



# Stack Overflow Developer SURVEY

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# OUTLINE

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

# EXECUTIVE SUMMARY

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- Data contextualization
- Methodology
  - Data Gathering
  - Data Analysis
  - Data Visualization
- Results Presentation
- Discussion
- Final Conclusions

# INTRODUCTION

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- Stack Overflow's annual Developer Survey is a very large survey that gives us info about people that code world wide.
- Results are not evenly distributed throughout all the coding community
- Characterizes developers and their experiences around the globe

# METHODOLOGY

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- Collect Survey Data
  - Web Scraping
  - APIs
- Data Wrangling
- Exploratory Data Analysis
  - Analyzing data distribution
  - Handling Outliers
  - Correlations
- Data Visualization
  - Highlight distribution and relationships between data
- Dashboards

# RESULTS

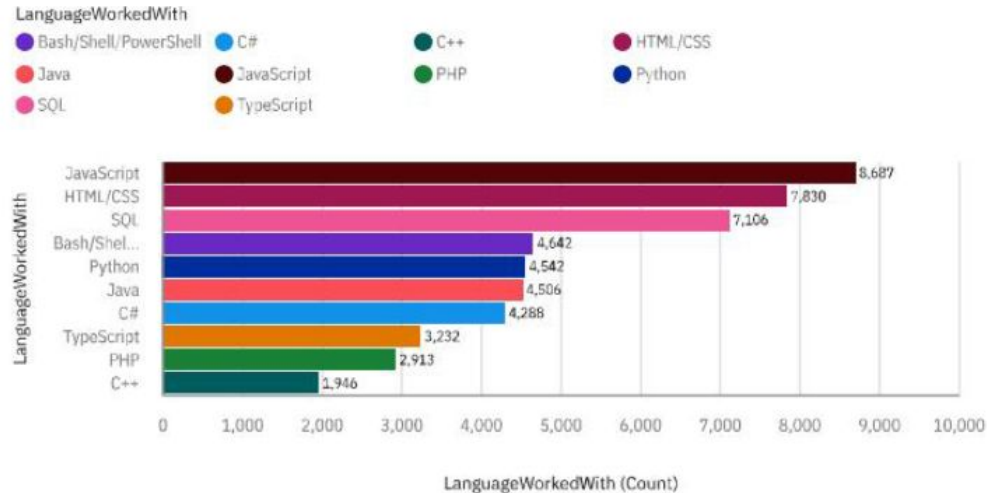
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# PROGRAMMING LANGUAGE TRENDS

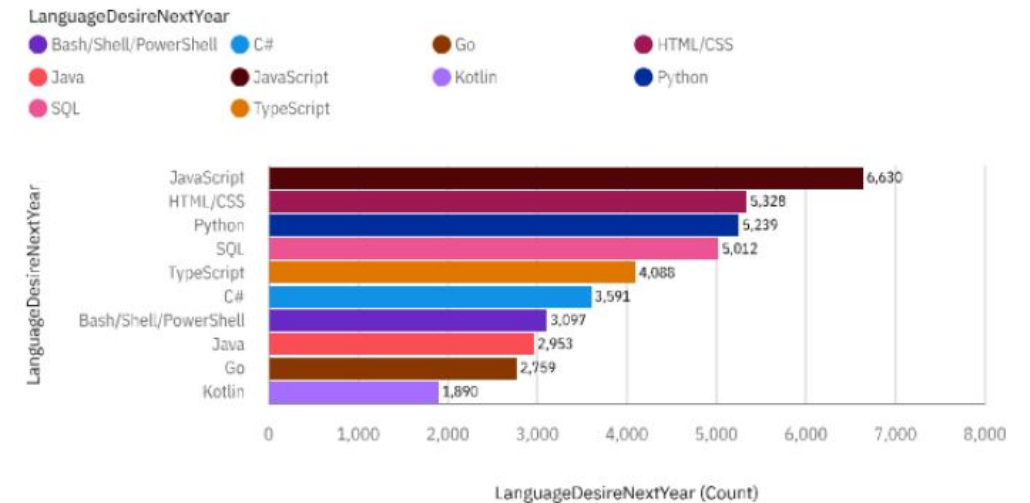
## Current

Top 10 Language Worked With



## Future

Top 10 Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript looks like the current and future 'King', but with a decrease of users
- TypeScript and Python are getting more interest
- PHP is losing a lot of interest

