



Emergence of Technologies

Vishal Jotwani

18th November 2020

OUTLINE



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

EXECUTIVE SUMMARY



- Technology is becoming indispensable. It is disrupting every industry, even those, which had nothing to do with a tech category.
- Programming languages and technologies are getting used for shaping the future for human.
- The need for learning these new skills would help anyone to enter into new marketplace.
- IT sector also provides one of the highest paid jobs to its developers.

INTRODUCTION



- For a newbie in software industry, which skill is the best to learn?
- With every year trends in technology are changing.
- Thousands of programming technologies are available in market.
- Choosing one among others can be tricky.
- Moving on we will try to look popular technologies to choose as career.

METHODOLOGY



- Descriptive Analytics is used to find trends.
- Data Sources-
 - Github Jobs API - For current job openings.
 - Survey - By Stack Overflow.

RESULTS

- The number of jobs currently open for various technologies are collected using GithubJob API.
- Survey Data collected from Stack Overflow is collected and analyzed using descriptive analytics to identify trends in technology.

RESULTS

Data is wrangled with the following objectives-

- Identify duplicate values in the dataset.
- Remove duplicate values from the dataset.
- Identify missing values in the dataset.
- Impute the missing values in the dataset.
- Normalize data in the dataset.

RESULTS

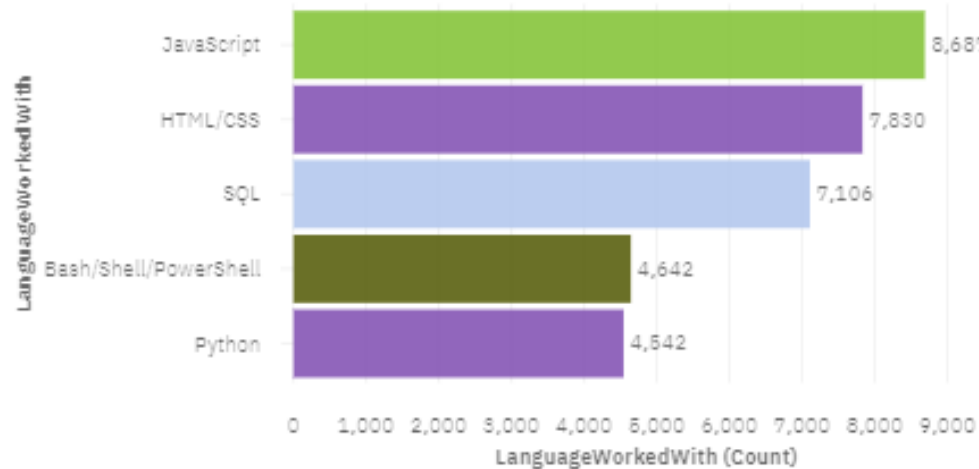
Data is explored with the following objectives-

- Identify the distribution of data in the dataset.
- Identify outliers in the dataset.
- Remove outliers from the dataset.
- Identify correlation between features in the dataset.

PROGRAMMING LANGUAGE TRENDS

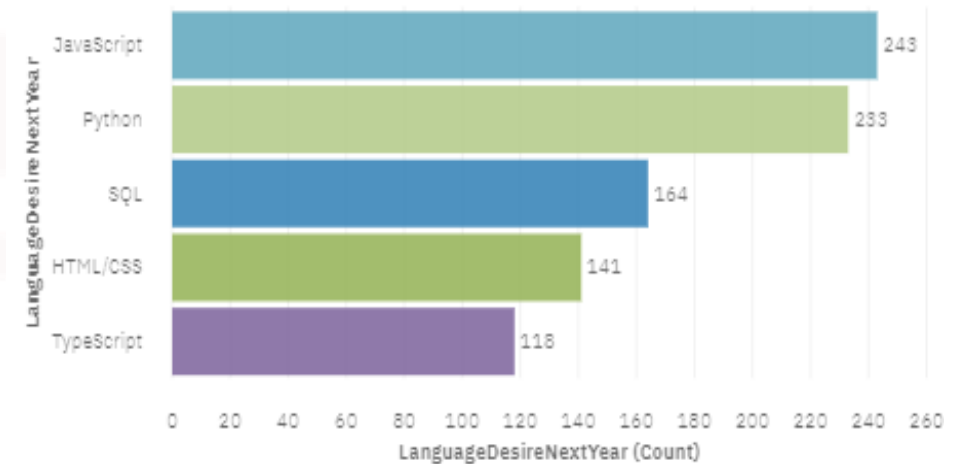
Current Year

Top 5 LanguageWorked With



Next Year

Top 5 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- JavaScript is the most popular language in current and next year.
- JavaScript, Python, SQL and HTML/CSS continues to be in top 5 for both years.

