



My Capstone Project Report

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26/1/2021

OUTLINE



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EXECUTIVE SUMMARY



- Software development is a field of steady changes
- Survey considers future trends in software development with respect to
 - Programming language and database usage
 - Platform and web framework usage
 - Demographic factors
- HTML/CSS and JavaScript are most popular PL
- MySQL is most popular database with MongoDB, Elasticsearch and PostgreSQL catching up strongly
- Docker and React.js are on the rise

INTRODUCTION



- Software development is a field of steady changes
- Foreseeing upcoming trends is key to stay productive, competitive and up-to-date
- Study asked for current and future preferences, experiences in software development and social factors
- Focus on
 - Trends for programming languages and databases
 - Trends for platforms and web frames

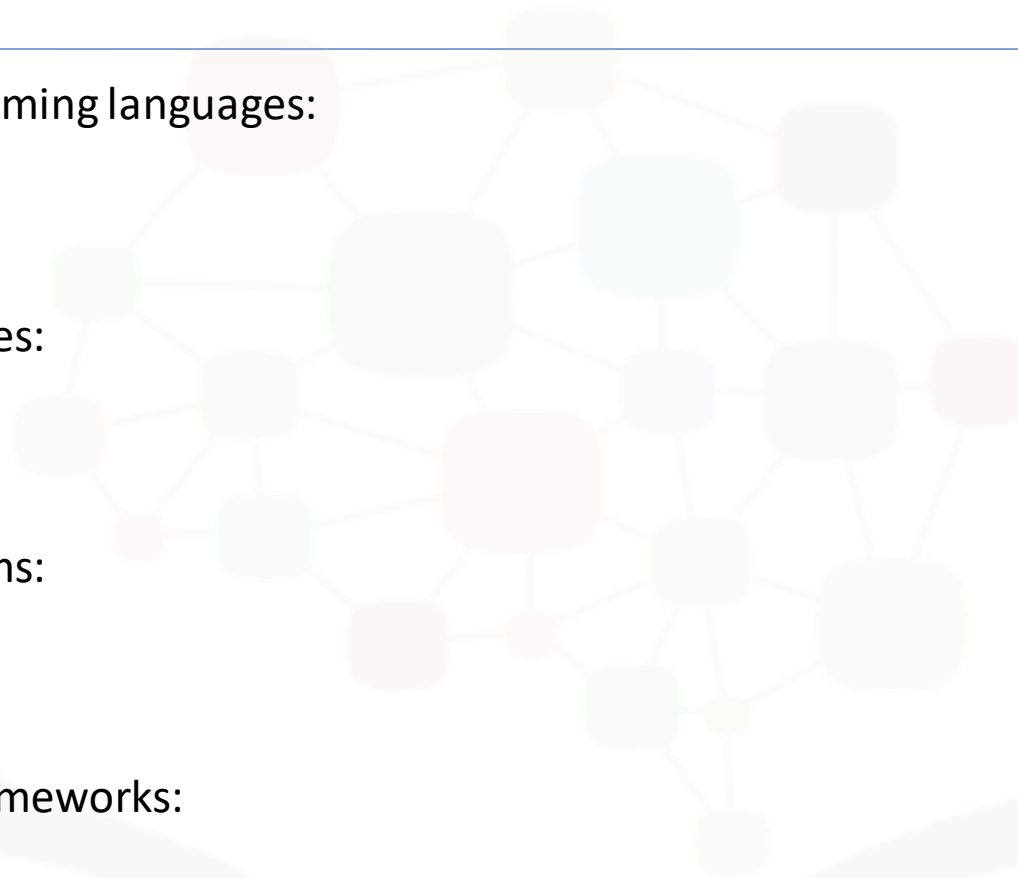
METHODOLOGY



- Stack Overflow surveyed developers to state their current and future workflow preferences, experiences in software development, etc.
- Respondents come from all over the world with focus on the US
- Focus on
 - Trends for programming languages
 - Trends for database usages
- Further information gathered concerning education, compensation, experience, etc
- Age, education and gender distribution
 - Vast majority of respondents between age 25 and 40
 - Mainly male and with at least a Bachelor's degree