## Implications

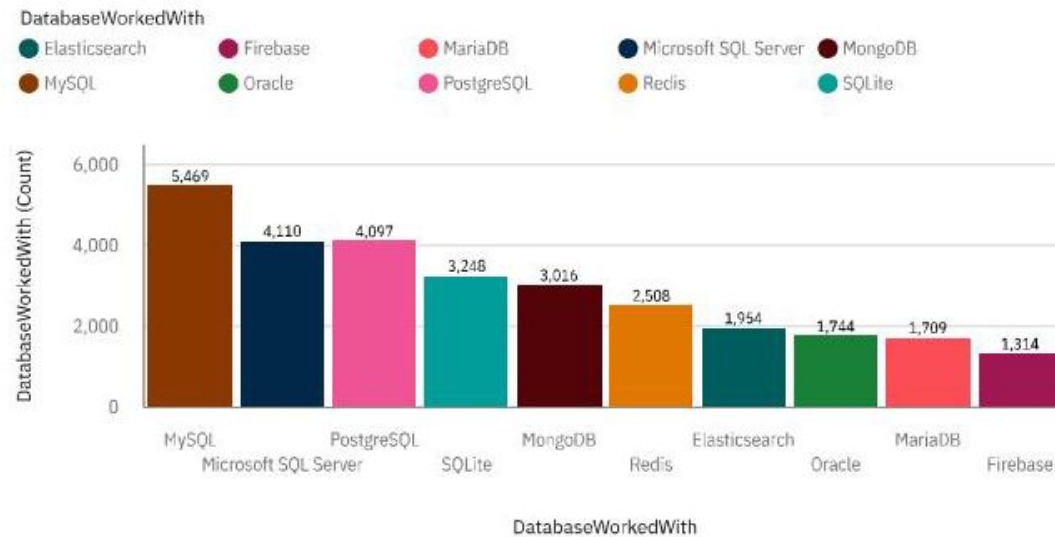
- Possibly, JavaScript developers are switching to TypeScript
- Python looks like it is stealing many developers from different languages



# DATABASE TRENDS

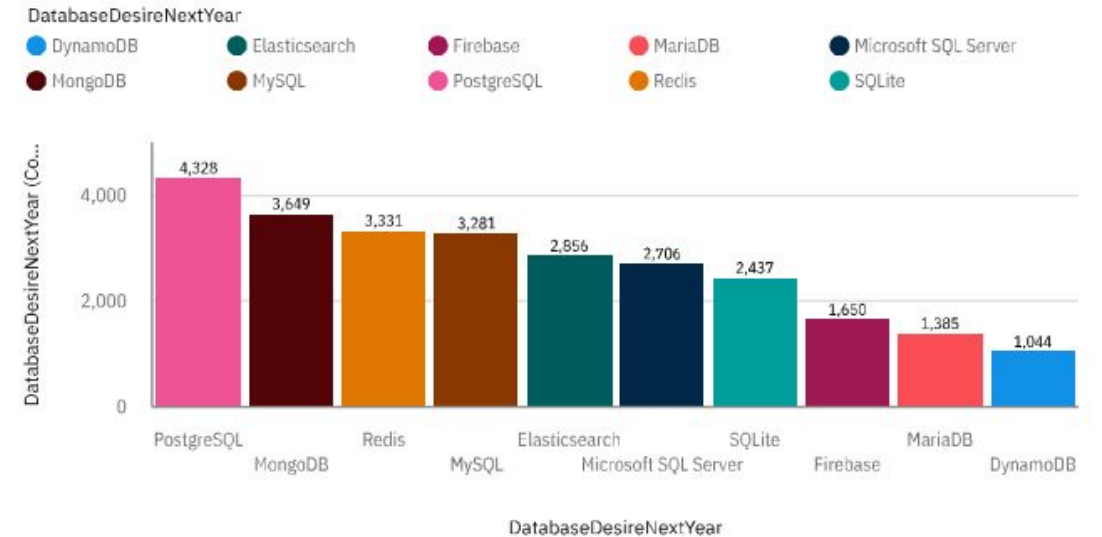
## Current

Top 10 Database Worked With



## Future

Top 10 Database Desire Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL is the most used but it is losing interest
- PostgreSQL is maintaining its interest to the developers
- Microsoft SQL Server is going down in interest