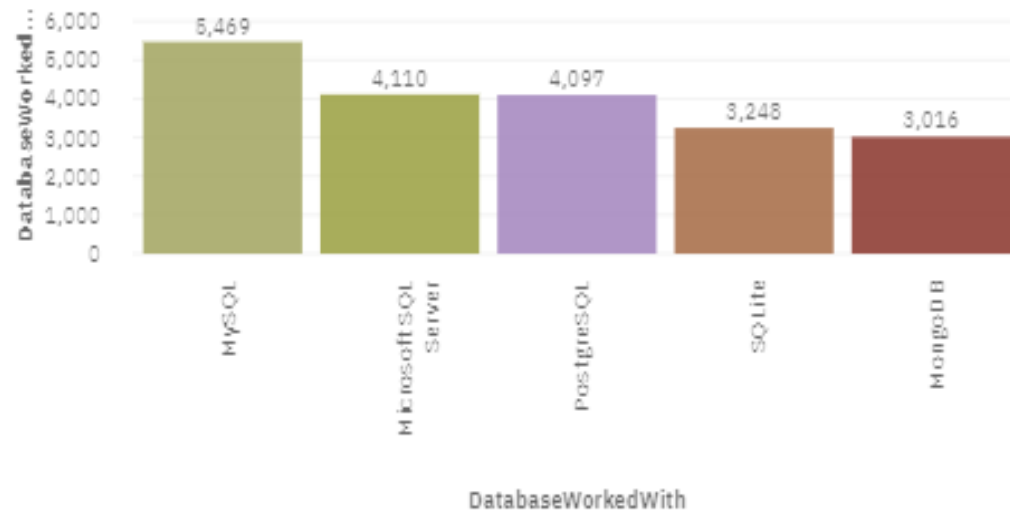
Implications

- Its flexibility in syntax, it's light weighted-ness in building web pages make it popular.
- All these languages are used for front and back end which make these languages must have for programmers.

DATABASE TRENDS

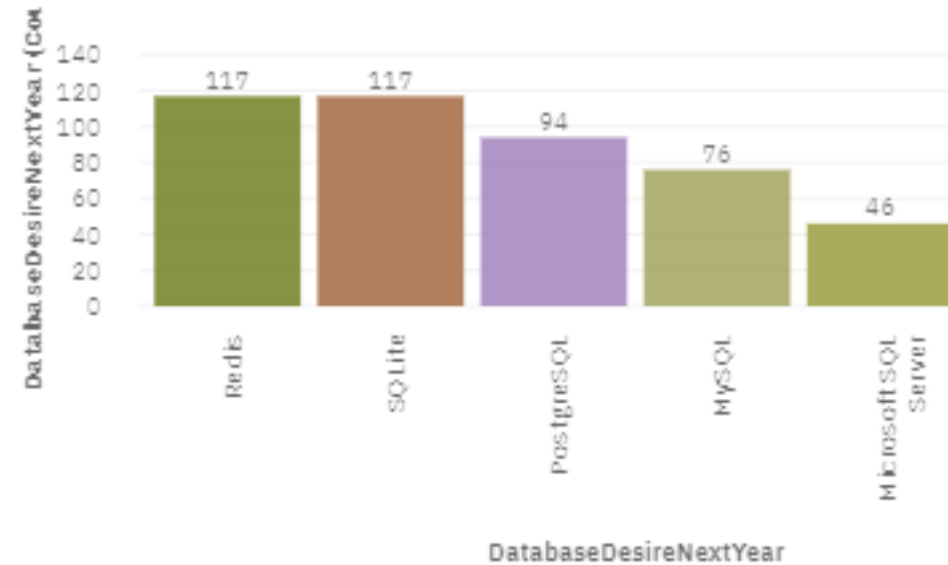
Current Year

Top 5 DatabaseWorkedWith



Next Year

Top 5 DatabaseDesireNextYear



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- MySQL, Microsoft SQL Server, PostgreSQL, SQLite and MongoDB are the databases developers use today.
- Redis, SQLite, PostgreSQL, MySQL, Microsoft SQL Server are the databases developers want to work in future.

