



# 2019 Stack Overflow Developer Survey

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August 2024

# OUTLINE

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- Executive Summary
- Introduction
- Methodology
- Results
  - Visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
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# EXECUTIVE SUMMARY

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- Survey was conducted worldwide to explore the languages, web frames, Databases, Platforms that IT professionals are interested in.
- Two types of data was analyzed:
  - People choices on various IT field components like Programming language, web frame, database etc.
  - Demographics regarding respondents like their age, educational level, salary, country, dependents, gender etc.
- Survey used inclusiveness by taking all sexuality people and from different regions.

# INTRODUCTION

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- In the first dataset, survey respondents were asked two types of questions for each category:
  - What they are currently using this year.
  - What they hope to use or adopt in the coming year.
- In the 2<sup>nd</sup> dataset, we analyzed different information like Age, Educational Level, Country, Salary, dependent, Gender for the respondents.
- We will find people's top 10 choices in each category that they are using this year and they want to use next year.
- These findings will help job seekers to know the most valued languages and platforms which could help them in getting a job.
- Also, we found average age of respondents, their salary converted to US dollars, analyzed how gender and educational level is affecting the choices

# METHODOLOGY

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## Data collection

- Data was taken from [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m2\\_survey\\_data.csv](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m2_survey_data.csv)

## Data Cleaning and Preparation:

- Steps taken to clean the data (e.g., handling missing values, normalizing data).
- Different information was visualized to see outliers and trends

## Data visualization:

- Charts were made to see the patterns and trends for following:
  - Programming Languages
  - Database
  - Web Platforms