## Implications

- Microsoft SQL Server and SQLite are losing ground in the market
- PostgreSQL and MongoDB establishing themselves as pillars for database technologies

# DASHBOARD

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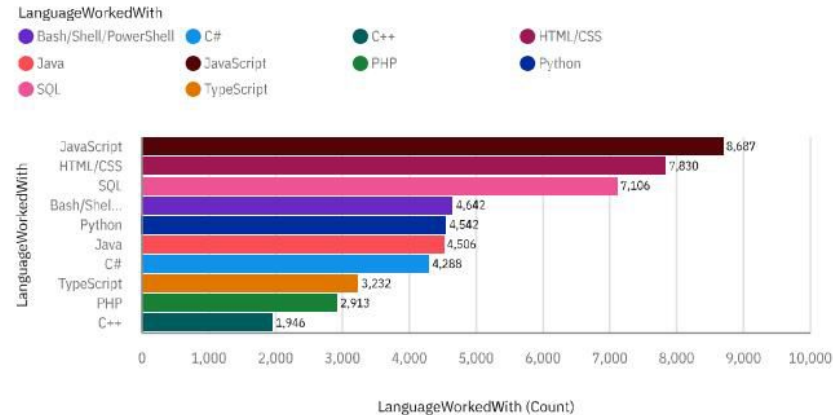


[https://github.com/TiagoOliveira98/AppliedDataAnalysisCapstone/blob/main/Dashboard\\_Cognos.pdf](https://github.com/TiagoOliveira98/AppliedDataAnalysisCapstone/blob/main/Dashboard_Cognos.pdf)