Implications

- Most of the databases used today are relational which make such databases a crucial requirement.
- It means that the need for skills for working with relational databases will never go down.
- In addition to this developers want to learn NoSQL databases to enter into new marketplace.

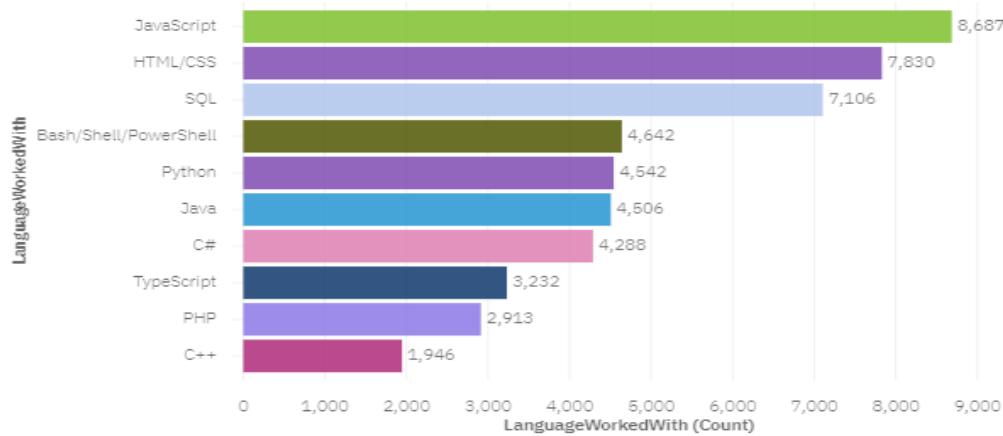
DASHBOARD



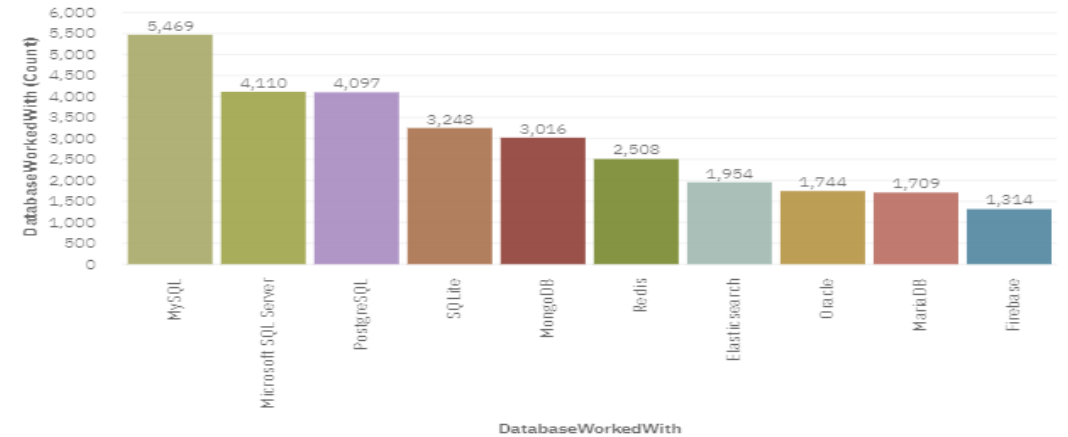
<https://dataplatform.cloud.ibm.com/dashboards>