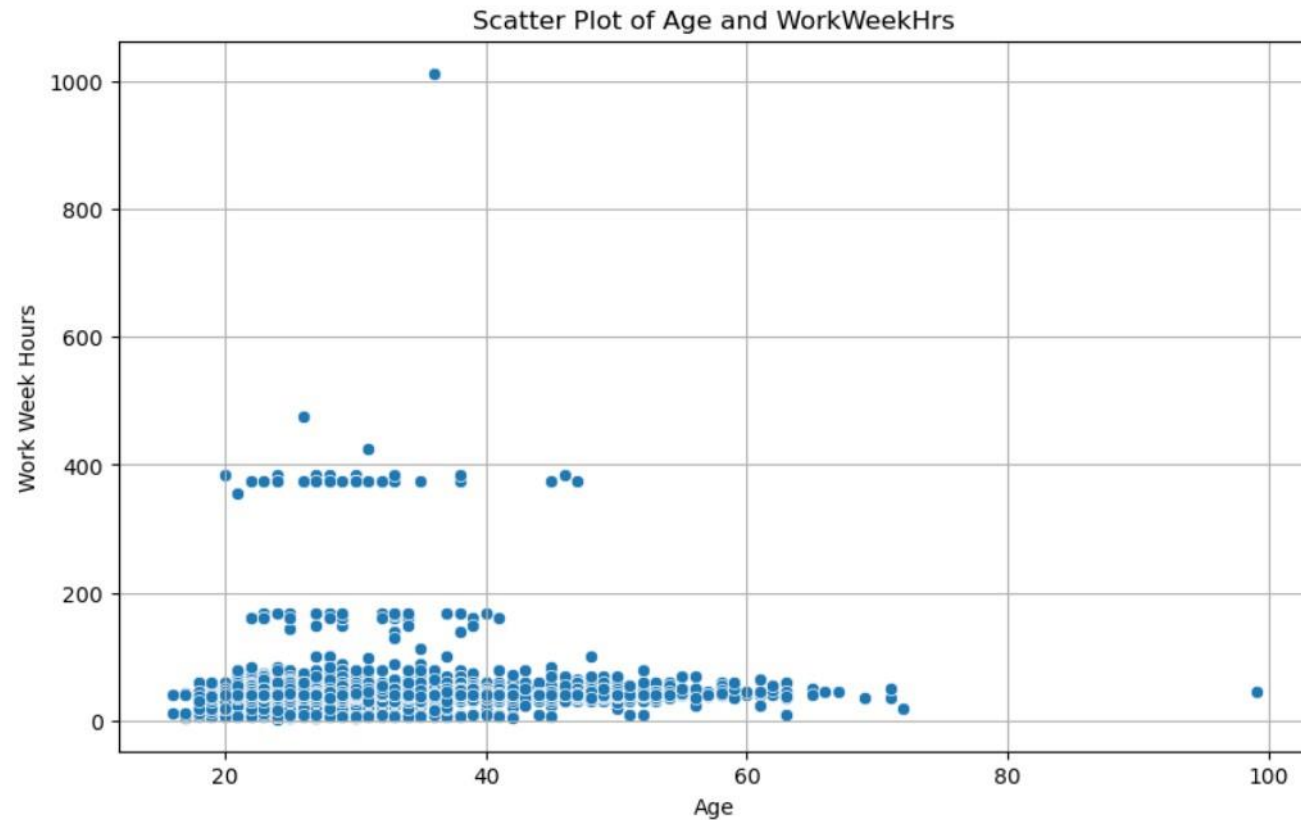
# RESULTS

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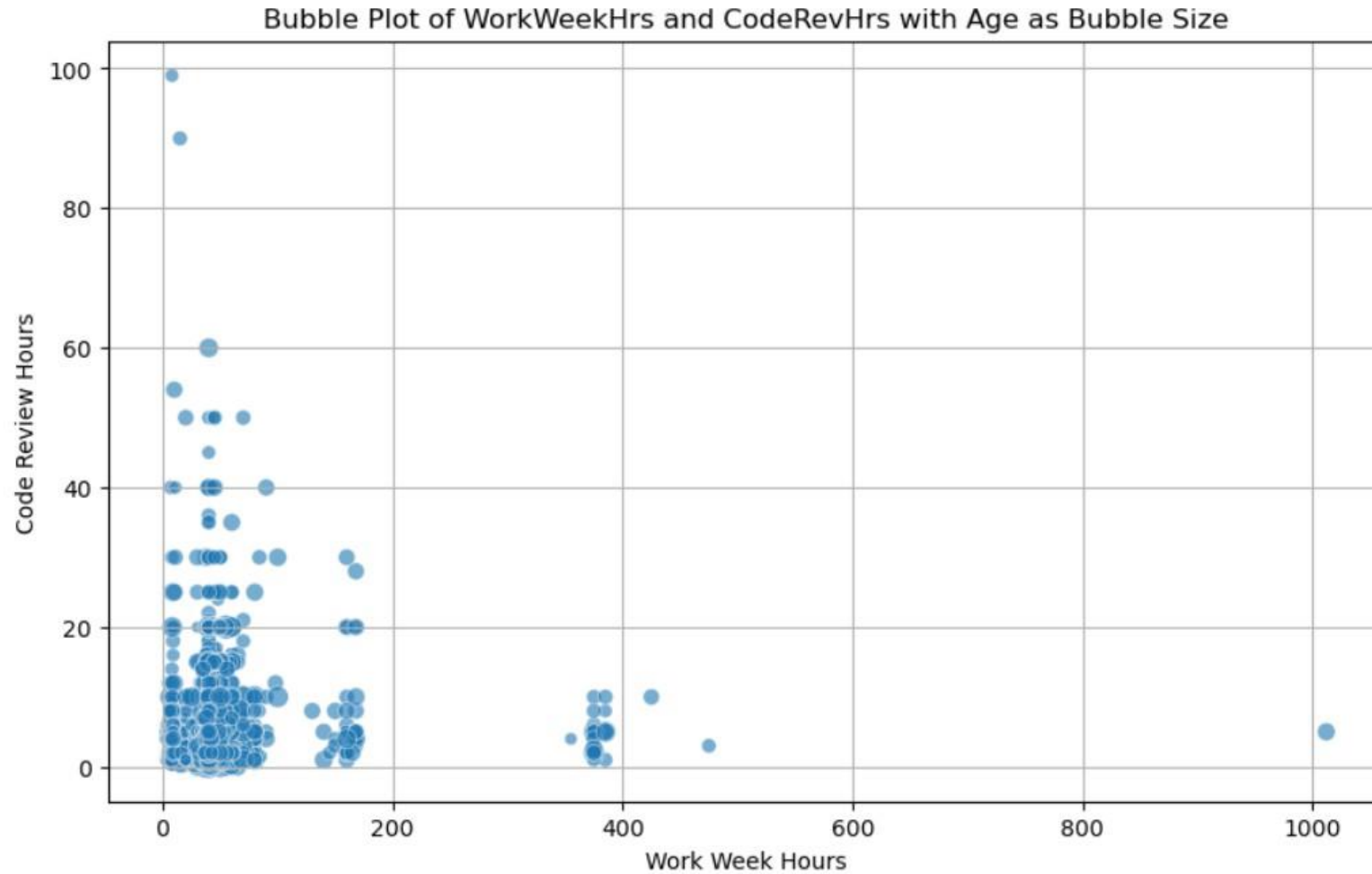
- Python, the fastest-growing major programming language, has risen in the ranks of programming languages in our survey yet again.
- Over half of respondents had written their first line of code by the time they were sixteen, although this experience varies by country and by gender.
- Most of the respondents are of 28 years of age.
- Average salary for respondents is \$34567.34.
- Java Script is the most popular choice of programming language this year and next year
- For database MySQL is the top choice for current year and PostgreSQL for the next year

