



Survey on Programming Languages, Platforms and Its users Demographics

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OUTLINE



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EXECUTIVE SUMMARY



- In 2019 Survey was done on Stackoverflow.com
- Three dashboards are created i.e. current data technologies ,future data technologies and demographics of respondent. IBM Cognos Dashboard Embedded (CDE) platform for analysis and visualisation.
- In languages, currently Java Script and is the most popular and expected to be popular in future for some time.
- In databases, currently MySQL is the most popular and in future expected to be taken over by PostgreSQL.
- Demographics analysis showing that:93.7% respondent were male with majority of them being from USA and India in the age group of 21 to 43.
- Demographics Dashboard shows varied types of data technologies are preferred by students pursuing bachelors and master's degree. Among young generations we may see most of the people interested in languages that are easy to learn and help automation tasks such as : Python, HTML

INTRODUCTION



- Survey results in the shape of CSV files are imported into IBM Cognos Platform.
- For visualisation of the data ,dashboards were created to analyse the present and future trends of data technologies.
- By creating dashboards using IBM Cognos Dashboard, I was able to visualise provided data in present and future and technology trends based on respondent gender ,formal education ,age and countries.

METHODOLOGY



- Stack Overflow survey data consisting of two data sets based on the demographics and data technologies trends were used to visualise the present and future data trends based on their demographics
- Data was clean and ready to use. Hence no particular methodology was used to visualize the data.
- IBM Cognos dashboard was used to create interactive Dashboards

RESULTS

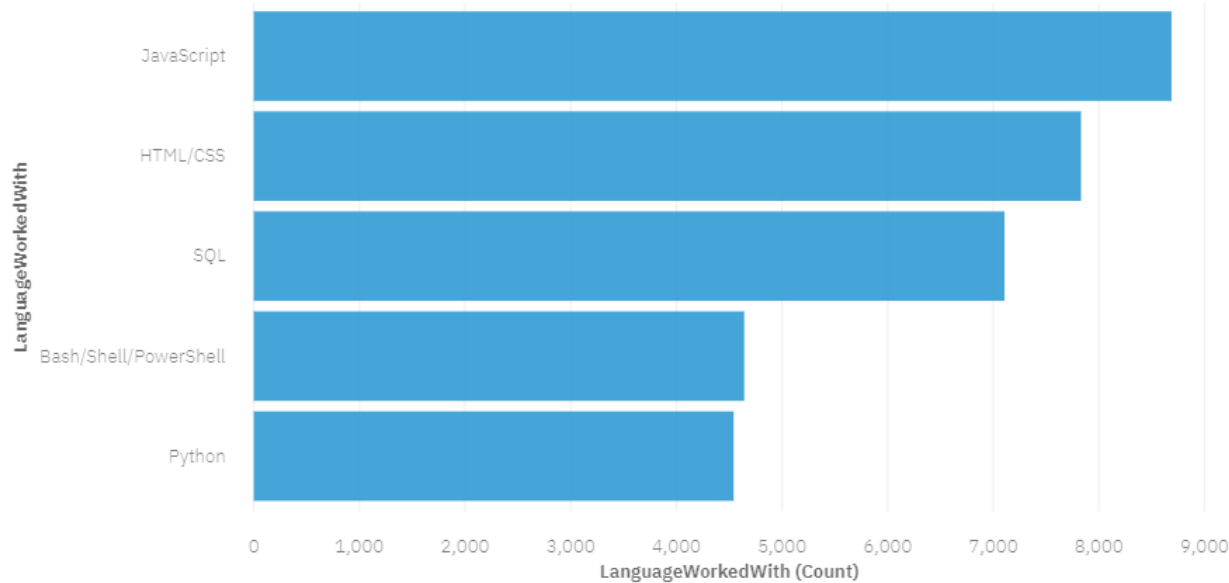
- In next few slides we will be discussing the crucial findings from the data sets for present and future technologies trends