CURRENT TECHNOLOGY USAGE

Top 10 LanguageWorked With



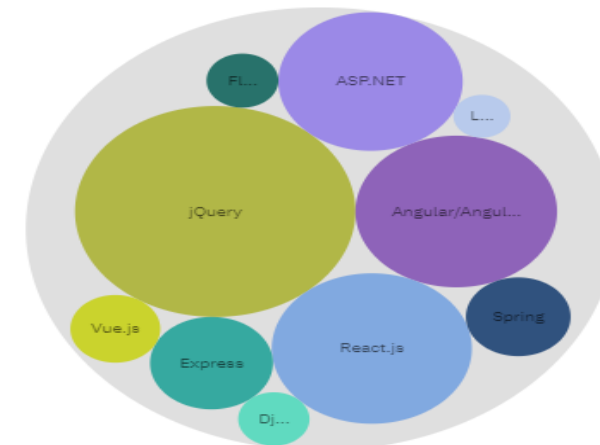
Top 10 DatabaseWorkedWith



Platform WorkedWith

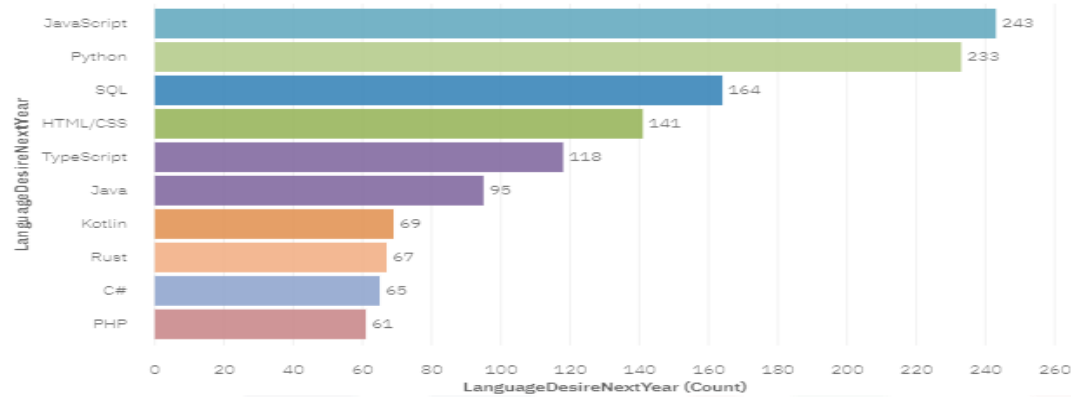


Top 10 WebFrameWorkedWith

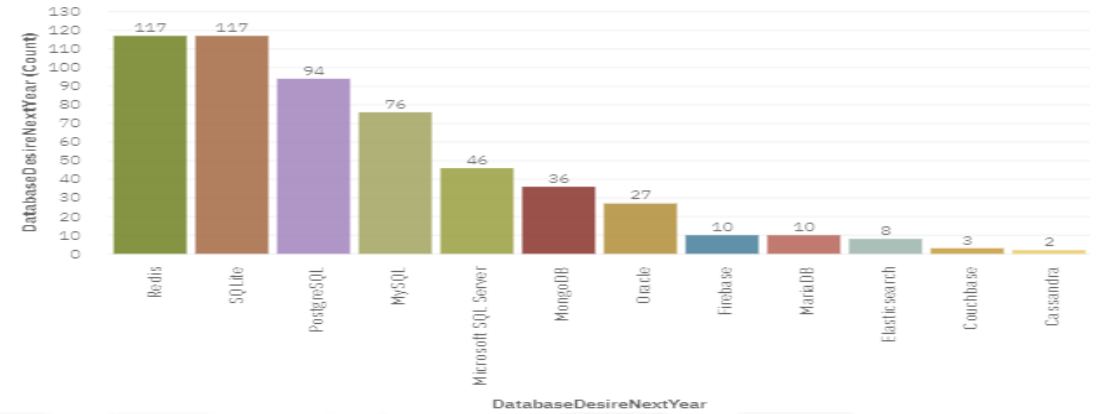


FUTURE TECHNOLOGY TREND

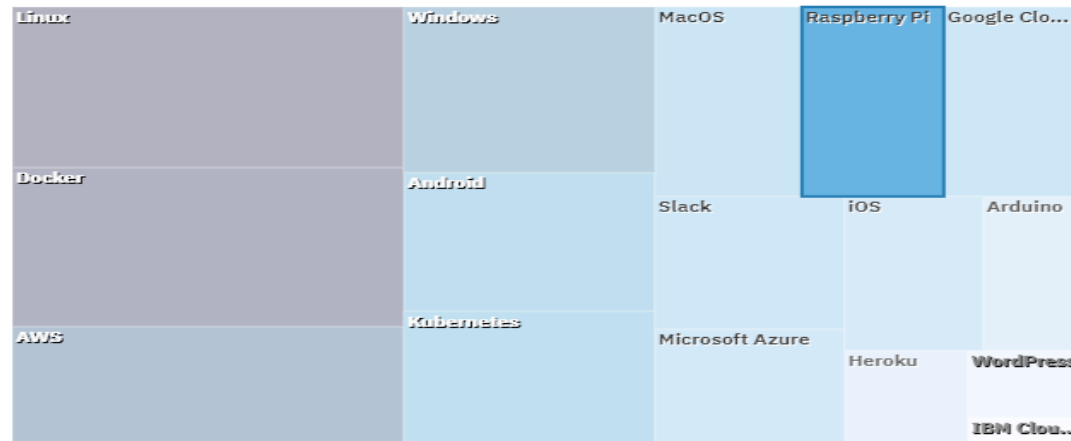
Top 10 LanguageDesireNextYear



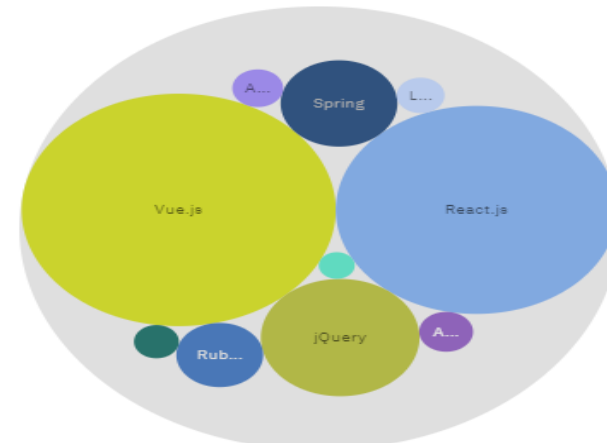
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



