



# Emerging Trending Skills Required In IT industry In the future

Yudi Arrasyid

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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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- In the current IT industry, which is highly competitive and constantly evolving, there is always a need for new programming skills, especially in databases. In this presentation, we will discuss and analyze the emerging trends in the IT industry.
- In this presentation, we will discuss and analyze several key trends in the IT industry, including:
  - Current Technology Usage
  - Future Technology Trend
  - Demographics in IT industry
- This presentation to identify the top programming languages
- Identifying top database skills in demand
- Popular Webframes

# INTRODUCTION

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- What is the emerging trend and future skill requirements in the Industry?
  - What are the top programming language in demand?
  - What are the top database skills in demand?
  - What are the popular IDEs?
- collecting data from various sources and identifying trends for this year's report on emerging skills:
  - Job Postings
  - Training Portals
  - Surveys
- Data Analyst in a global IT and business consulting services firm that is known for their expertise in IT solutions and their team of highly experienced IT consultants. In order to keep pace with changing technologies and remain competitive, your organization regularly analyzes data to help identify future skill requirements.

# METHODOLOGY

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- Data Source: Two data is used **survey data demographics** and **Survey data technologies**
- `data was used for demographic data:
  - Man and woman
  - Age
  - Formal education level and Countries
- **Survey Data technologies** was used to analyze the current technology trend and future technology trend:
  - Respondents
  - Language Worked With, DataBase Worked With, Platform Worked With, Webframe Worked With
  - LanguageDesireNextYear, Database Desire Next Year, Platform Desire Next Year, Webframe Desire Next Year,
- Data is **filtered** with:
  - No Value or null is cleaned
  - Demographic: man and woman only
- Illustration of the data is used as follows:
  - Python libraries: Numpy, Matplotlib, Pandas,Seaborn
  - IBM Cognos Analytics Dashboard
  - Jupyternotebook for Data Cleaning and Data Science Analysis

# RESULTS

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The Results shown as follows are the analysis comparing the graphs between the current technology usage and Future technology usage.

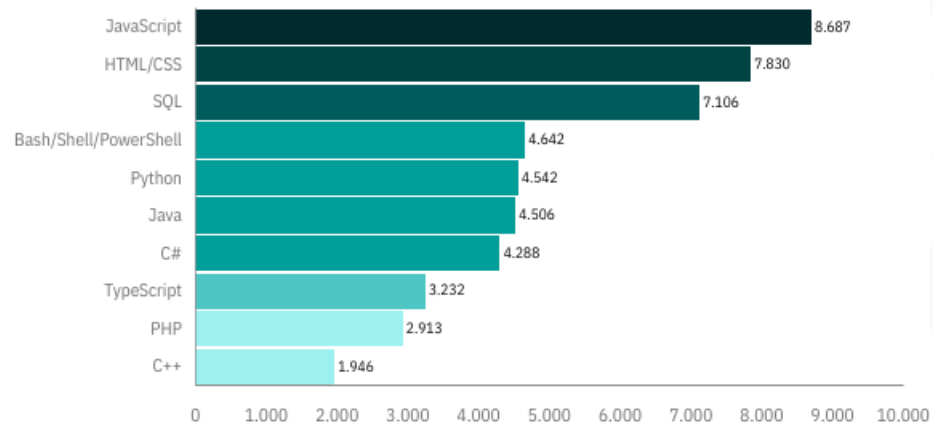
Results as follows:

- 1. Programming Language trends**
- 2. Database trends**
- 3. Webframe trends**

# PROGRAMMING LANGUAGE TRENDS

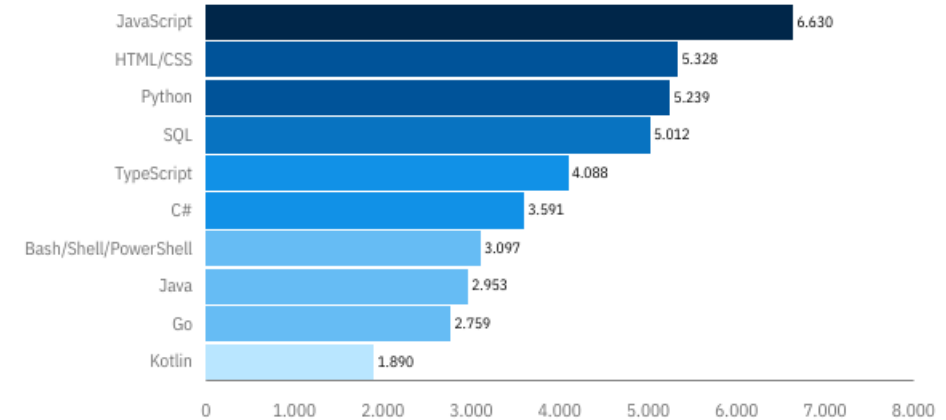
## Current Year

Top 10 Language Worked With.



## Next Year

Top 10 Language Desire Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- **JavaScript** is the top most demanded for current and future programming language.
- Significantly Increasing desire for **Python**
- The trends of programming language has shifted
- Top 4 language are:
  - JavaScript, Python, HTML/CSS, SQL

## Implications

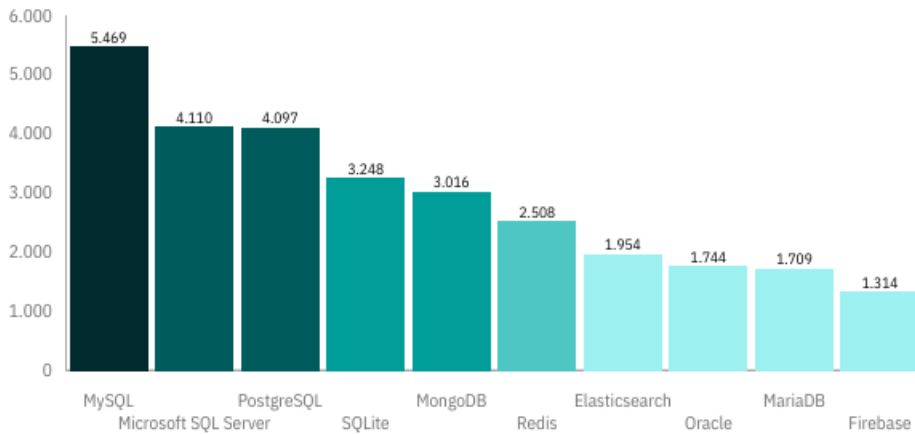
- **JavaScript** is still most popular and widely used in programming language in IT industry.
- **Python** has become a new desired and required skills in IT industry.
- **Python** is desired for next year due to its versatility, ease of learning, strong community support, and prominence in data science and AI.
- The Desire Skill for programming language has certainly Shifted.



# DATABASE TRENDS

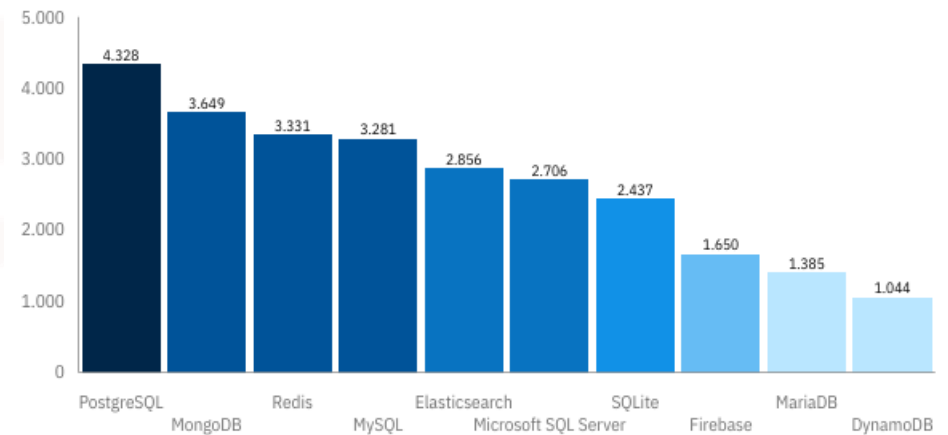
## Current Year

Top 10 Database Worked With.



## Next Year

Top 10 Database Desire Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- **PostgreSQL, MongoDB, Redis** have become the most desired Database.
- Drastic increase in the desire database skills especially for **MongoBD** and **Redis**
- Only a few are choosing **Oracle** Database as one desired databases for next year.