PROGRAMMING LANGUAGE TRENDS

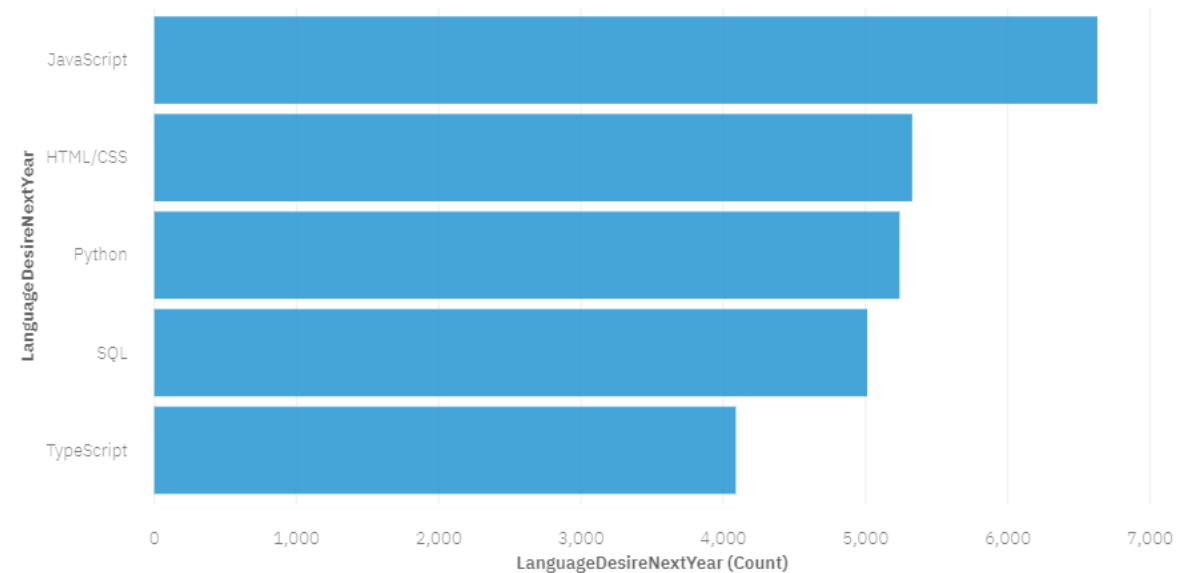
Current Year

Top Languages



Next Year

Future 10 Languages



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

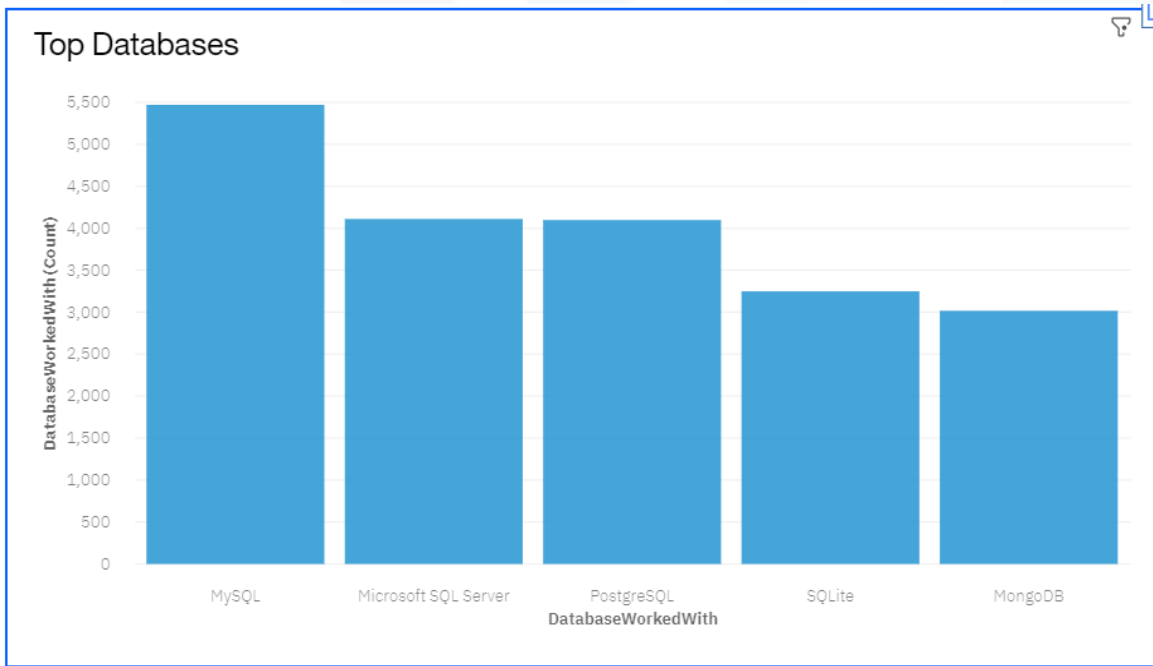
- Python is getting more popular in Future
- Java Script and HTML/ CSS will continue to stay at the top.
- Bash/ Powershell and PHP are completely lost top 5 position