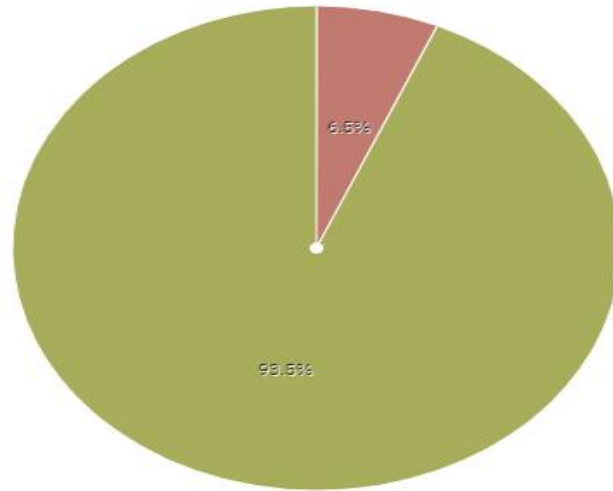
Top 10 WebFrameDesireNextYear



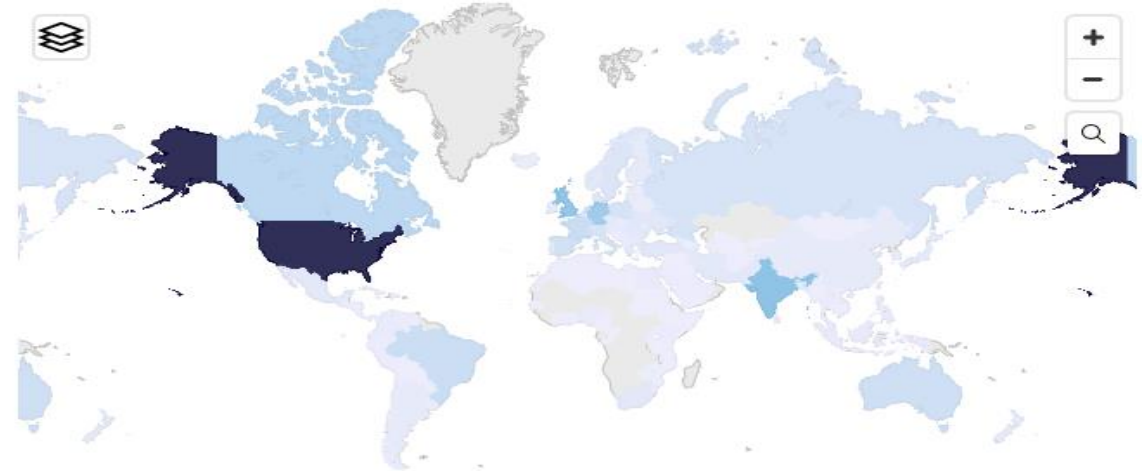
DEMOGRAPHICS

Respondent classified by Gender

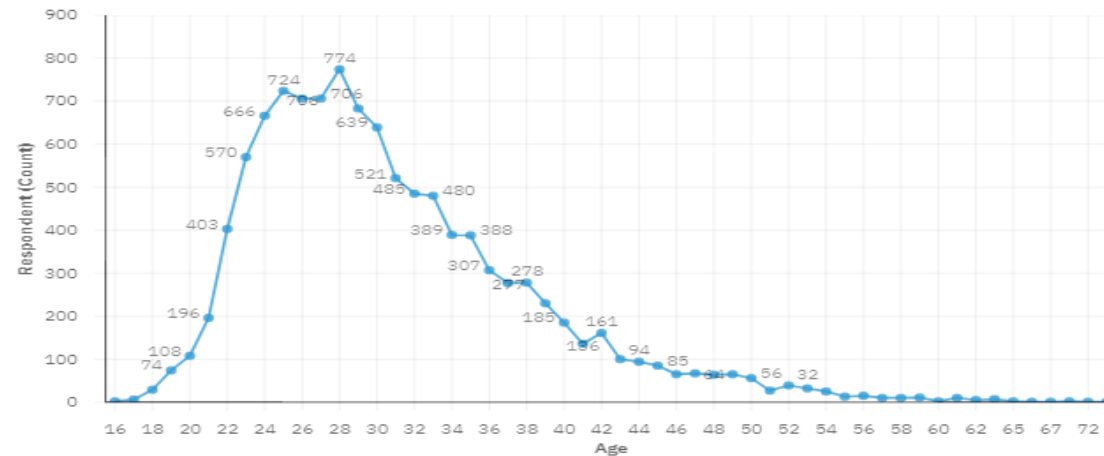
Woman
Man



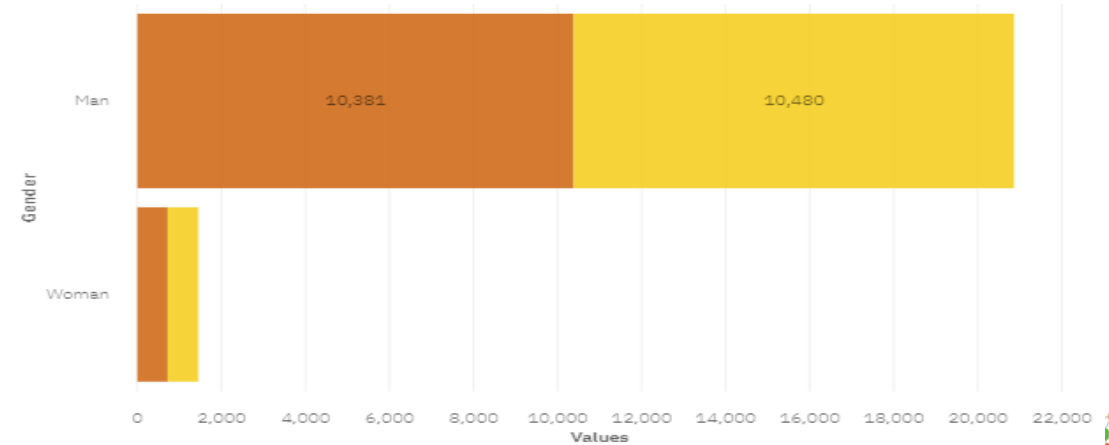
Respondent count for Countries



Respondent count by Age



Respondent Count by Gender, classified by Formal Education Level.



DISCUSSION



- There are numerous languages, databases, platforms are available by programmers to use.
- According to survey, JavaScript and Python are the most used languages.

OVERALL FINDINGS & IMPLICATIONS

Findings

- The median annual compensation paid to the developers are **\$98,000**.
- Developers are mostly men, about 93% of them.
- The median age of developers are 29.

Implications

- This makes IT industry one of the highest paid jobs provider.
- The outreach of women in STEM programs should be motivated.
- It indicates that young people make part of the workforce in IT sector.