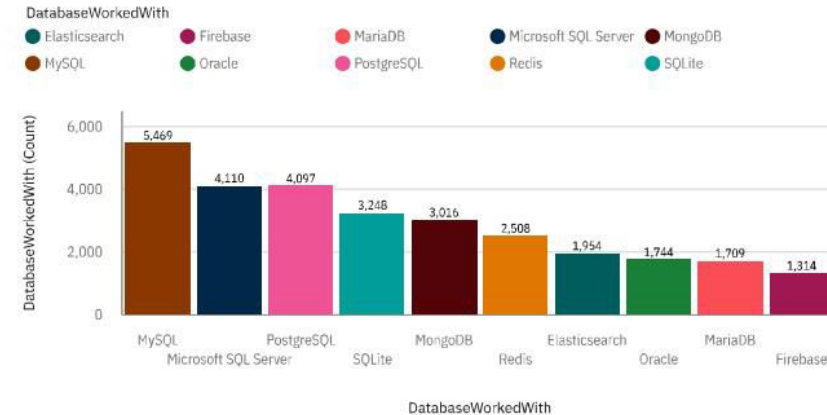
# Current Technology

## Current Technology

Top 10 Language Worked With

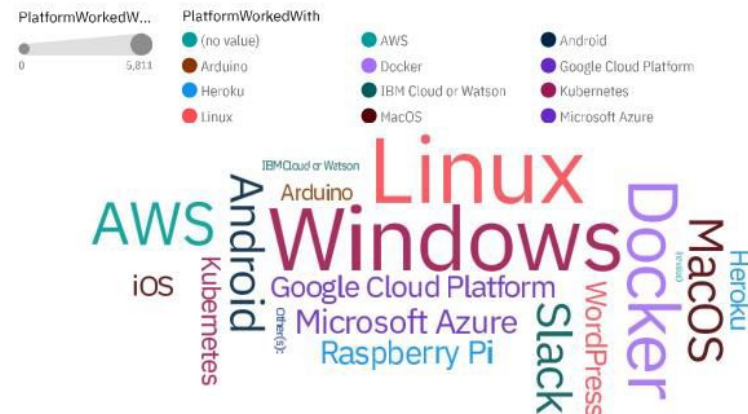


1 Top 10 Database Worked With

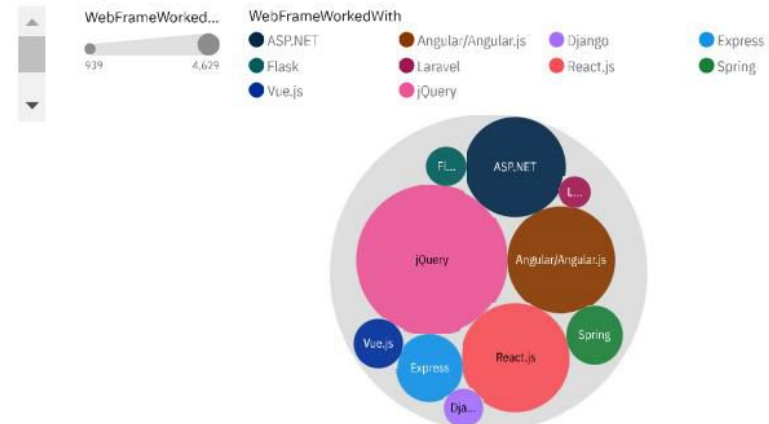


2

Platform Worked With



Top 10 Web Frame Worked With



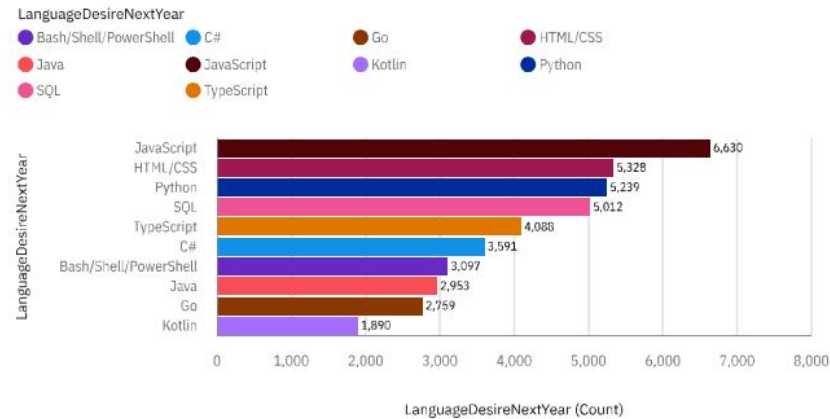
3