Implications

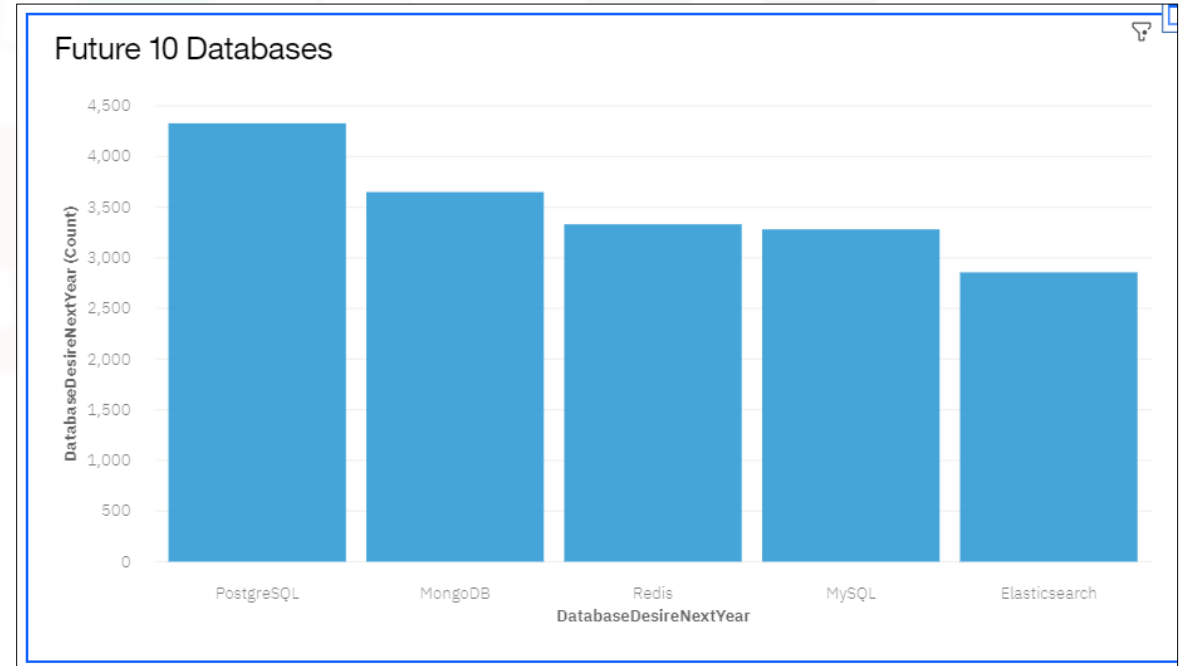
- People working in Java Script and HTML/CSS still have good scope of their applications.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- My SQL dominates the Database platform currently
- PostgreSQL is the next most preferred database platform due to it increase functionality and open license
- MongoDB as a database platform is expected to show more growth in future.

Implications

- MongoDB and PostgreSQL are gaining more popularity among users
- MongoDB and PostgreSQL as the next essential databases skills
- MySQL in upcoming years seems to be falling.