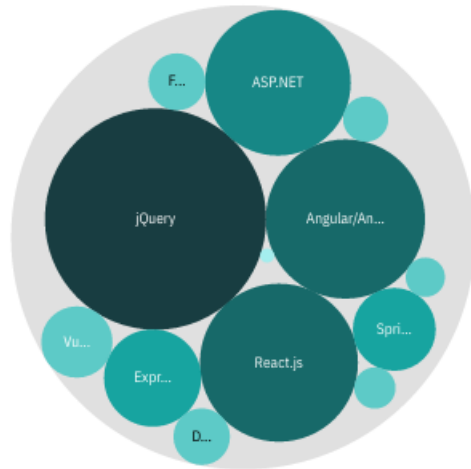
## Implications

- **PostgreSQL, MongoDB, Redis, MySQL** are the desired and most used Database.
- **MongoDb, Redis, Elasticsearch** have new and better functionalities or services.
- **Oracle** Database is being avoided
- Usage of **DynamoBD** more research may needed.

# WEBFRAME TRENDS

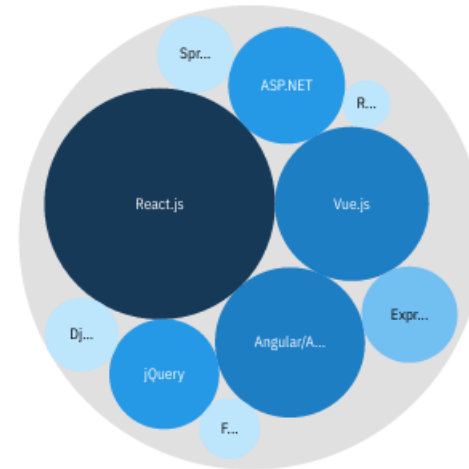
## Current Year

Top 10 WebFrame Worked With.



## Next Year

Top 10 WebFrame Desire Next Year



# WEBFRAME TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- The user for [jQuery](#) has drastically decreased.
- [Vue.js](#) have dramatically increase for the desire Webframe as compared to current WebFrame worked with
- The most noticeable difference in the current web frameworks compared to the desired frameworks for next year is the increased desire for [Vue.js](#) and the decrease in [jQuery](#) usage.

## Implications

- People are shifting to use a better webframe such as [React.js](#) or [Vue.js](#)
- [jQuery](#) might be lacking of some functionality as compare to webframe competitors
- [jQuery](#) can be omitted from the new requirements of new technological skills

# DASHBOARD

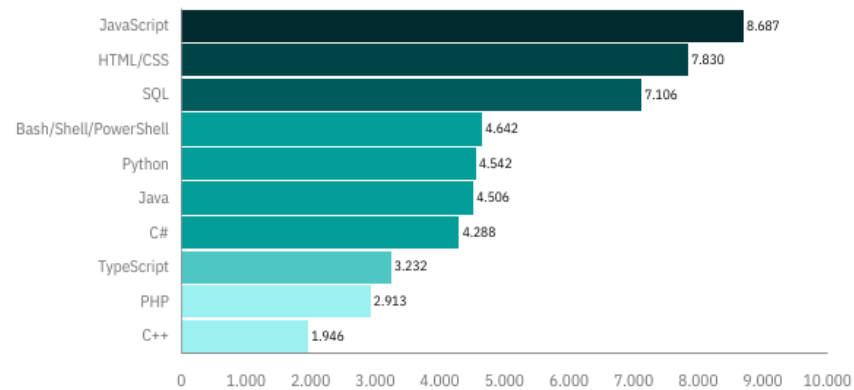
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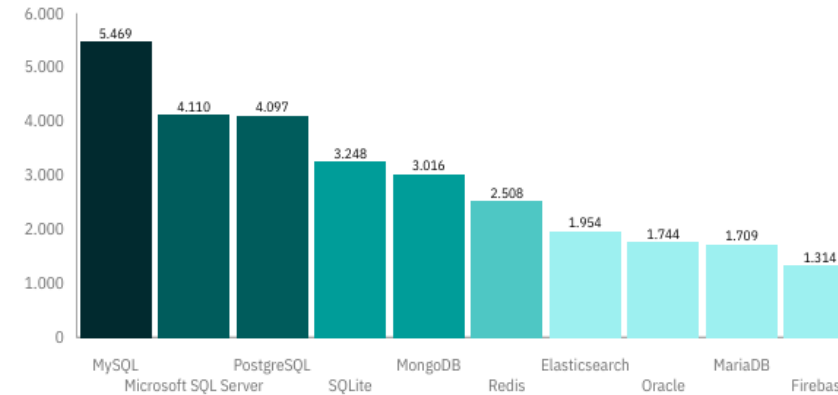
[https://github.com/yudiarrasyid/Yudi-Arrasyid-Part-A---  
Building-a-dashboard-with-IBM-Cognos-  
Analytics/blob/main/Part B -  
Building a dashboard with Cognos Analytics.pdf](https://github.com/yudiarrasyid/Yudi-Arrasyid-Part-A---Building-a-dashboard-with-IBM-Cognos-Analytics/blob/main/Part%20B%20-%20Building%20a%20dashboard%20with%20Cognos%20Analytics.pdf)

