



# Stack Overflow Online Survey Analysis

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# EXECUTIVE SUMMARY

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The following process was taken to analyze the data



- Collecting and exploring the data
- Cleaning the data
  - Removing Duplicates
  - Dealing with missing values
  - Normalizing the data
- Analyzing the data
- Visualizing the data
- Building the dashboard

# INTRODUCTION

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- Stack Overflow, a popular website for developers, conducted an online survey of software professionals across the world
- In this report we'll discover this data and ask questions that will be answered through the analysis of the data
- The questions to be asked:
  - What is the Gender, Age, Country, and education level of the respondents?
  - What database and programming language do the respondents mostly use?
  - What is the most desired database and programming language among the respondents
- Finally we'll discuss the:
  - Findings
  - Implications

# METHODOLOGY

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- Data Collecting
  - The data was extracted from the Stack Overflow website and was read in Python using Jupyter Notebook
- Data Cleaning
  - You may refer to the full cleaning in JN [here](#)
- Data analysis
  - Exploratory Analysis in JN [here](#)
- Data Visualization and Dashboard
  - Visualization from an SQL Server in JN [here](#)
  - The Full Dashboard Created by Microsoft Power Bi [here](#)

# RESULTS

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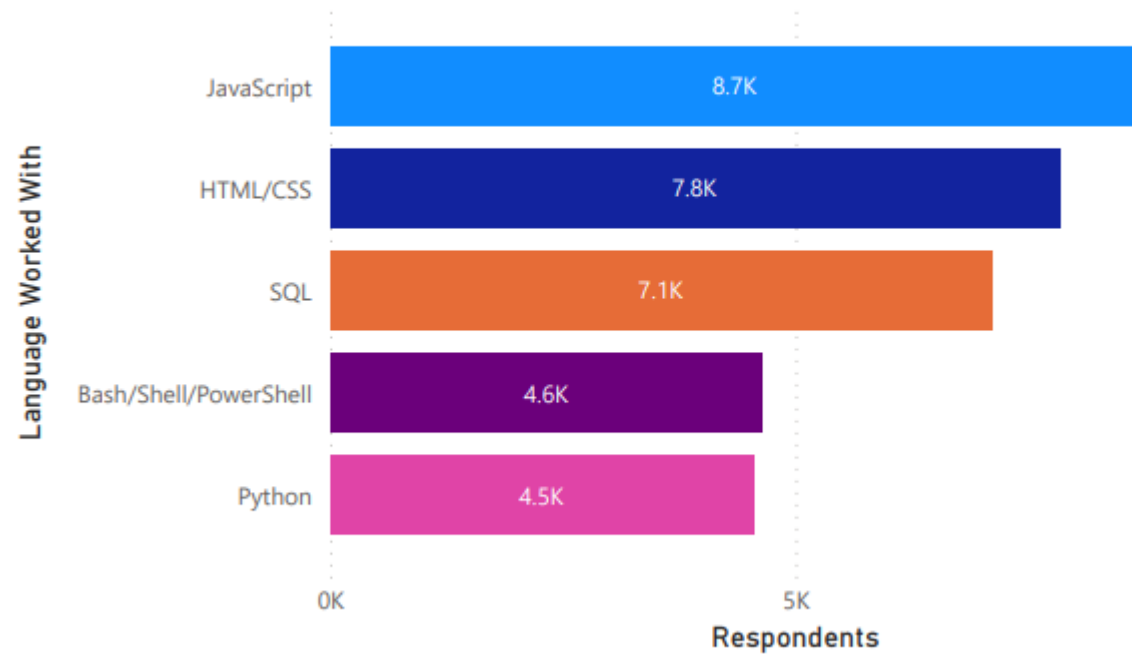