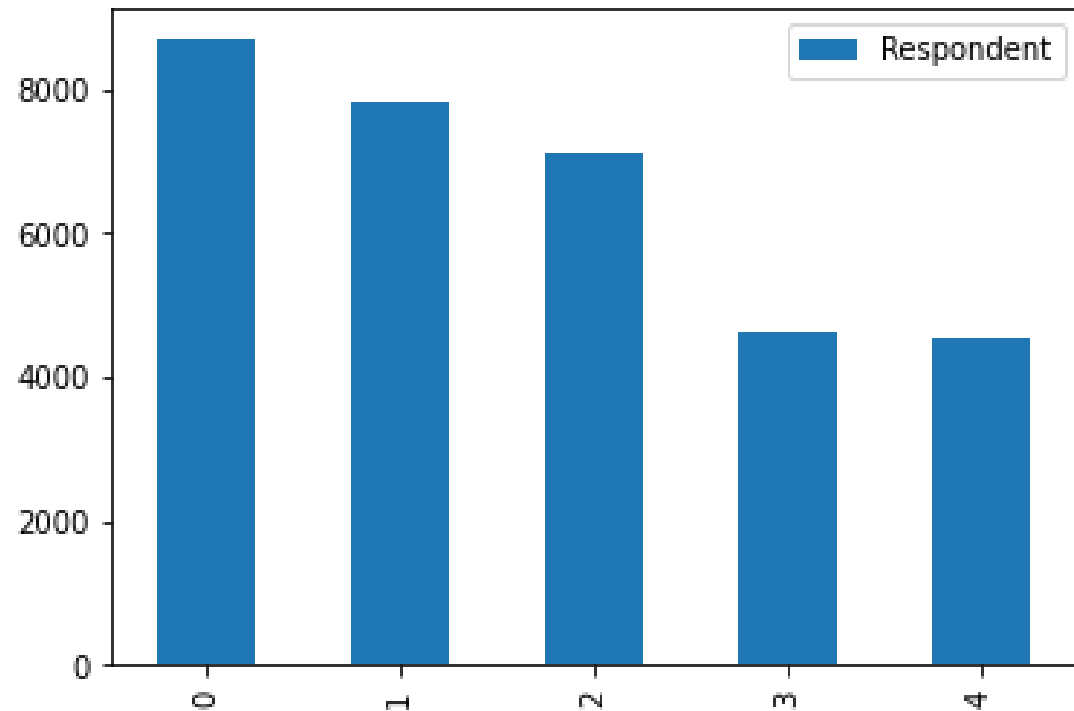
RESULTS

- Most commonly used programming languages:
 - JavaScript
 - SQL
 - HTML/CSS
- Most commonly used databases:
 - MySQL
 - Microsoft SQL Server
 - PostgreSQL
- Most commonly used platforms:
 - Windows
 - Linux
 - Docker
- Most commonly used web frameworks:
 - jQuery
 - React.js
 - Angular(.js)

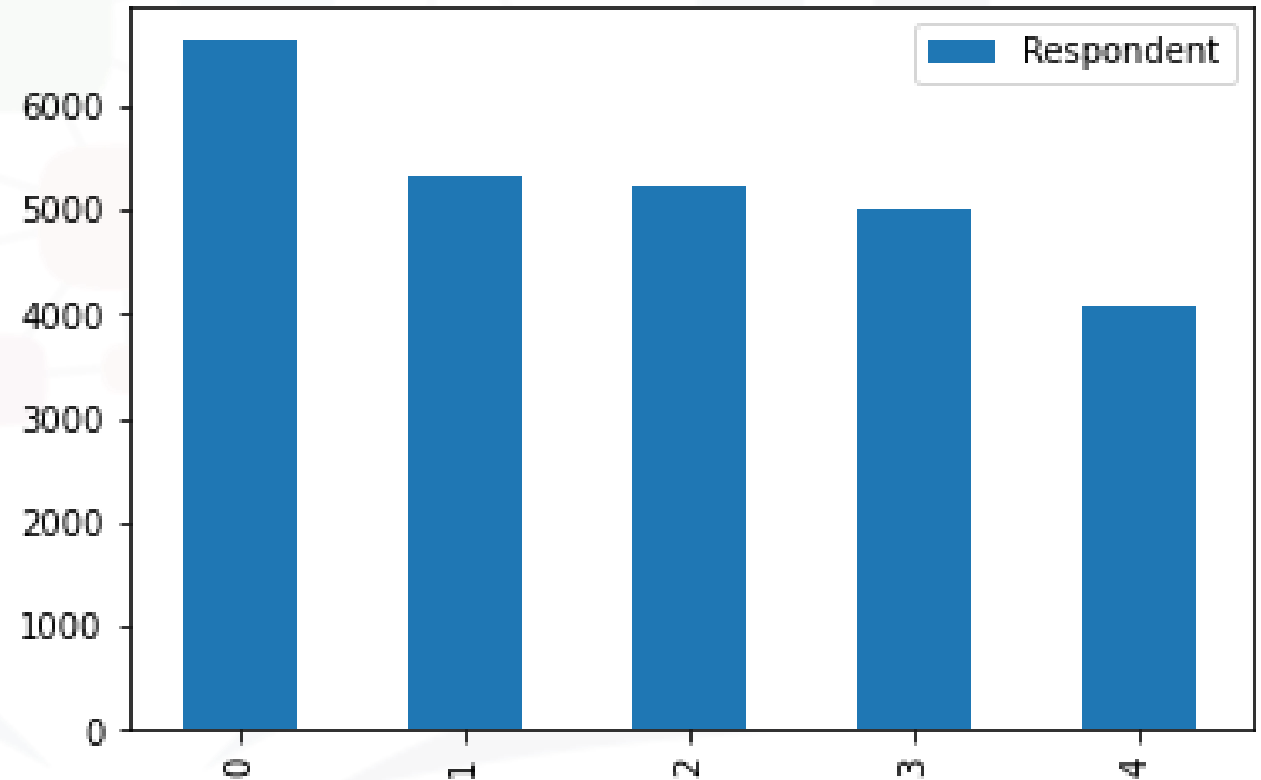


PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

	Respondent	LanguageWorkedWith
0	8687	JavaScript
1	7830	HTML/CSS
2	7106	SQL
3	4642	Bash/Shell/PowerShell
4	4542	Python