# RESULTS :

No correlation between age and Work week hours



# RESULTS





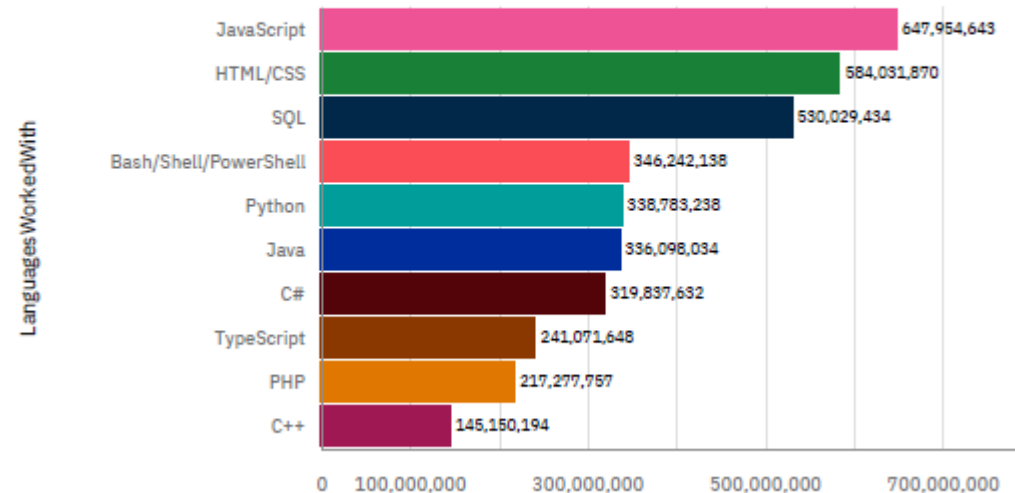
# PROGRAMMING LANGUAGE TRENDS

Current Year

Next Year

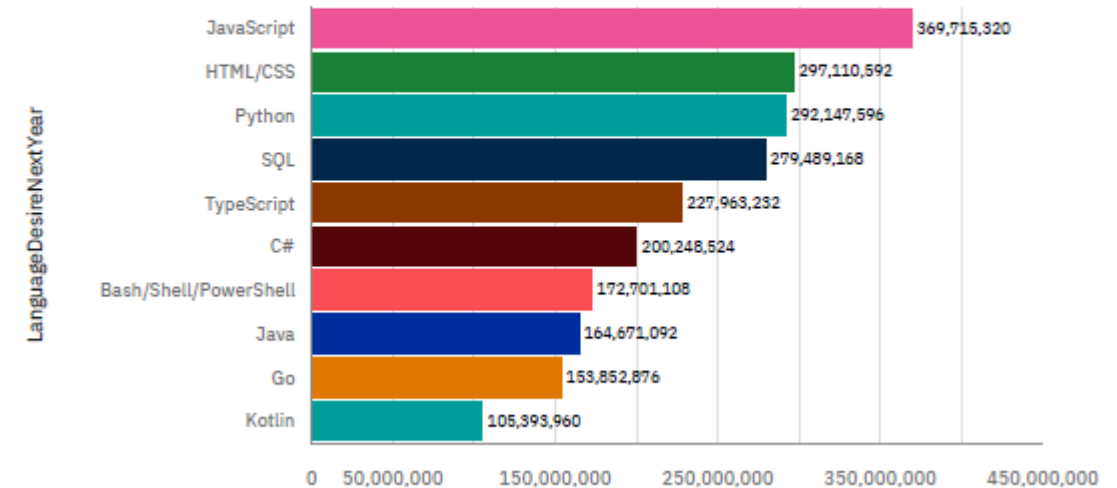
Current Technology Usage

Top 10 LanguageWorkedWith



Future Technology Trend

Top 10 LanguageDesireNextYear



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- Java Script is the most popular programming language for the current year followed by HTML/CSS
- JavaScript, HTML/CSS, Python and SQL are top programming language to learn.
- Python seems to be emerging programming language whose rank changes from 6<sup>th</sup> to 3<sup>rd</sup> in next year.

## Implications

- Job seekers should learn JavaScript to get more job opportunities.
- To be competitive in market, people should also focus on Python.
- Other languages like HTML,SQL will make them outstand in job applications.