# PROGRAMMING LANGUAGE TRENDS

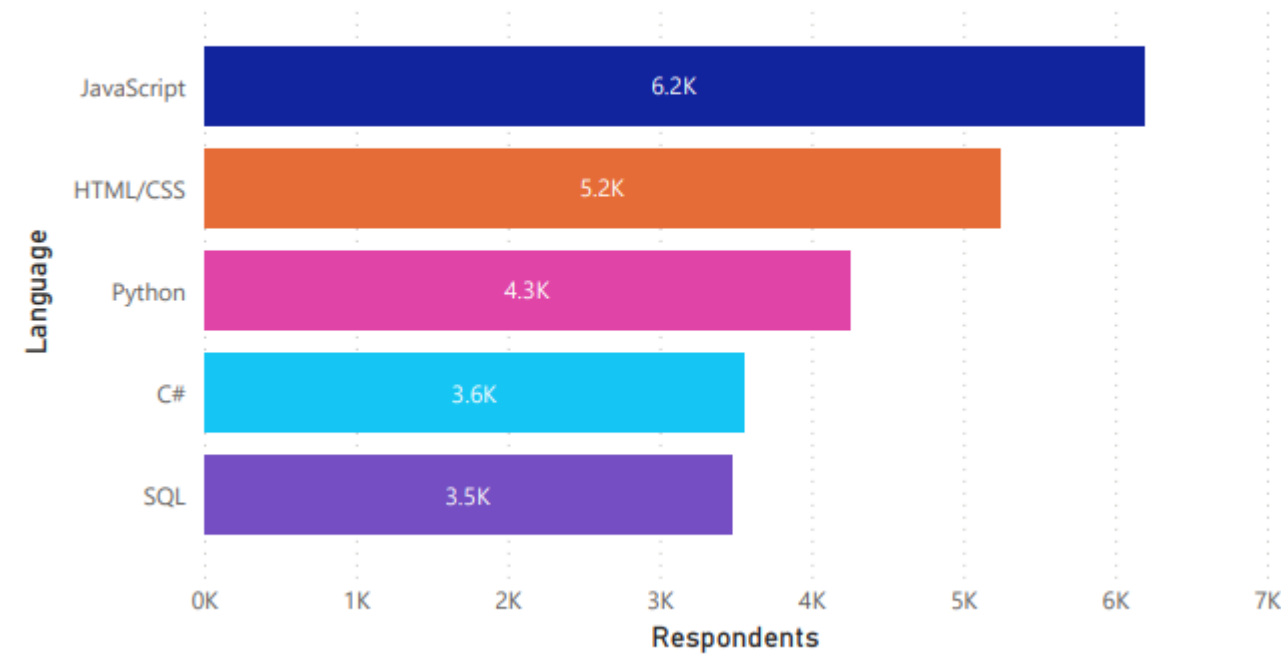
Current Year

Next Year

Top 5 Languages Worked With



Top 5 Languages Desired Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript is the most commonly used programming language, thus having experience in it is advantageous
- Although few respondents have little experience with Python, most of them chose it as their preferred language to learn
- Many people know the Bash language but very few chose it as their desired language to learn

## Implications

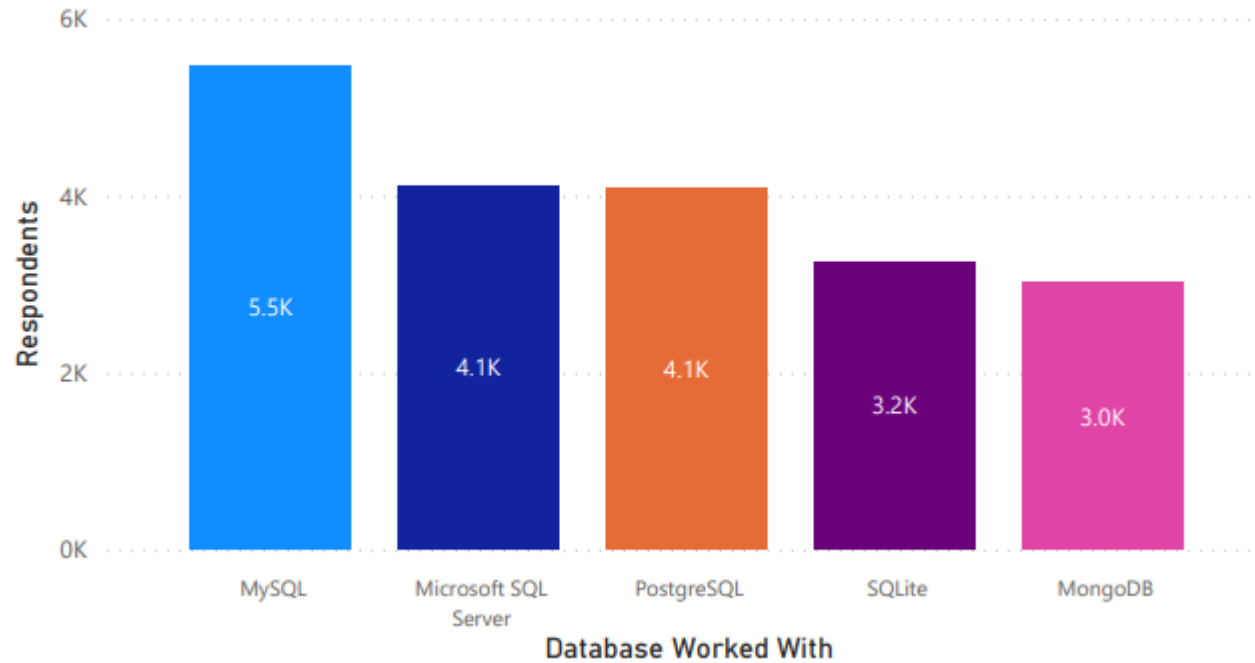
- Not so many are interested in the Bash language so we might see a decline in Linux users
- Many developers are migrating from JavaScript to Python