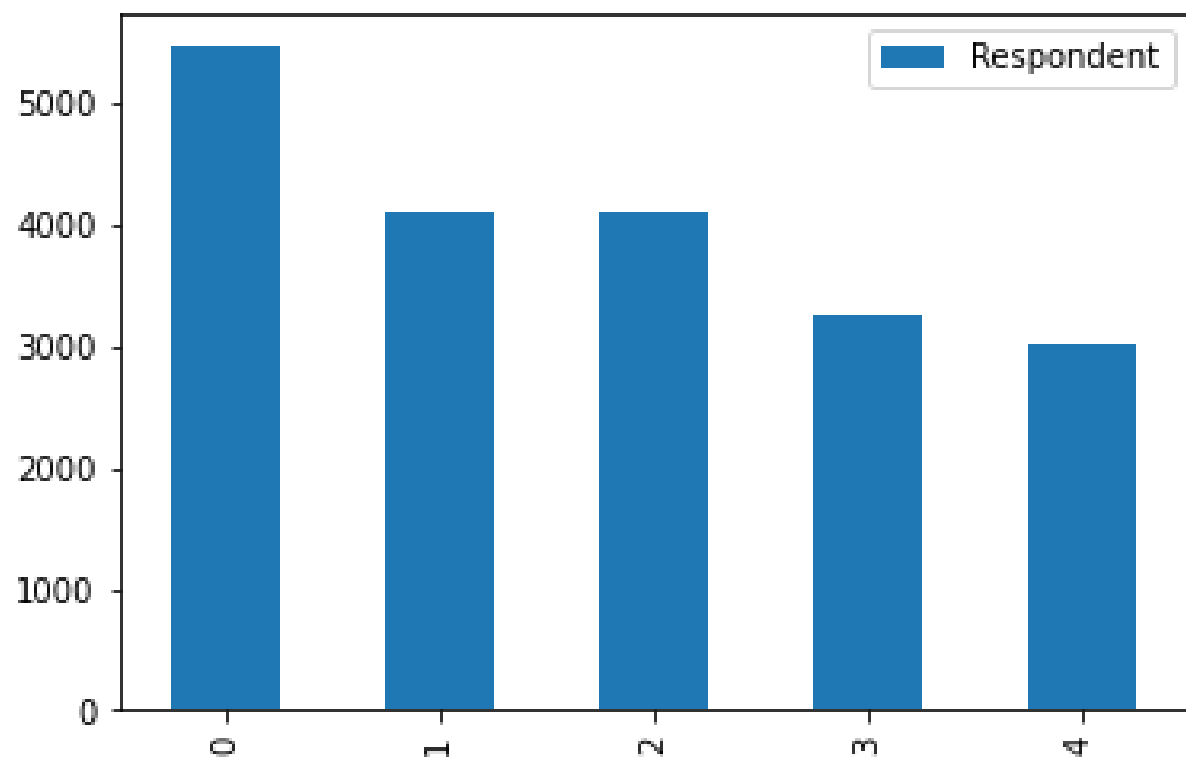
- You can see that the top language for the current year and next year are JavaScript and then HTML/CSS which is so popular among web developers
- Python was taking the 5th rank this year, however next year is going to be the 3rd.

Implications

- Due to the popularity of Machine learning, people started to recognize the importance of Python languages and therefore you can see it taking the 3rd place next year.
- SQL is losing for python, however it's still popular among developers.

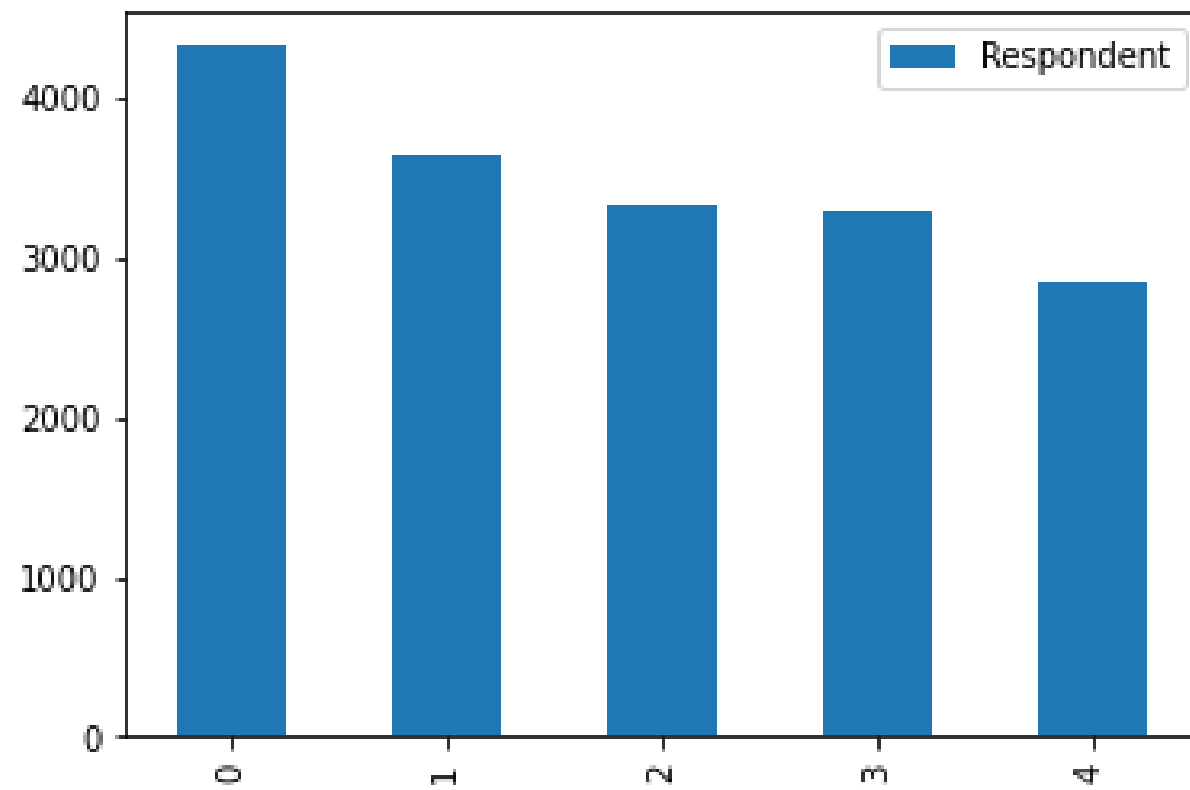
DATABASE TRENDS

Current Year



IBM Developer

Next Year



SKILLS NETWORK 

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

Respondent	DatabaseWorkedWith
0	5469 MySQL
1	4110 Microsoft SQL Server
2	4097 PostgreSQL
3	3248 SQLite
4	3016 MongoDB

Respondent	DatabaseDesireNextYear
0	4328 PostgreSQL
1	3649 MongoDB
2	3331 Redis
3	3281 MySQL
4	2856 Elasticsearch

- MySQL is the most popular language this year.
- PostgreSQL might be the most popular lanugae next year because it's easier to deal with than MySQL
- MongoDB is getting a higher rank next year.