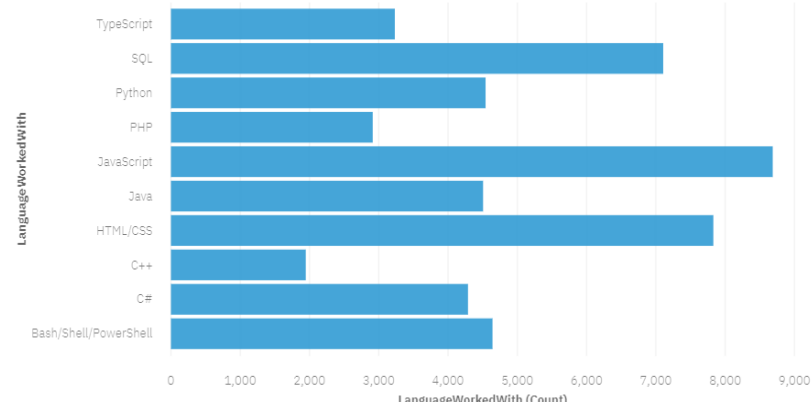
DASHBOARD



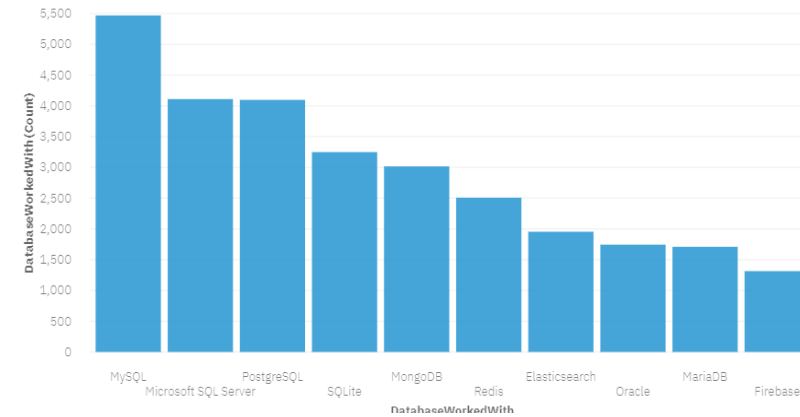
<https://dataplatform.cloud.ibm.com/dashboards/3061b5bf-5a94-4757-b348-e30e6c538fb8/view/0416c77f11f171934ddcd4e4079979002f65245fb1bb860587857b4909367497f06c41c2c82618088b16506af7be150dc1>