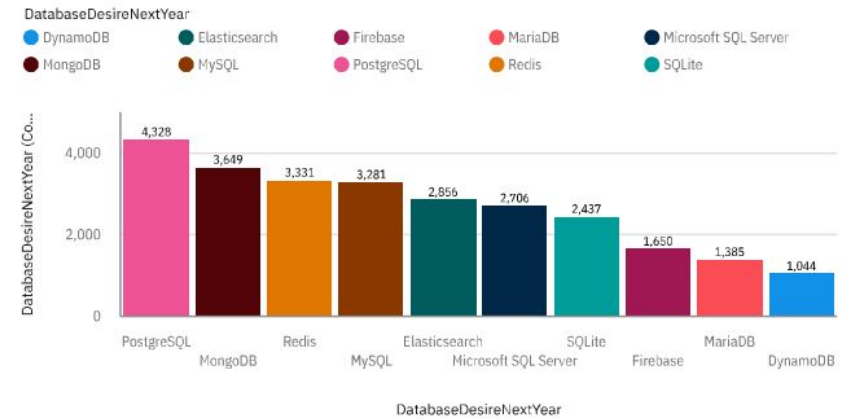
# Future Technology

## Future Technology

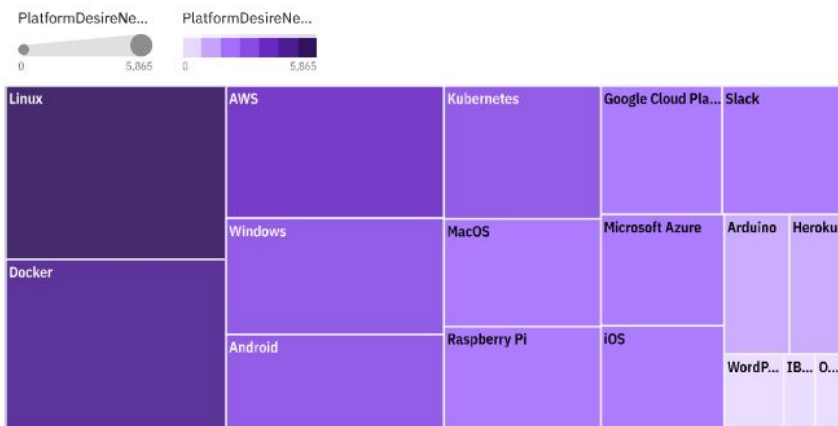
Top 10 Language Desire Next Year



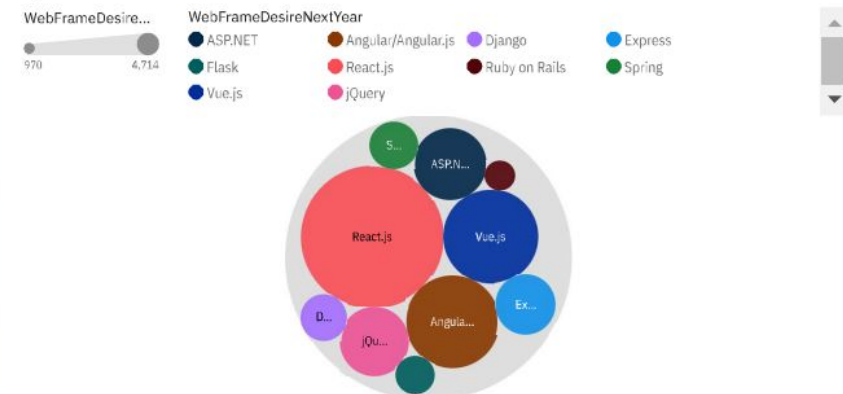
1 Top 10 Database Desire Next Year



Platform Desire Next Year



WebFrameDesireNextYear hierarchy colored by WebFrameDesireNextYear and sized by WebFrameDesireNextYear