Implications

- People are moving towards Datascience and Machine learning, therefore MongoDB is getting more popular since it's openSource application.
- MySQL is getting less popular since It's abit more complicated than PostgreSQL.

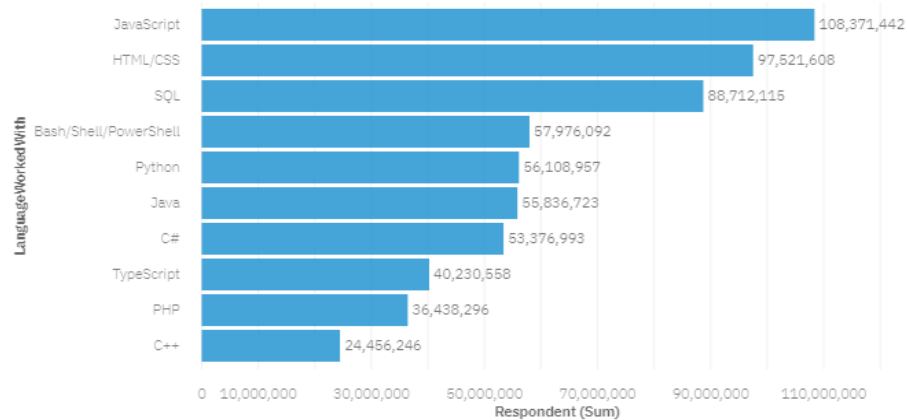
DASHBOARD



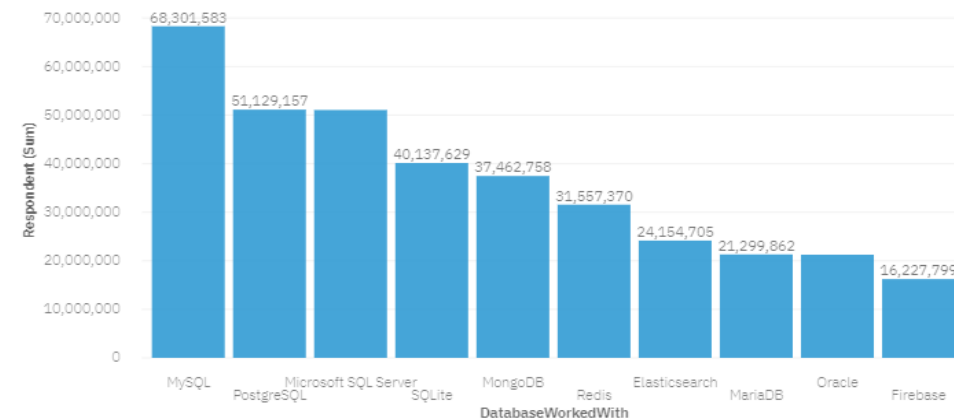
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Current Technology usage

Top 10 LanguageWorkedWith



Top 10 DatabaseWorkedWith



Respondent (Sum)

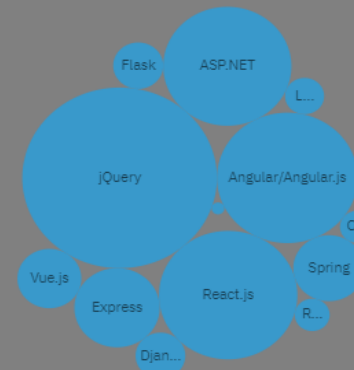
2,532,293 72,858,619



Top 10 WebFrameWorkedWith

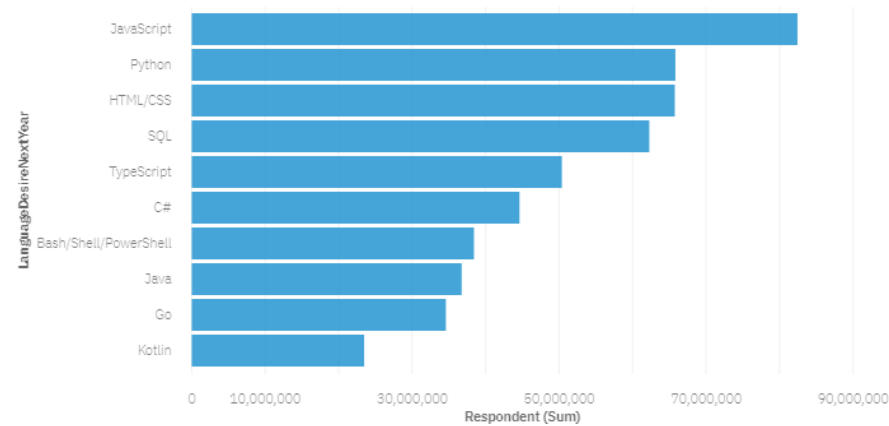
Respondent (Sum)