DASHBOARD TAB 1

Top Languages



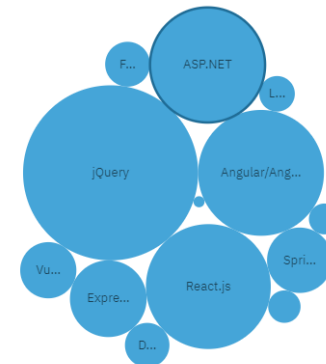
Top Databases



Platform Worked With

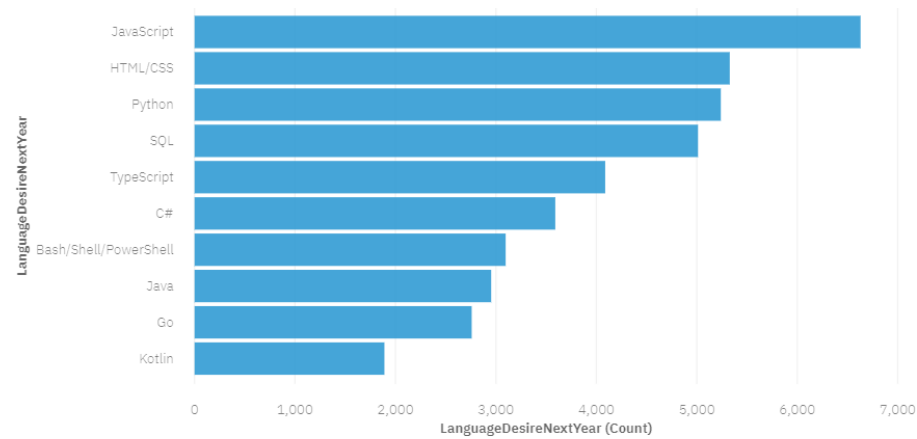


Web Frame Worked With

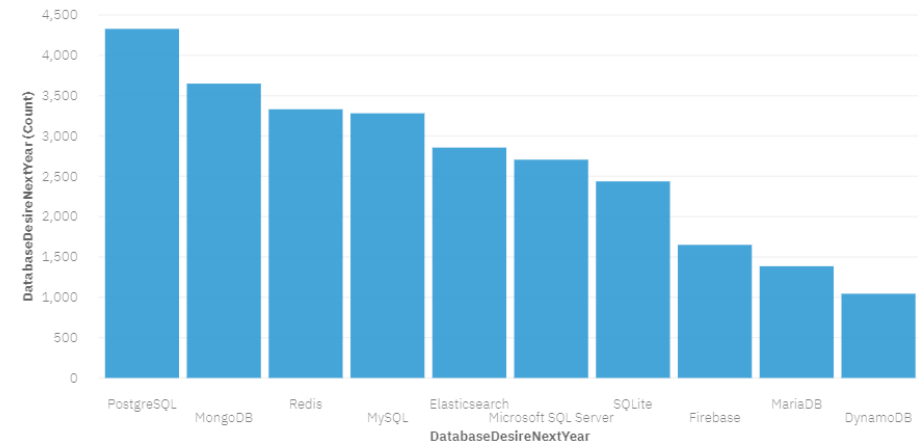


DASHBOARD TAB 2

Future 10 Languages



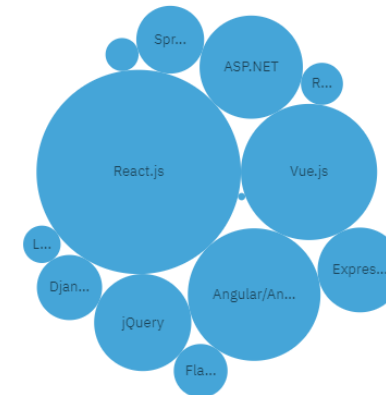
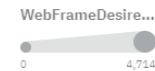
Future 10 Databases