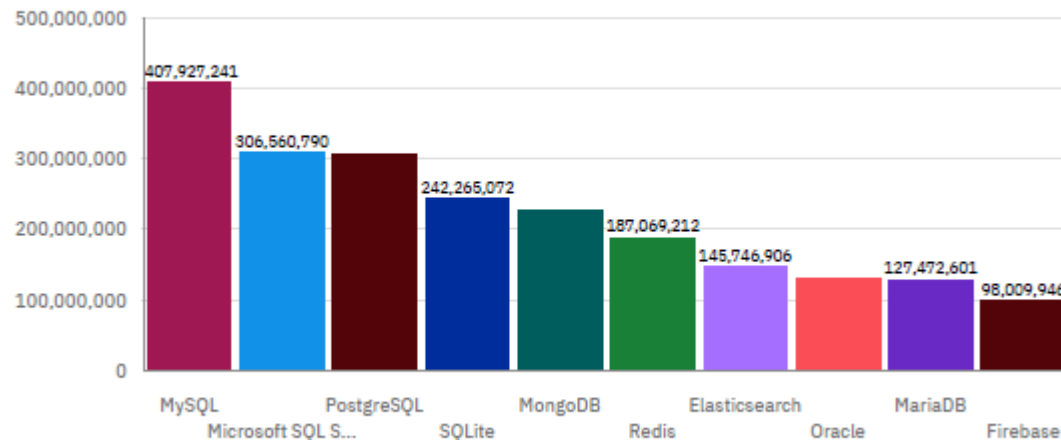
# DATABASE TRENDS

Current Year

Next Year

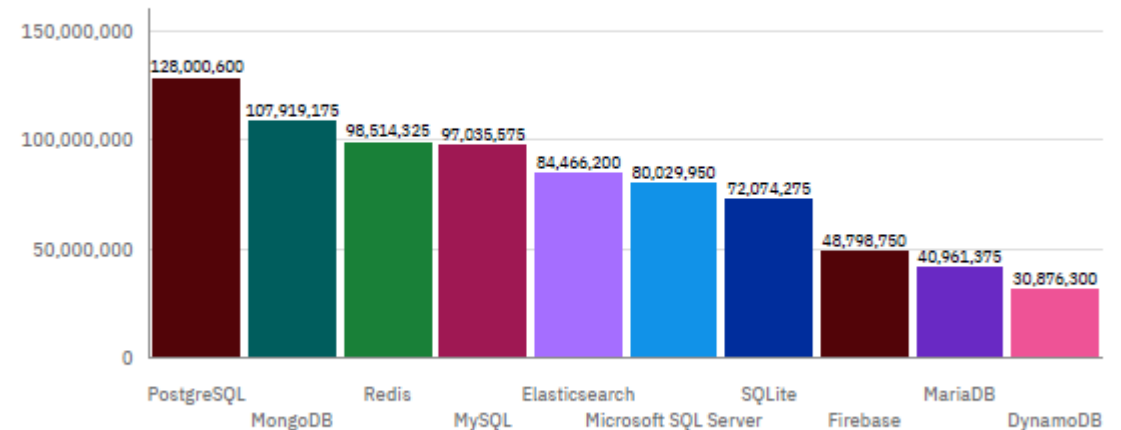
Top 10 DatabaseWorkedWith

2



DatabaseWorkedWith

Top 10 DatabaseDesireNextYear



DatabaseDesireNextYear

# DATABASE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- MySQL is the most popular database for the current year followed by Microsoft SQL Server.
- Next, year trend is changing and PostgreSQL becomes the most desired database.
- MangoDB seems to be emerging database whose rank changes from 5<sup>th</sup> to 2<sup>nd</sup> in next year.

## Implications

- Job seekers should learn PostgreSQL to get more job opportunities this year.
- To be competitive in market, people should also focus on MangoDB.
- Other databases like SQLite and Redis will make them outstand in job applications.

# DASHBOARD

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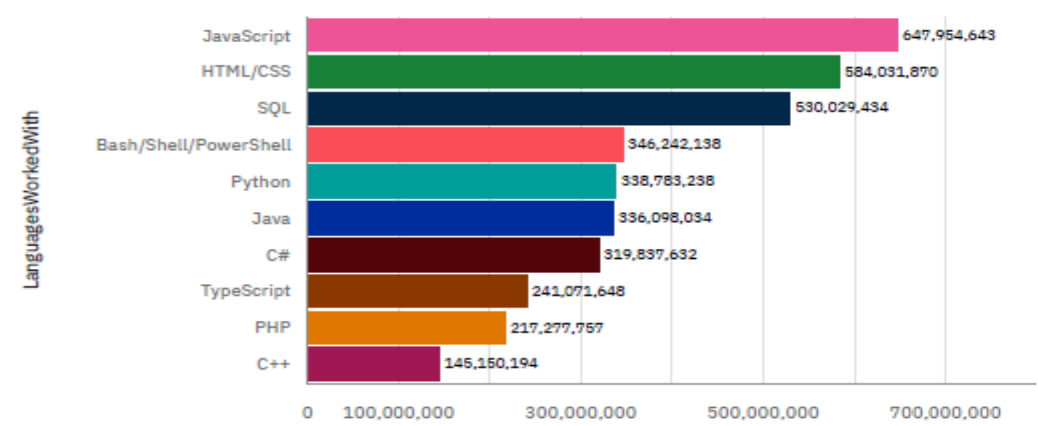


<https://github.com/Akash-Rajpoot/IBM-data-analysis-project-by-using-IBM-Cognos.git>