# DASHBOARD TAB 1

Top 10 Language Worked With.



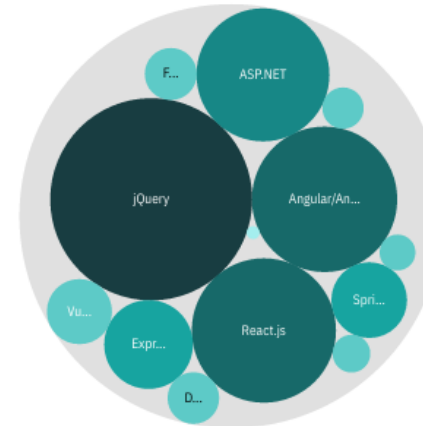
Top 10 Database Worked With.



Platform Worked With.

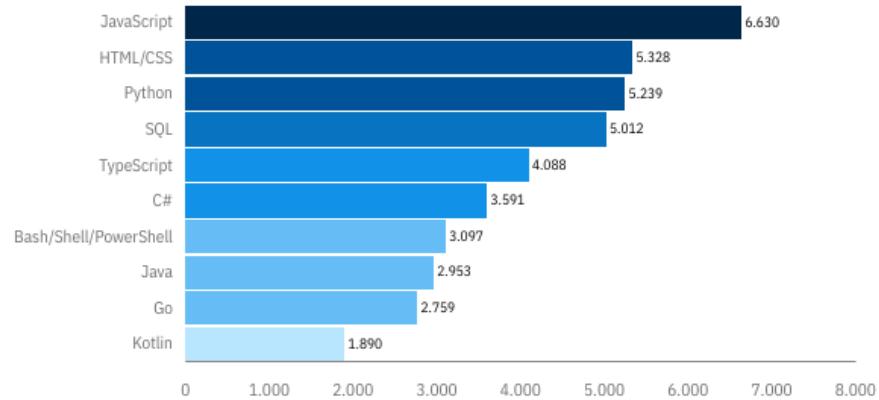


Top 10 WebFrame Worked With.