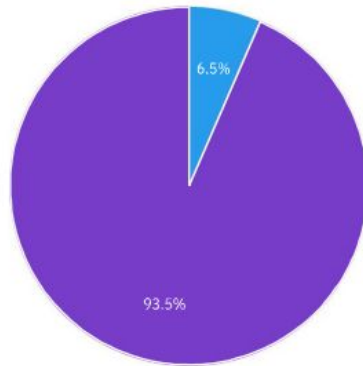


# Demographics

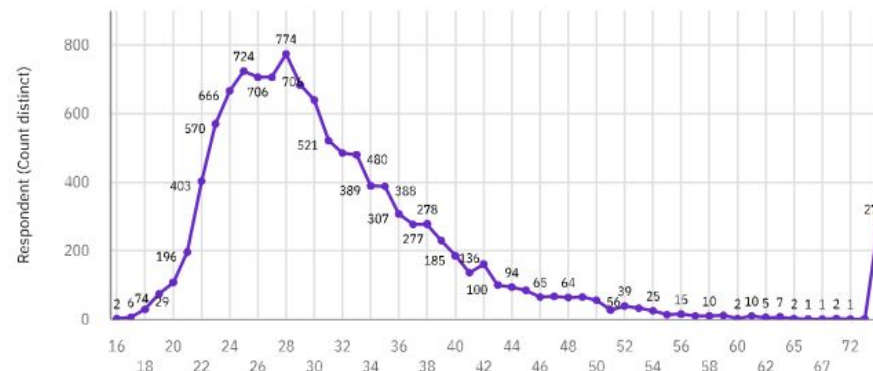
## Demographics

Respondent classified by Gender

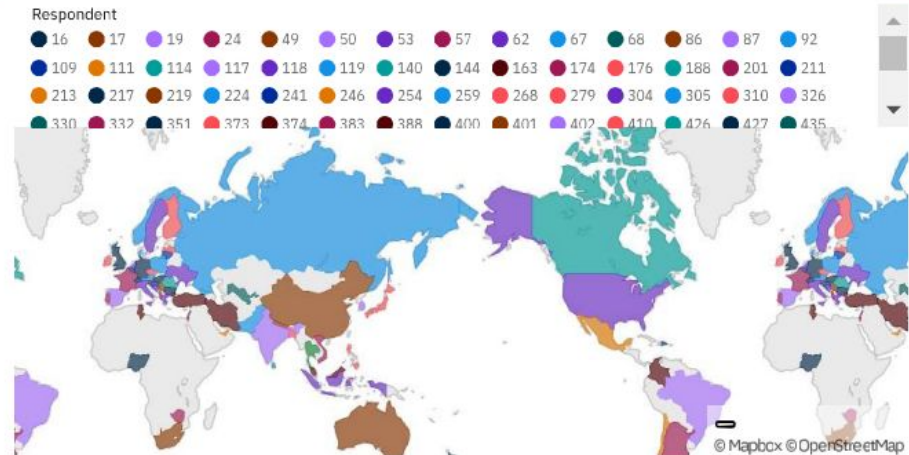
Gender  
● Woman ● Man



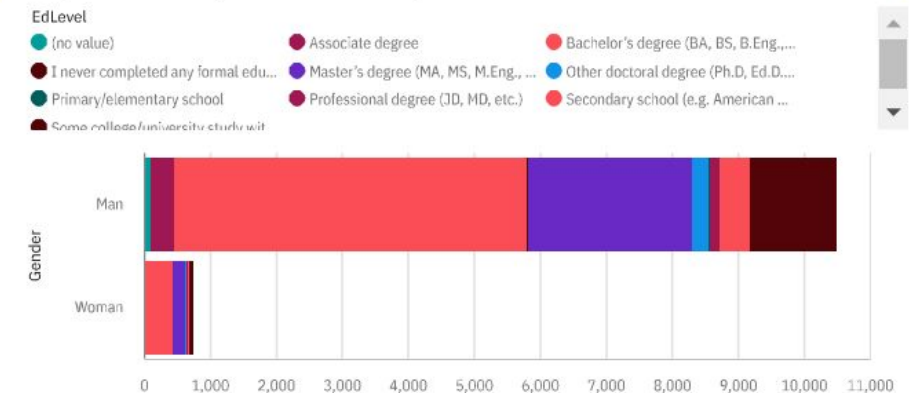
Respondent Count by Age



1 Respondent Count for Country



3 Respondent Count by Gender, classified by Formal Education Level



# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- JavaScript widely used and TypeScript covering some ground
- Survey dominated by Male developers
- Most of developers located in developed countries

## Implications

- Web Programming Languages are dominating
- There possibly many reasons to have a overly male dominated community
- Majority of developers have Bachelor degrees



# CONCLUSION

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- Popularity trends on different languages, tools and platforms can be obtained from the data
- There is a lot of work to be done in order to have a more diverse and inclusive community

# APPENDIX

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# JOB POSTINGS

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Unfortunately, it was impossible to complete the Job Posting Task. When trying to connect to gather the data, it kept appearing a Connection Refused Error.

```
ConnectionError: HTTPConnectionPool(host='127.0.0.1', port=5000): Max retries exceeded with url: /data?Key+Skills=Python (Caused by NewConnectionError('<urllib3.connection.HTTPConnection object at 0x7f9ec8b8aa90>: Failed to establish a new connection: [Errno 111] Connection refused'))
```

I tried many times but the error wasn't getting fixed. Thank you for the understanding.

# POPULAR LANGUAGES

Average Annual Salary in comparison with Language name