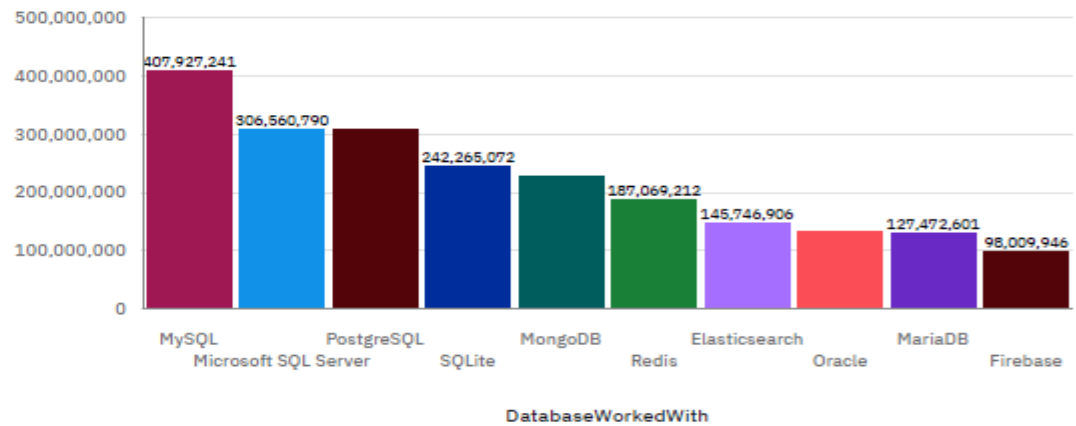
# DASHBOARD TAB 1

## Current Technology Usage

Top 10 LanguageWorkedWith



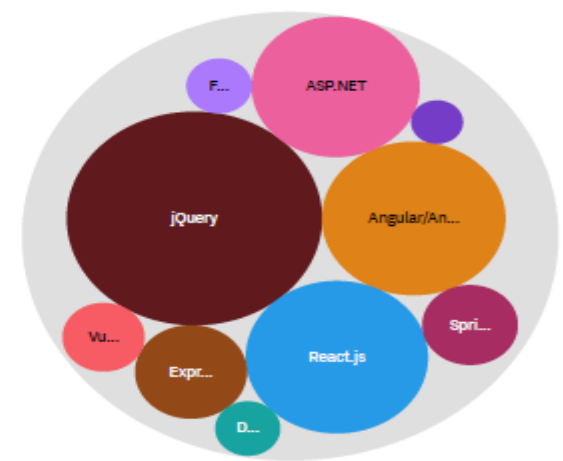
Top 10 DatabaseWorkedWith



Platforms Worked With



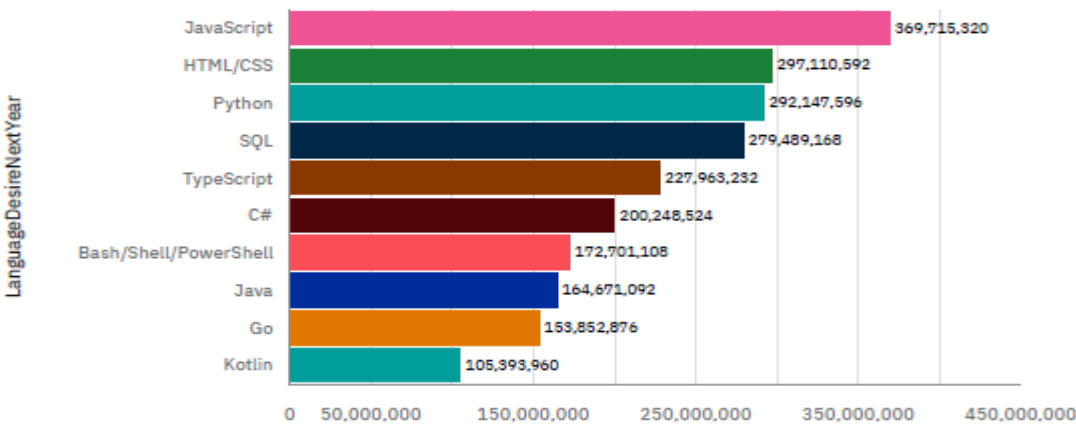
Top 10 WebFrameWorkedWith



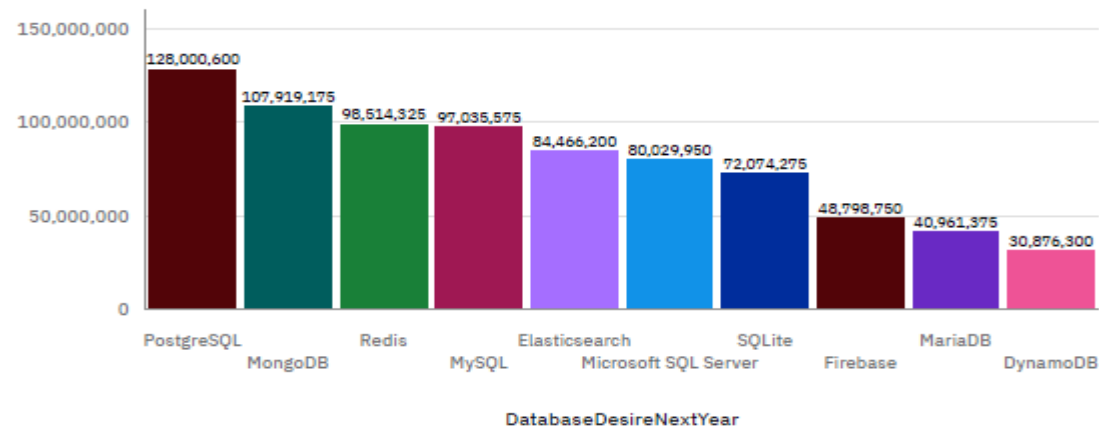
# DASHBOARD TAB 2

## Future Technology Trend

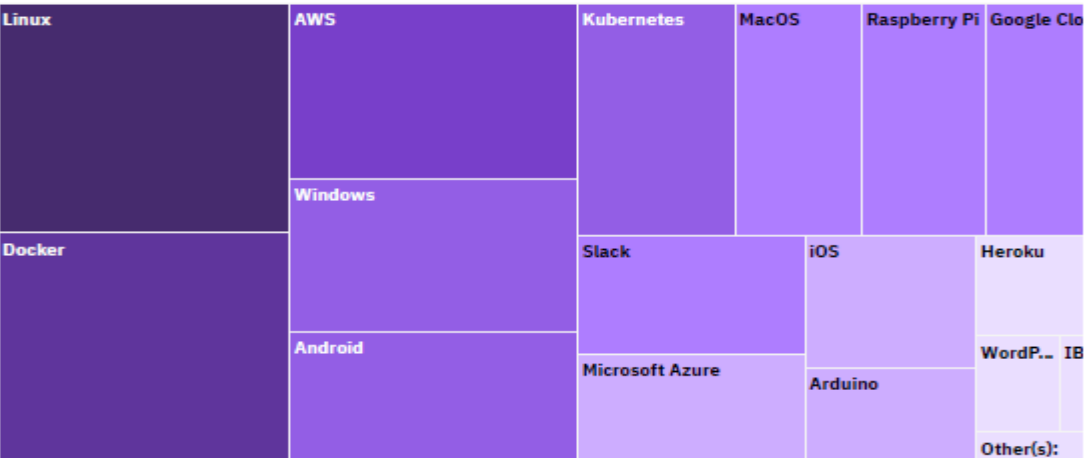
Top 10 LanguageDesireNextYear



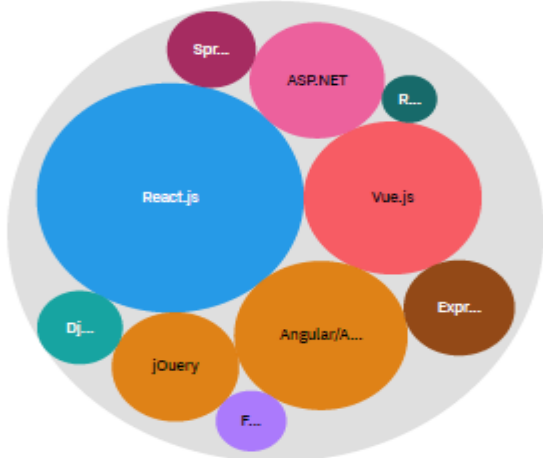
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