Future Platform



Future Web Frame

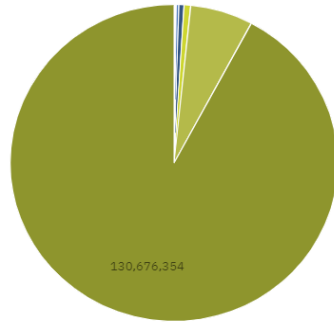


DASHBOARD TAB 3

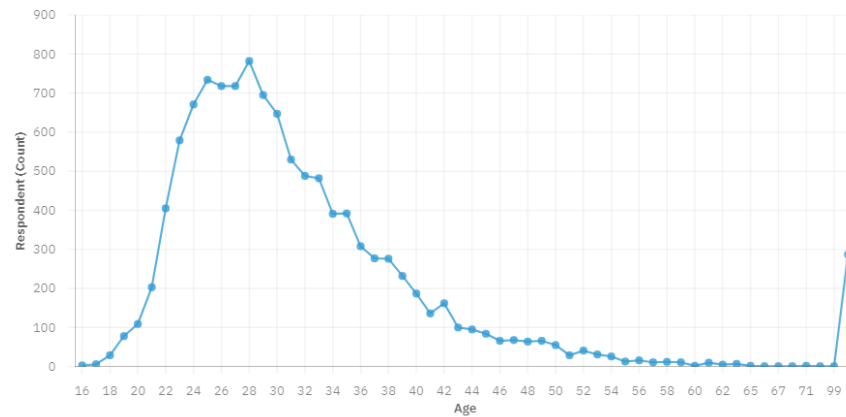
Respondent Classified by Gender

Gender

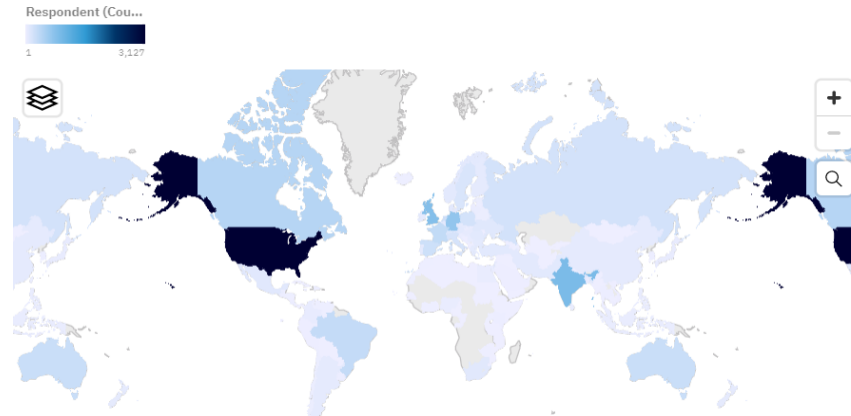
- Woman;Man;Non-binary, genderqueer, or gender non-conforming
- Woman;Man
- Woman;Non-binary, genderqueer, or gender non-conforming
- Man;Non-binary, genderqueer, or gender non-conforming
- Non-binary, genderqueer, or gender non-conforming
- (no value)
- Woman
- Man



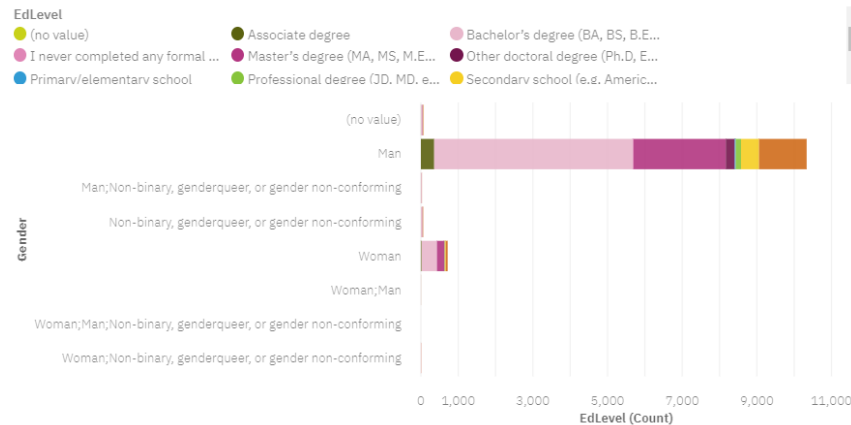
Respondents By Age



Respondents from each Country



Respondent # by Gender, classified by Edu Level



OVERALL FINDINGS & IMPLICATIONS

Findings

- The database technologies surveys results shows a domination by male population, majority of them between age group 21 to 45
- Bachelor's and Master's students highly prefer doing a specialization in data technology

Implications

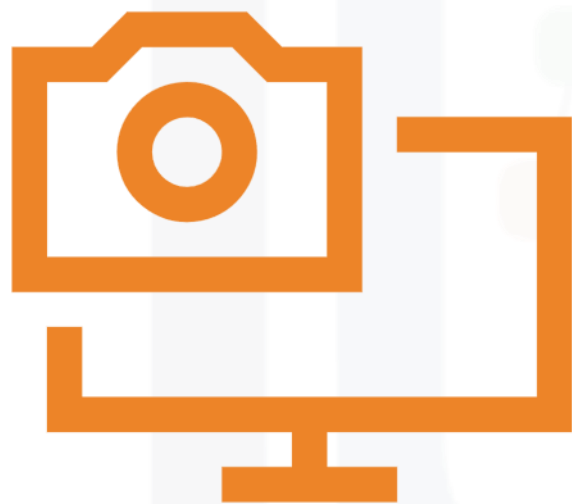
- Seeing the popularity among youth, we can see more bootstrap camps than ever in past due to increased demand

