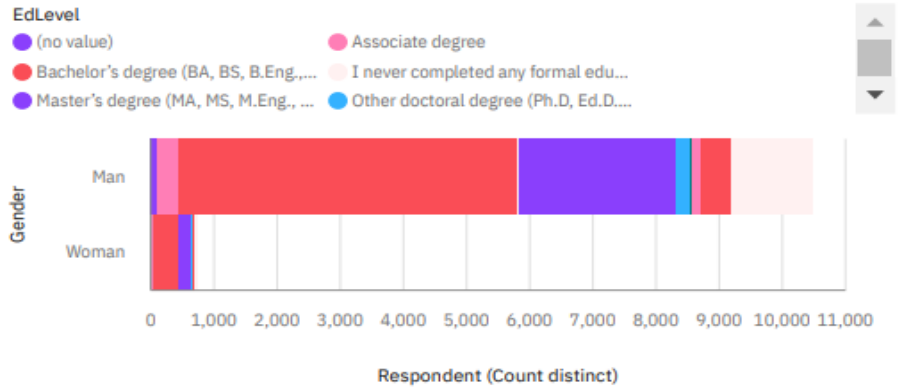
Respondent for Country regions



Respondent by Age



Respondent by Gender classified by Education Level



DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- Programming Languages: Typescript and Python are gaining significant interest
- Databases: Interest in Elasticsearch, Redis, PostgreSQL and MongoDB continues to grow
- Platforms: Interest in Slack and Windows are dropping significantly
- Webframe: Vue.js and React.js are gaining substantial growth

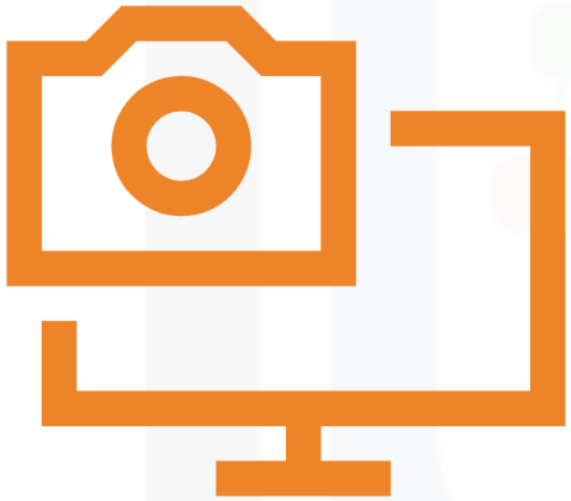
Implications

- Continue to staff people skilled with Javascript and HTML/CSS but increase employment for Python and Typescript
- Employ more people skilled in Redis, Elasticsearch, PostgreSQL and MongoDB
- Continue to staff people skilled with Linux but increase employment for Docker, AWS and Andriod while you reduce recruitment for Windows and Slack
- Continue to staff those skilled in ASP.NET but employ more people skilled with Vue.js and React.js

CONCLUSION

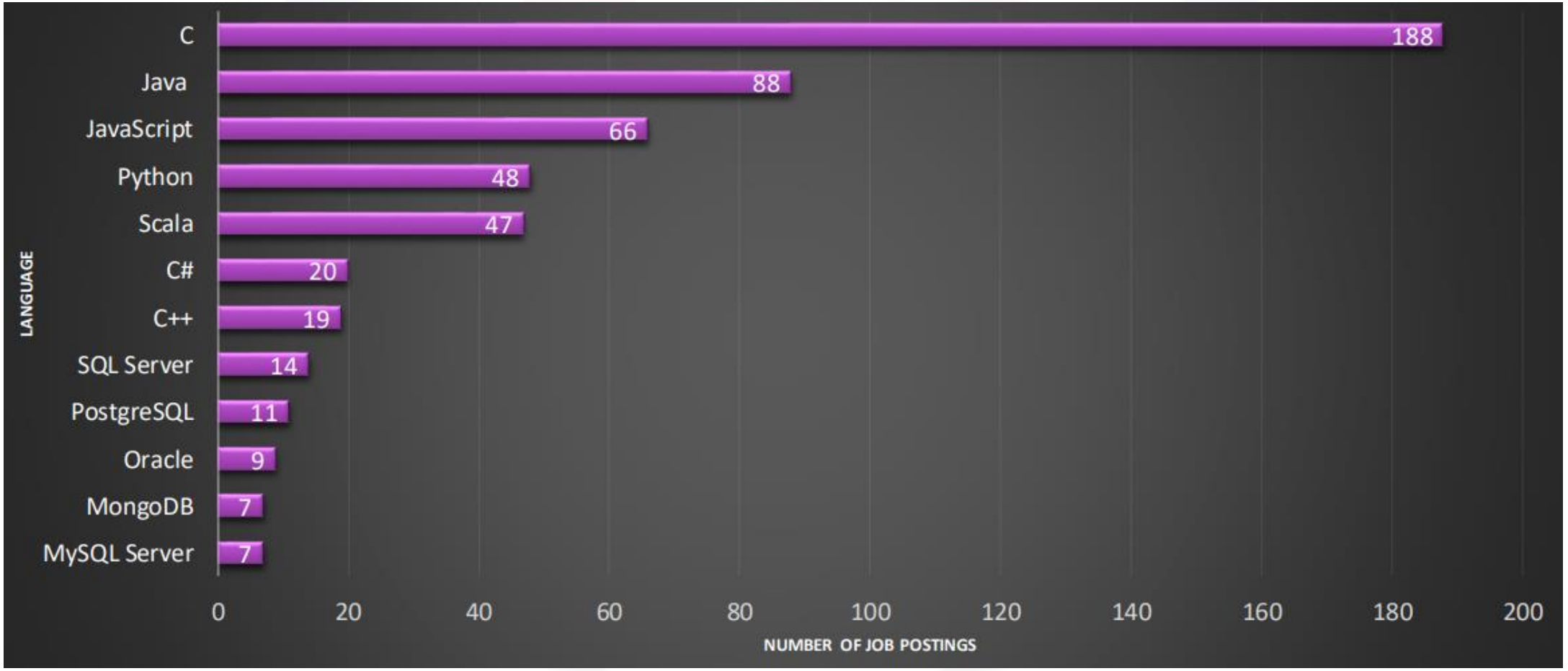
- Create budget to hire additional staff with skills needed to fill gaps
- Set aside a budget and engage workers in programs to upskill those already employed
- Make adjustments in staffs for those whose skill is no longer in demand

APPENDIX



- Webscrapping was done using BeautifulSoup tool to extract data from a website, in order to calculate for the average salaries of developers and the resulting data saved into a CSV file
- Also, data was collect through API and extracted data saved into a CSV file

JOB POSTINGS



POPULAR LANGUAGES