Top 10 WebFrameDesireNextYear

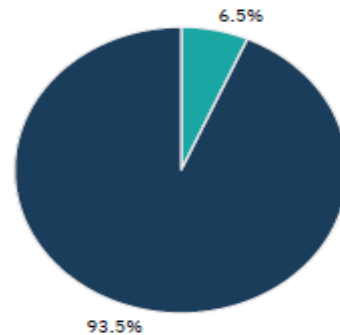


# DASHBOARD TAB 3

## Demographics

Respondent classified by Gender

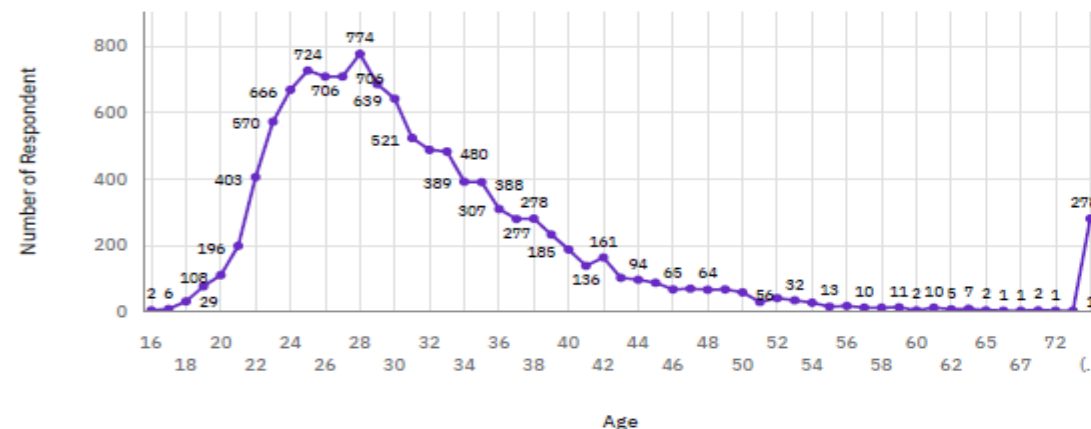
Gender  
● Woman ● Man



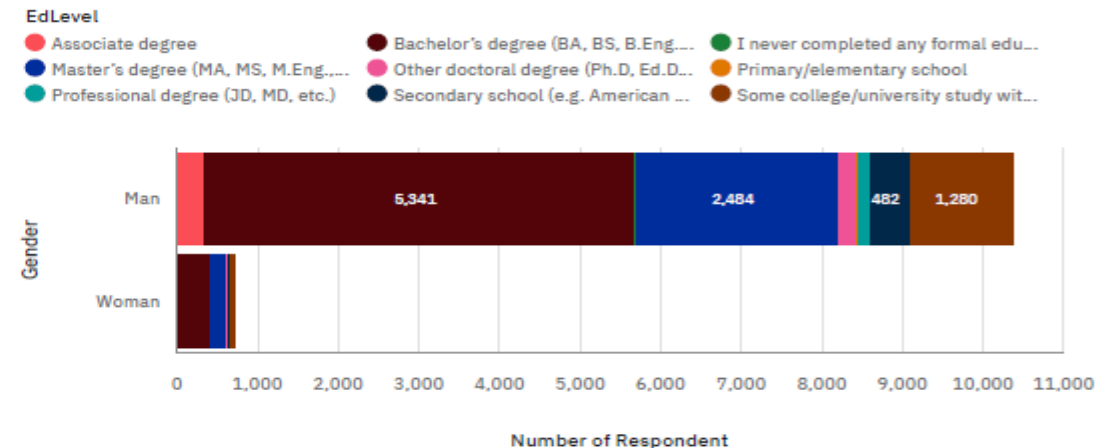
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender and Formal Education Level





# DISCUSSION

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Should job seeker depend on just the top choice of programming language and database?

Is learning just 1 tool and language sufficient to survive in this competitive environment?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- 94% respondents were male and majority of them are from North America.
- Average age of respondents is 24-30.
- JavaScript and PostgreSQL are the desired skills required for next year

## Implications

- Majority of the people working in IT industry are males.
- Most of the workers are young age concluding the increase trend in these skills over the years.
- To get into this industry for next year, people should focus on JavaScript and PostgreSQL.