CONCLUSION

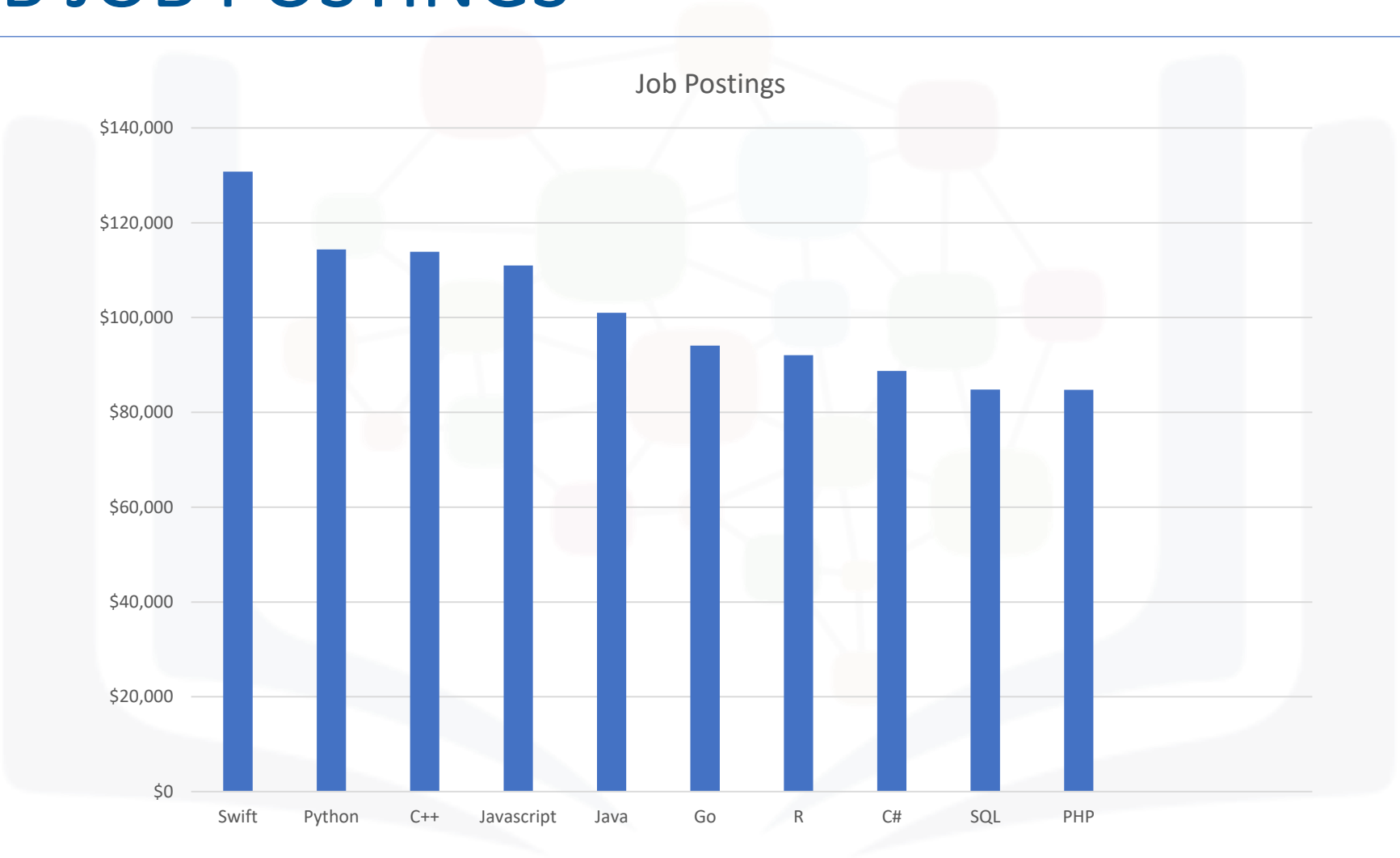


- Analysing datasets, we are able to understand current and future trends in technologies applications and usage
- From the data visualisation in demographics it is clear that the data technologies trends are majorly affected by young age groups
- Popular languages like HTML and JavaScript will remain the most preferred languages to be worked with
- Among Databases, the popularity of MySQL decreasing and which may be replaced by MongoDB and PostgreSQL which are easy to use and cost effective.
- Though there is a major contribution of male but in upcoming trends, women are showing steep growth.

APPENDIX



GITHUB JOB POSTINGS



POPULAR LANGUAGES