# DATABASE TRENDS

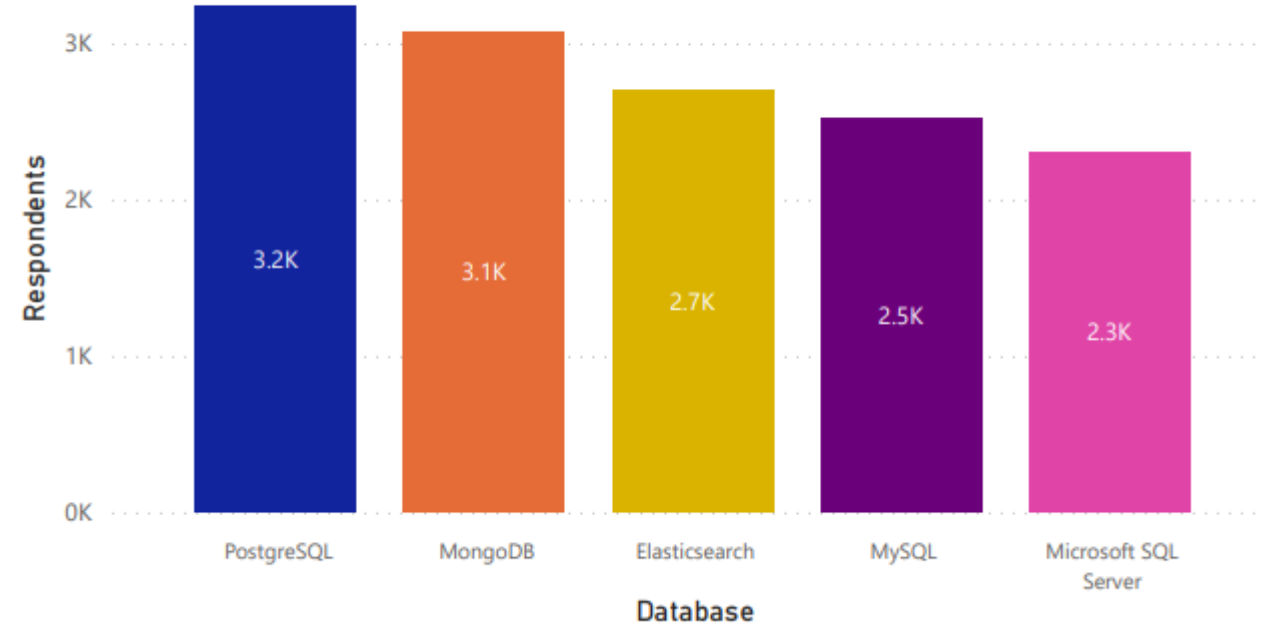
## Current Year

Top 5 Databases Worked With



## Next Year

Top 5 Databases Desired Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Most companies use MySQL Servers but many respondents prefer not to work with it
- PostgreSQL is the most preferred database to learn
- A lot of people are willing to learn MongoDB but few work with it

## Implications

- Institutes would face a shortage of MySQL developers since not so many are willing to learn it
- Microsoft SQL Server is going to lose popularity because not so many are willing to learn it

# DASHBOARD

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## Stack Overflow Survey Dashboard

# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Python and JavaScript are going to dominate the market
- PostgreSQL is keeping up with the pace as it's the most desired and most used database
- Most respondents are male ranging from 20-40 years of age

## Implications

- Microsoft SQL Server might leave the market very soon
- The Bash language isn't desirable
- Linux and Windows are dominating the OS market

# CONCLUSION

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- Learning Python and JavaScript is a winning investment
- PostgreSQL has proven to be efficient and desirable
- Linux and Windows are the most favorable OS for developers
- MongoDB is gaining high influence

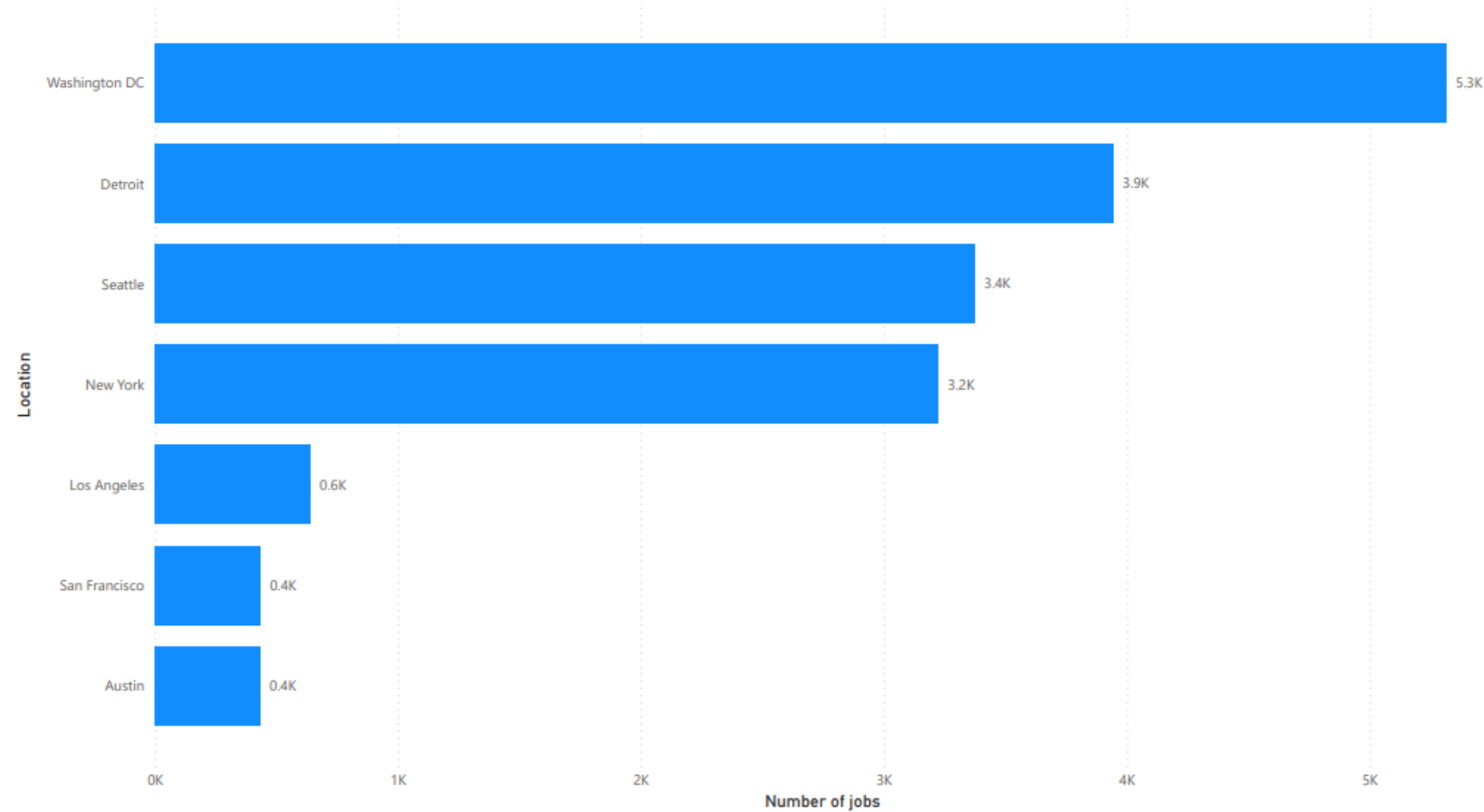
# APPENDIX AND REFERENCES

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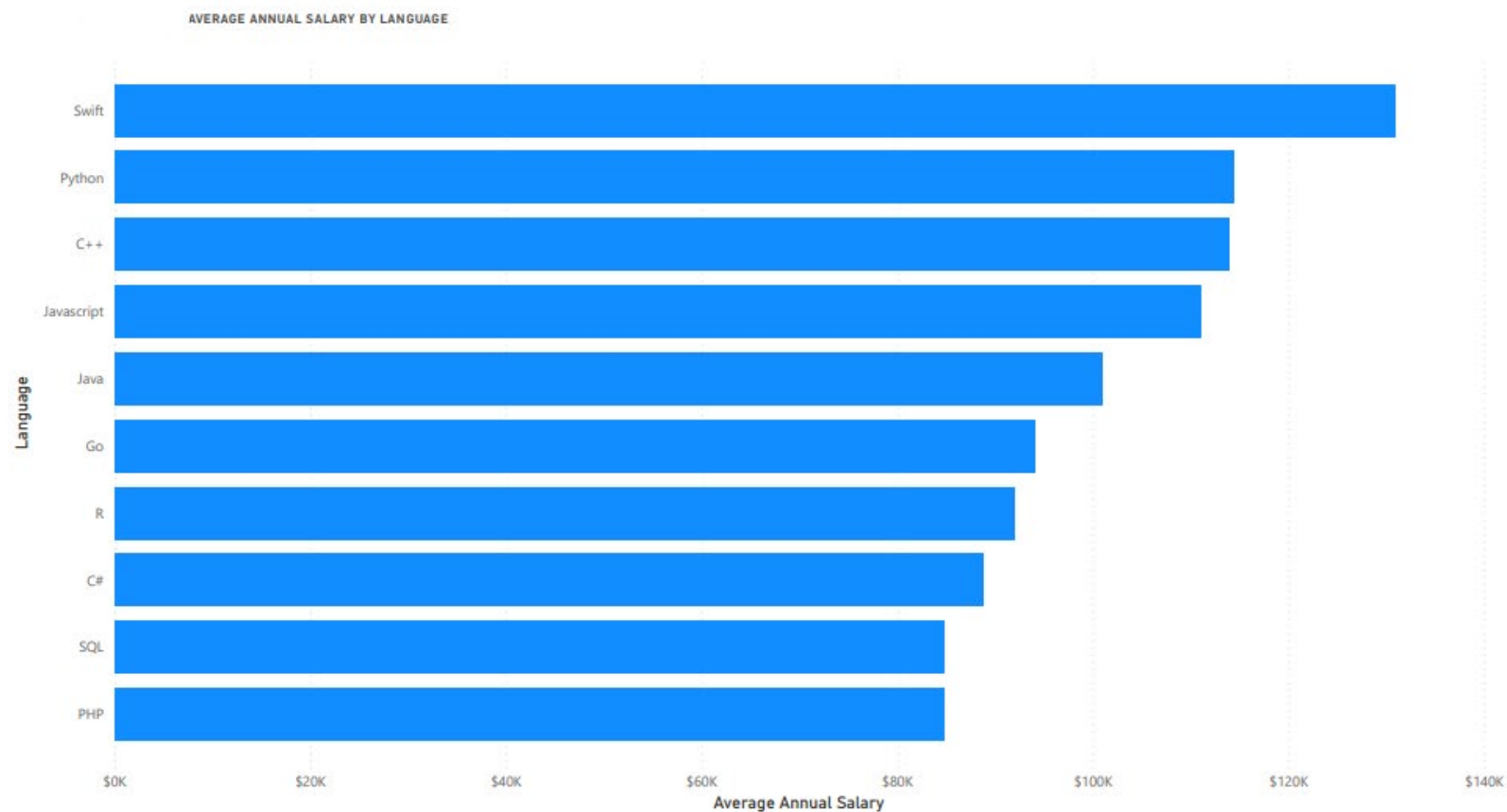
# JOB POSTINGS

Number of Jobs by Location





# POPULAR LANGUAGES



# REFERENCES

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- Data Sources:
  - [Stack Overflow Survey](#)
  - [Popular Languages](#)
- Full Documentation in [GitHub](#)