# CONCLUSION

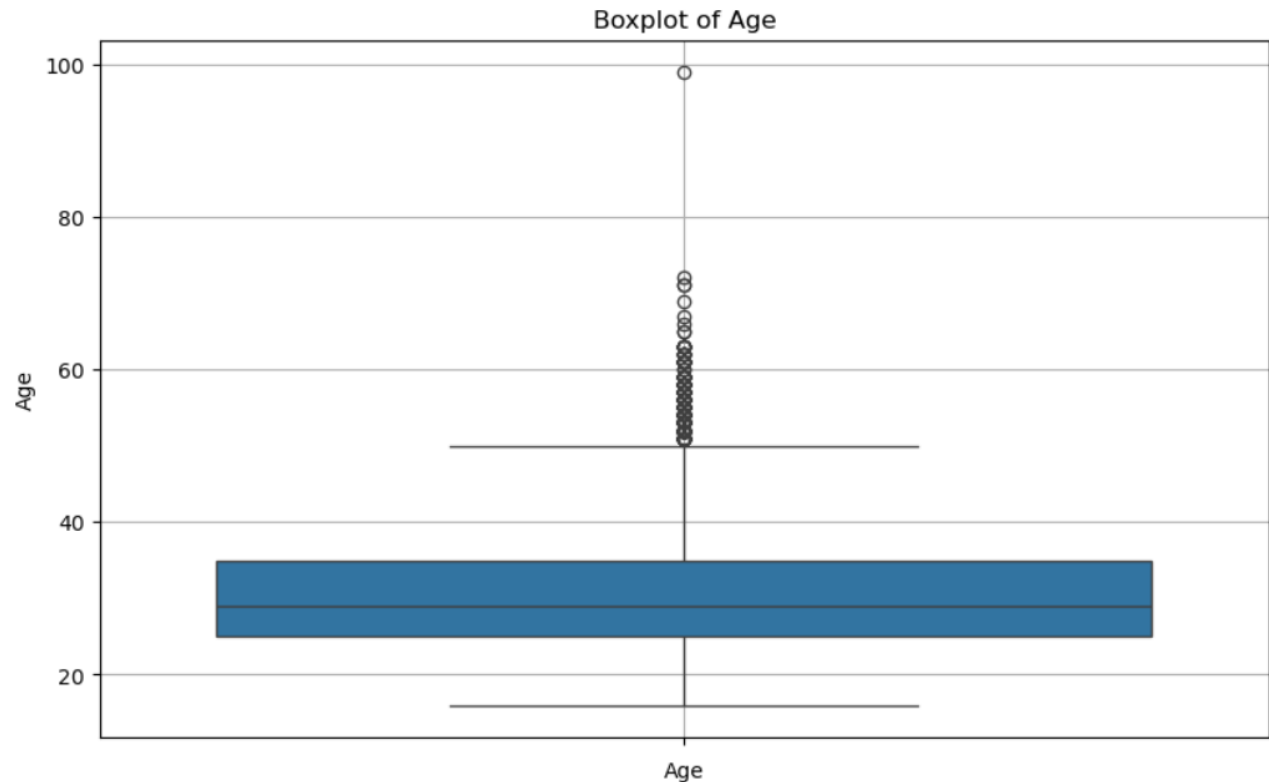
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- To get into this industry for next year, people should focus on JavaScript and PostgreSQL.
- Linux is the most desired platform.
- jQuery is the most desired Web frame in the current year followed by React.js in next year.