3,768,592 57,310,840

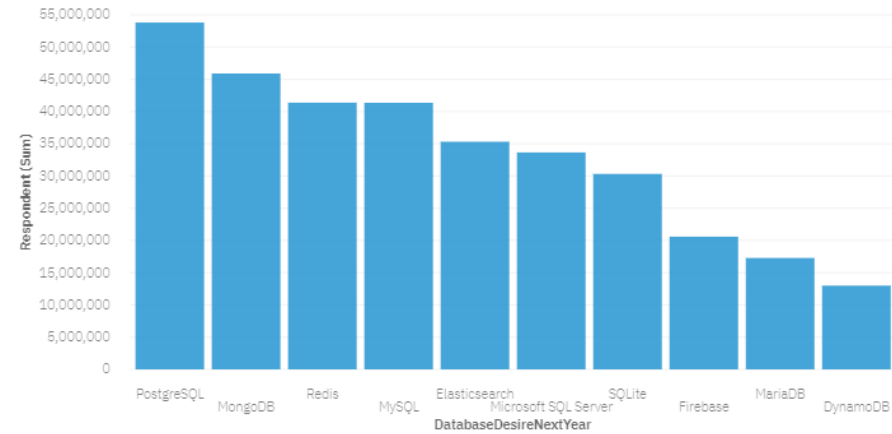


Future Technology Trends

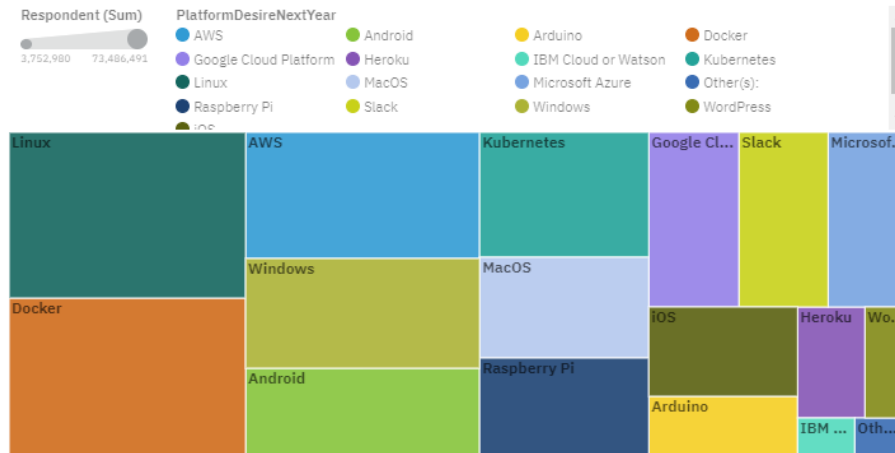
Top 10 LanguageDesireNextYear



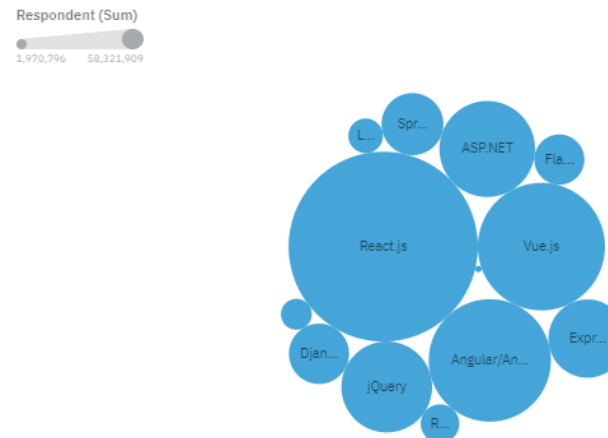
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



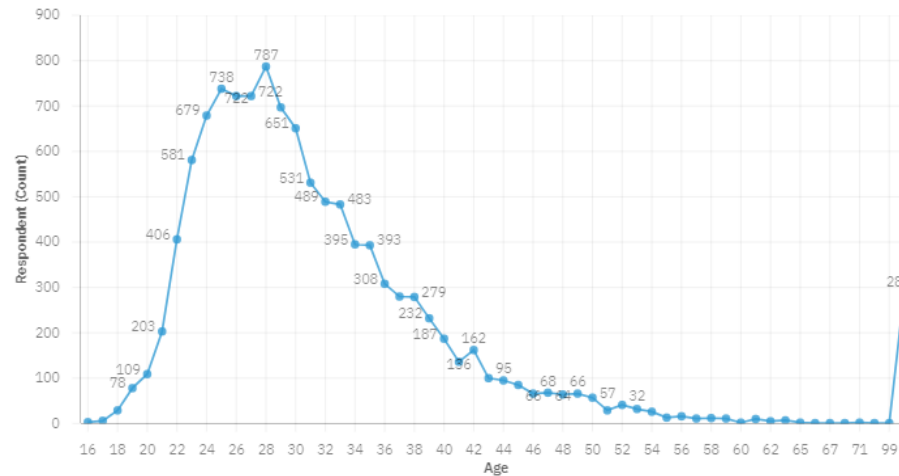
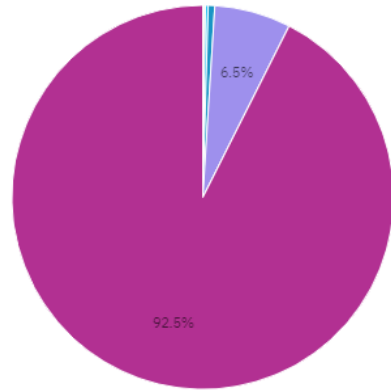
Top 10 WebFrameDesireNextYear