CONCLUSION



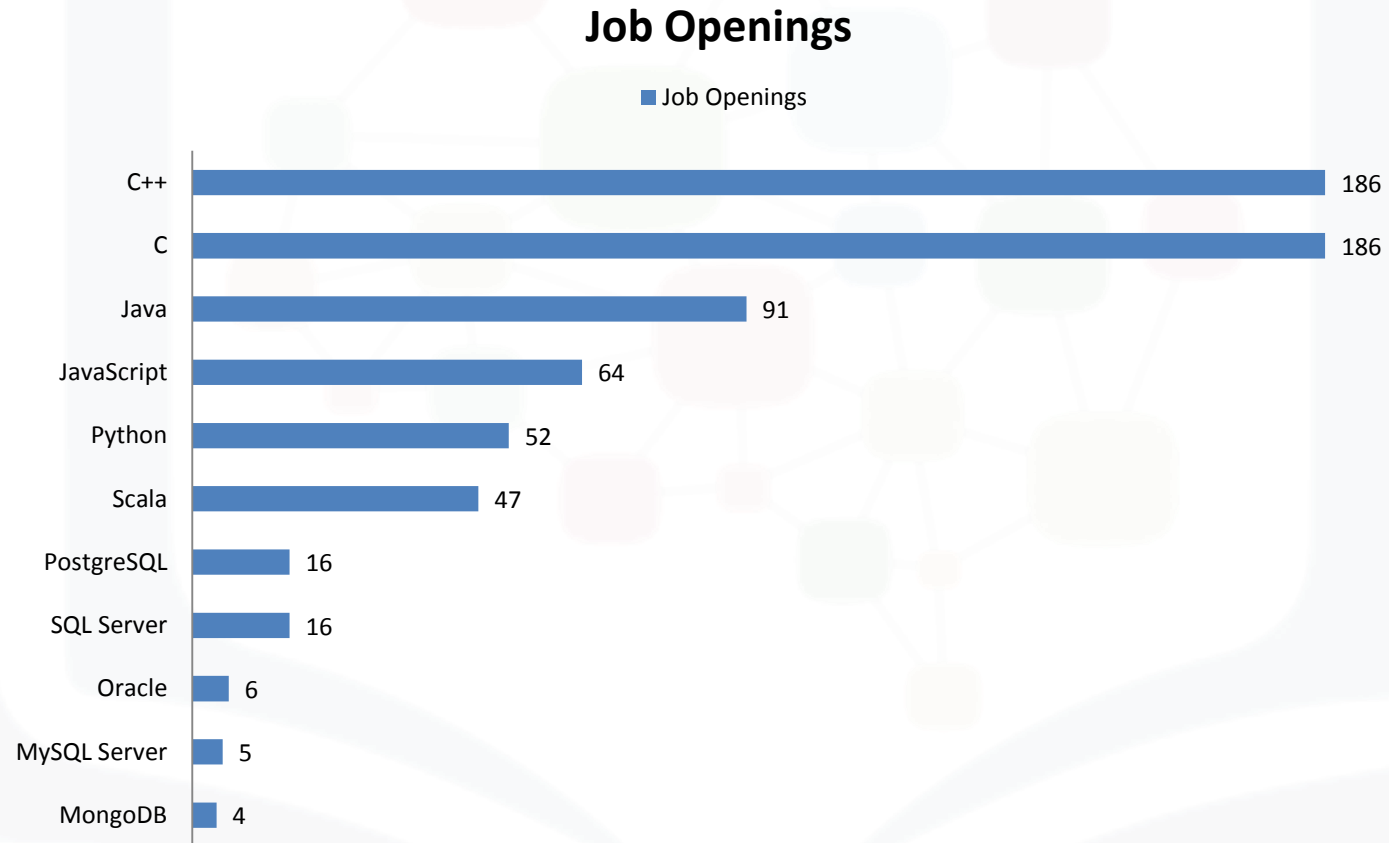
- IT industry provide many high paid jobs related to technology.
- Need for learning relational databases do not decrease with each new year.
- The women should be influenced to take part in STEM programs.

APPENDIX



- https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/labs/datasets/Programming_Languages.html
- <https://jobs.github.com>

GITHUB JOB POSTINGS



POPULAR LANGUAGES