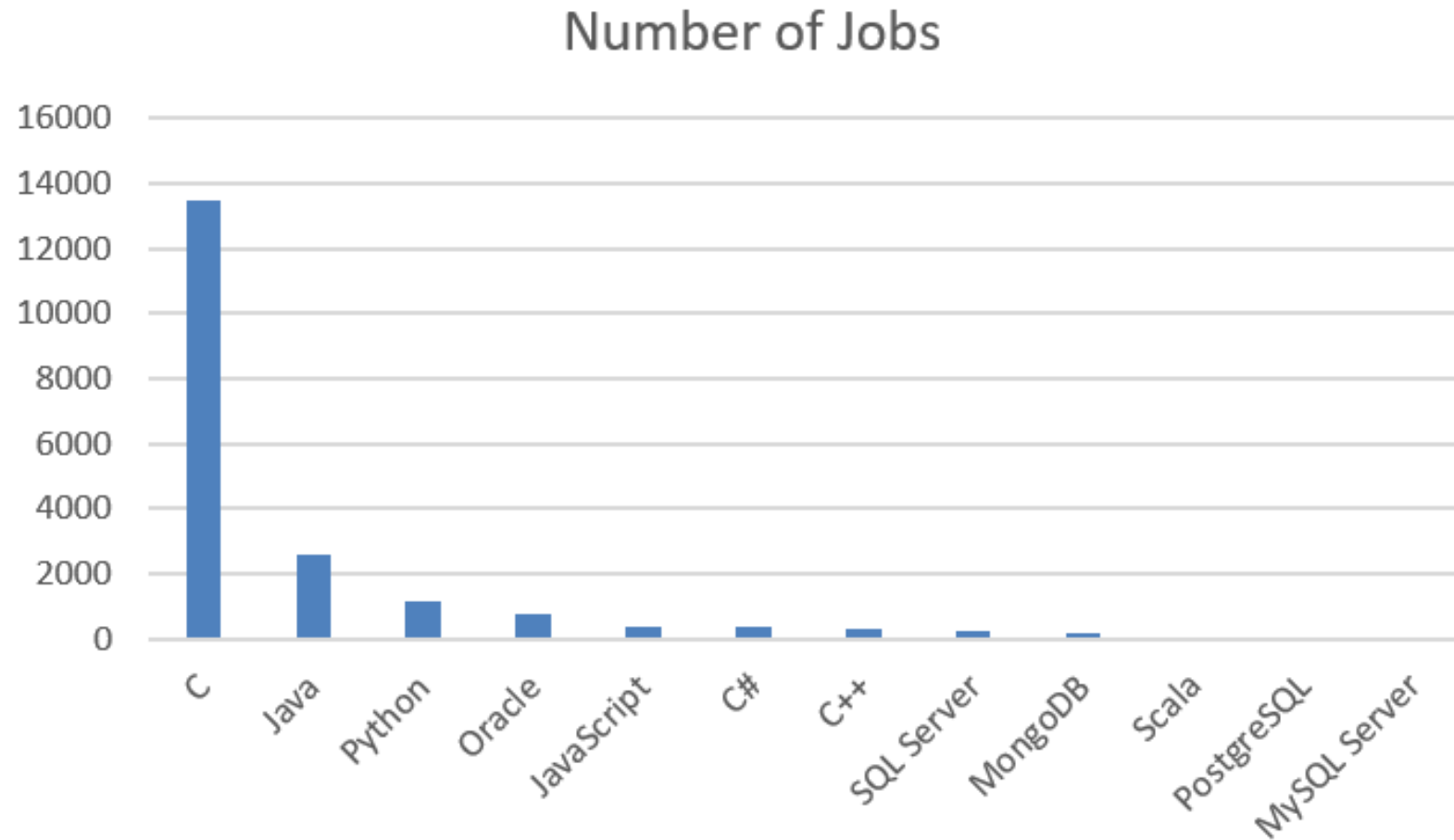
# APPENDIX

- There were many outliers in the age, So we removed these before starting analyzing part.

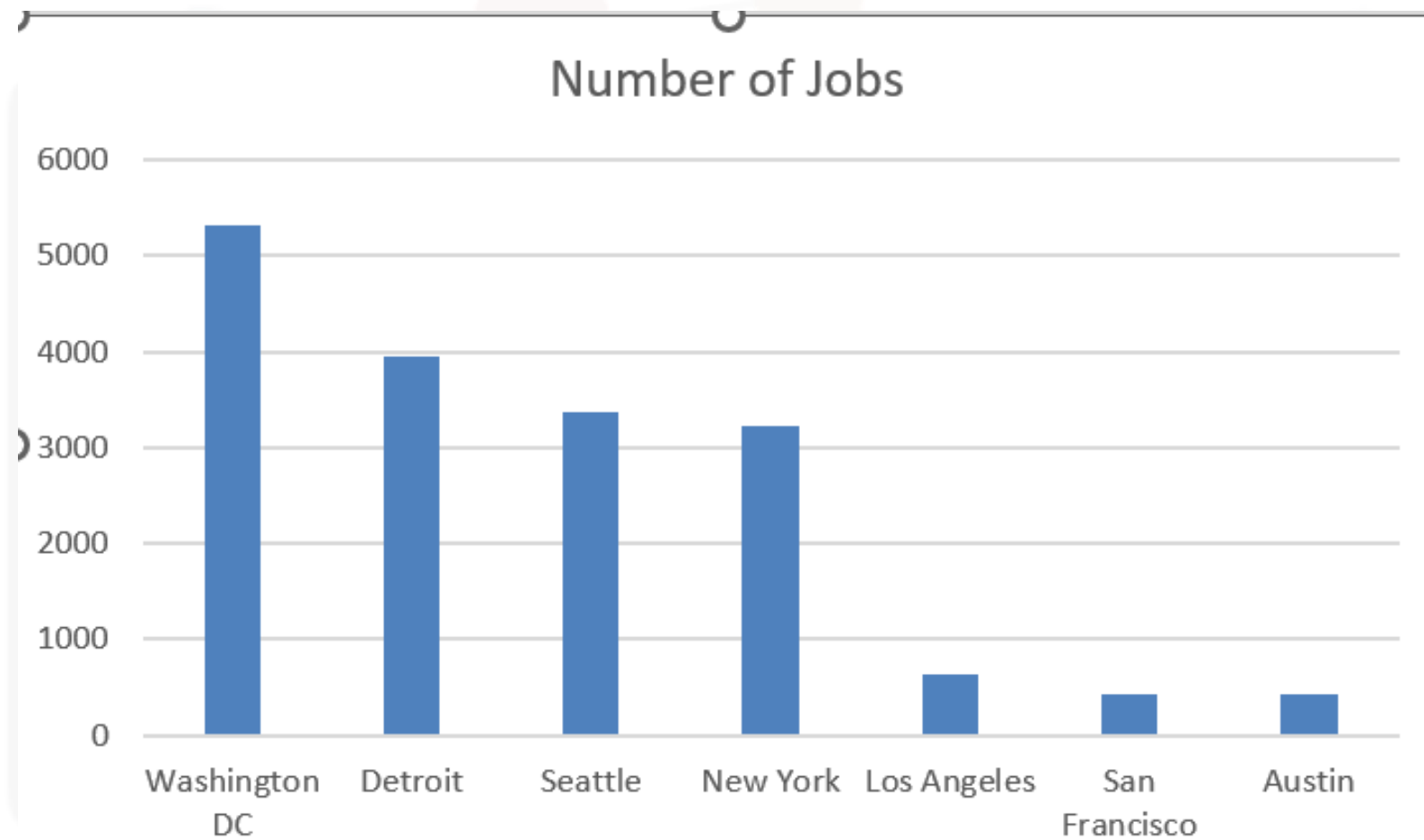


# JOB POSTINGS

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# JOB POSTINGS



# POPULAR LANGUAGES BY SALARY