Demographics

Gender

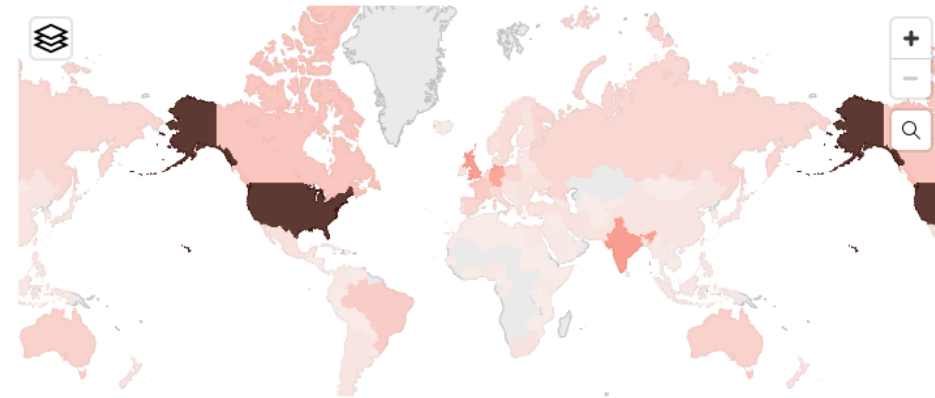
- Woman;Man;Non-binary, genderqueer, or g...
- Woman;Man
- Woman;Non-binary, genderqueer, or g...
- Man;Non-binary, genderqueer, or g...
- Non-binary, genderqueer, or g...
- Woman
- Man



Respondent Count for Countries

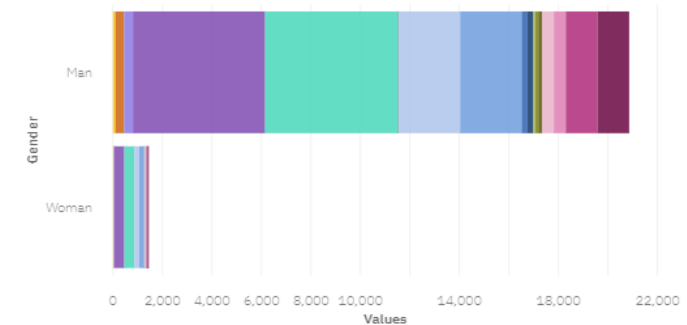
Respondent (Sum)

865 39,154,240



EdLevel - Measures group (2)

- (no value) | EdLevel (Count)
- (no value) | Respondent (Count)
- Associate degree | EdLevel (Co...
- Associate degree | Responden...
- Bachelor's degree (BA, BS, B.E...
- Bachelor's degree (BA, BS, B.E...
- I never completed any formal ...
- I never completed any formal ...
- Master's degree (MA, MS, M.E...
- Master's degree (MA, MS, M.E...



DISCUSSION



Findings:

- Most Responds are from the USA and Men and they mostly in their 20s.
- Most of the programmers are working on Web services like creating websites using Java , HTML and CSS.
- Lots of people are desiring to working using Python, MongoDB, Linux.

Implications:

- From the above finds, I would say that The US people are mostly impacted by the evolution of AI and Machine learning which impacts their opinions regards the languages they desire to work with.
- I would except alots of employees changing their career to become a data scientists and Machine learning Engineers soon.
- Lastly the popularity of Python and Linux is increasing.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Python , Postgres, MongoDB popularity is increasing.
- JavaScript is keeping it's rank.
- Most Responds are Americans.
- 92% of the respondents Are men.

Implications

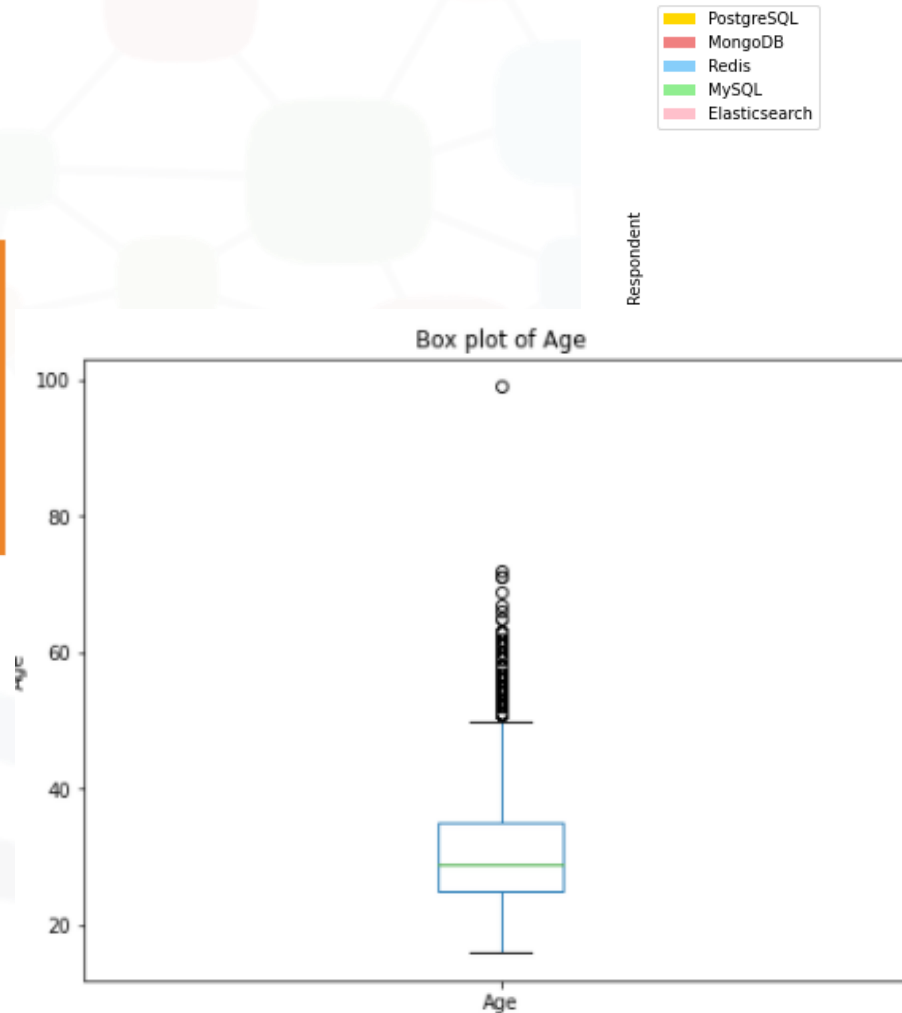
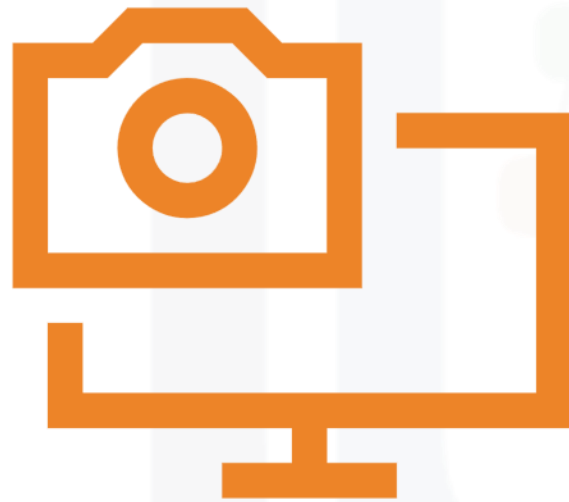
- Since most of the respondents are Americans, They tend to be highly educated people effected by the evolution of The Machine learning, therefore they voted for Python and MongoDB.

CONCLUSION

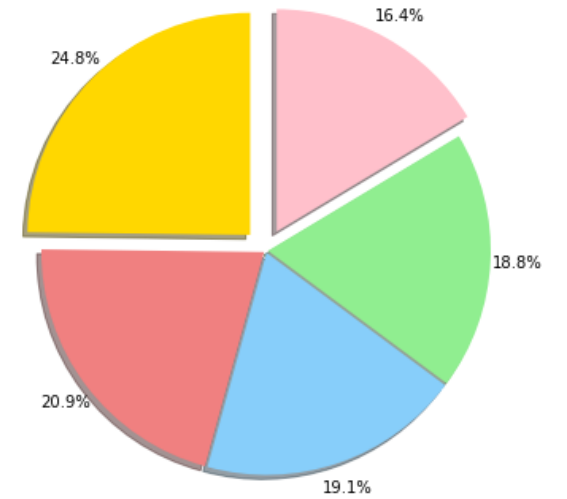


- Respondents are mostly from USA and India.
- Python is getting more popular and MYSQL is losing its popularity.
- Linux is getting more popular.
- The trend is moving towards Machine learning and Data Science.
- Most Engineers are located in USA and India.

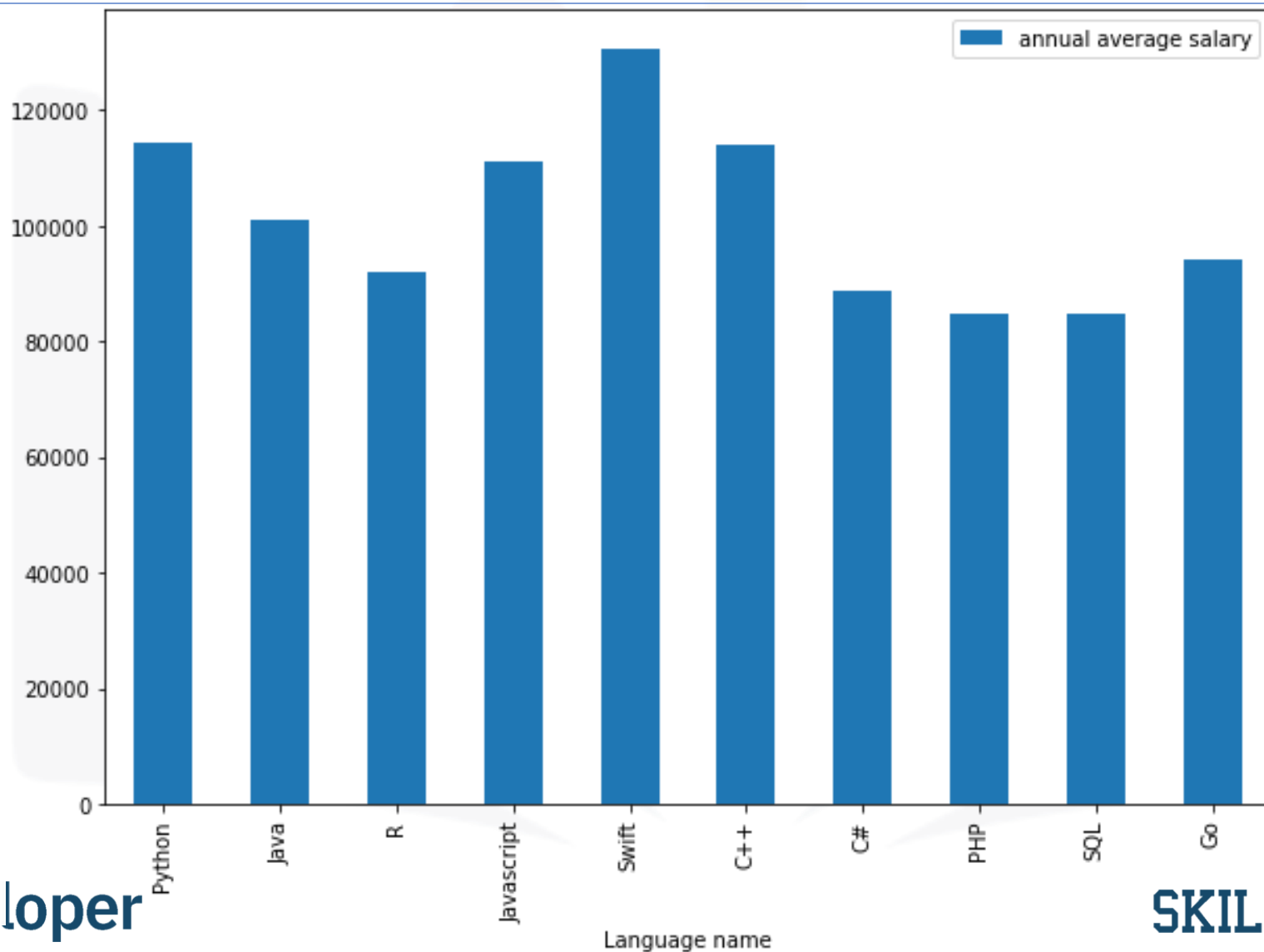
APPENDIX



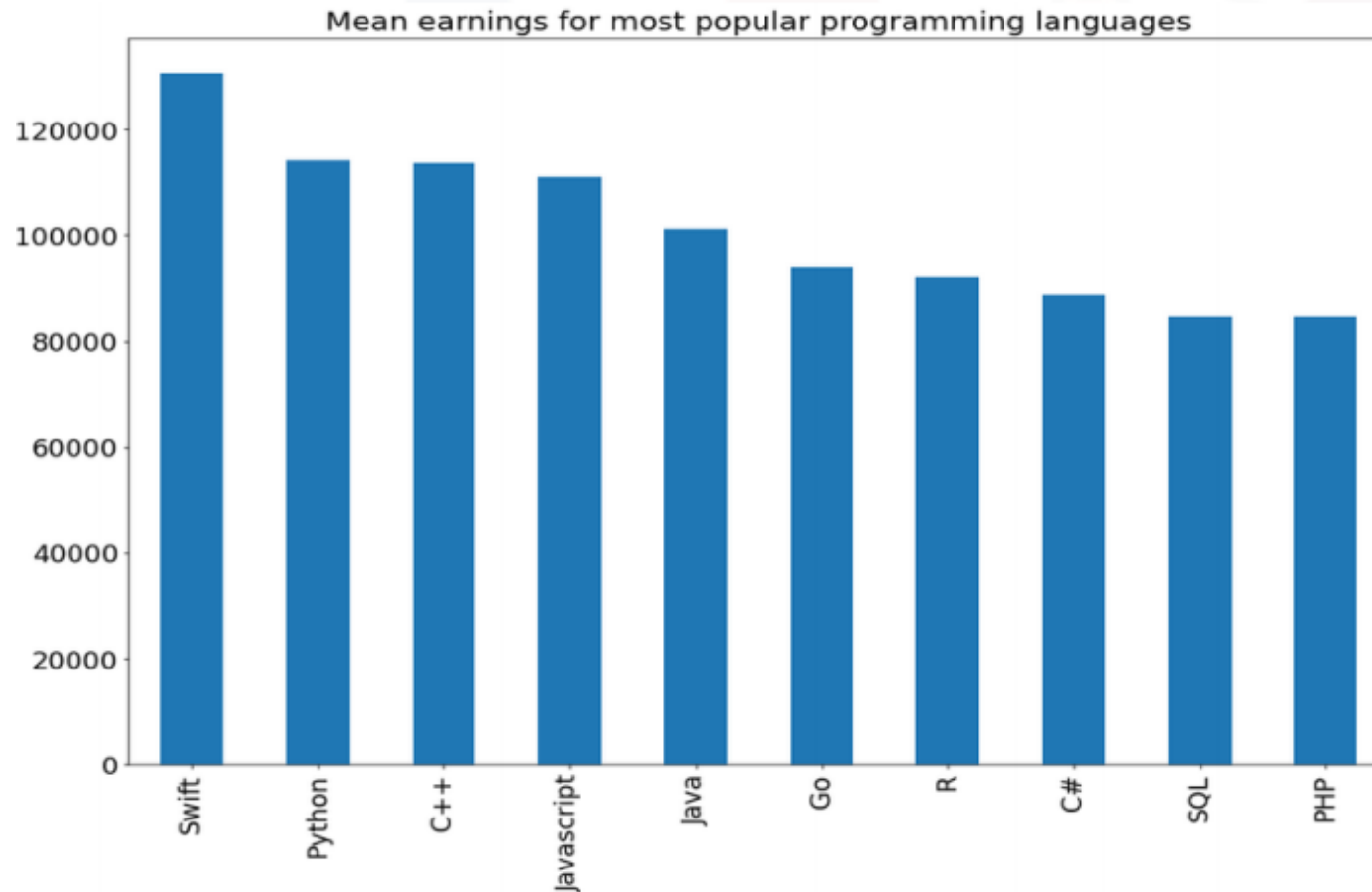
top 5 databases that respondents wish to learn next year



GITHUB JOB POSTINGS



POPULAR LANGUAGES



- Swift developers can expect to earn most annually, Python being second
- The most in-demand languages (C(++), Java(Script)) are following afterwards