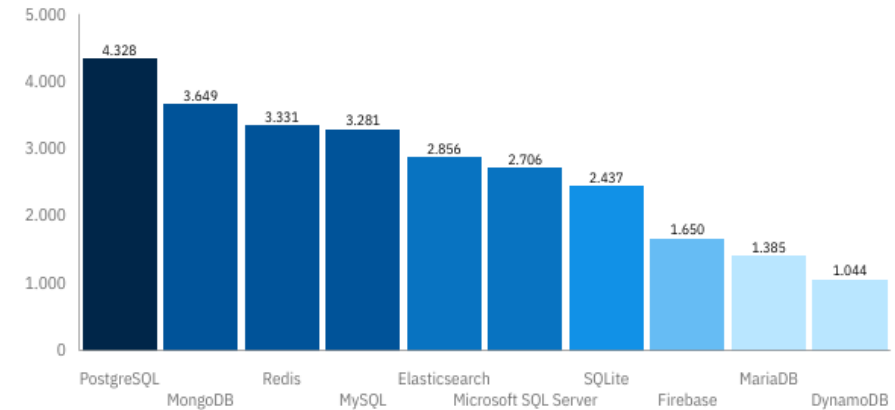


# DASHBOARD TAB 2

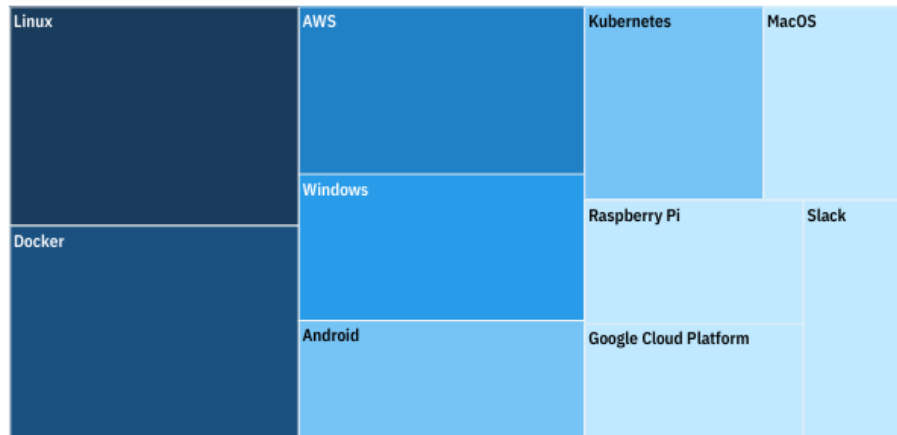
Top 10 Language Desire Next Year



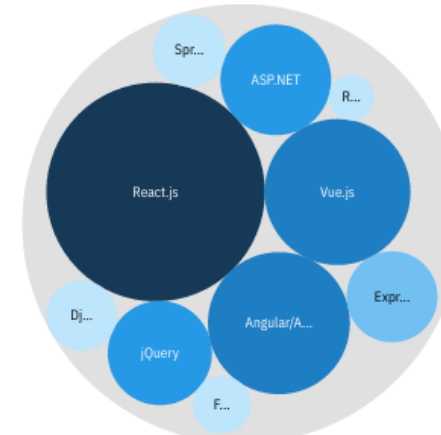
Top 10 Database Desire Next Year



Platform Desire Next Year

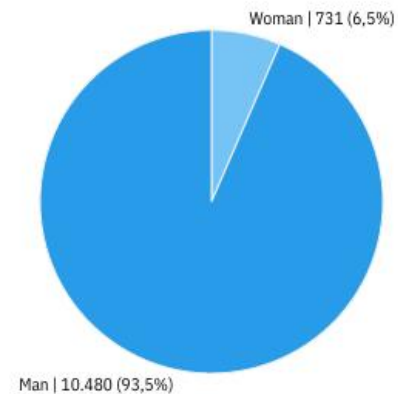


Top 10 WebFrame Desire Next Year



# DASHBOARD TAB 3

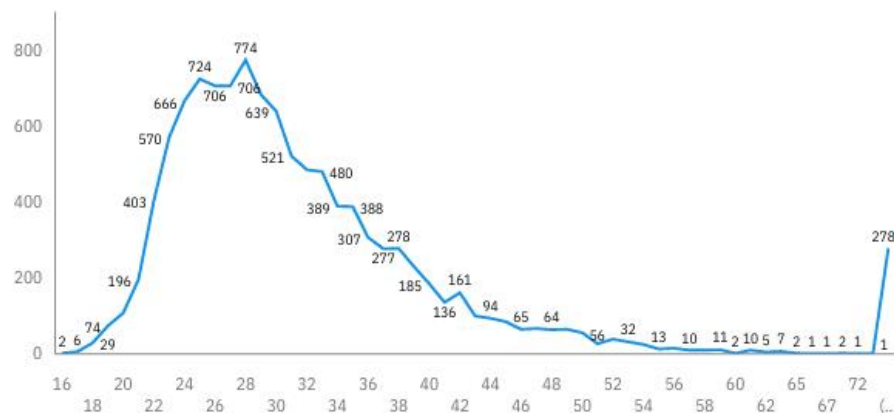
Respondent by Gender



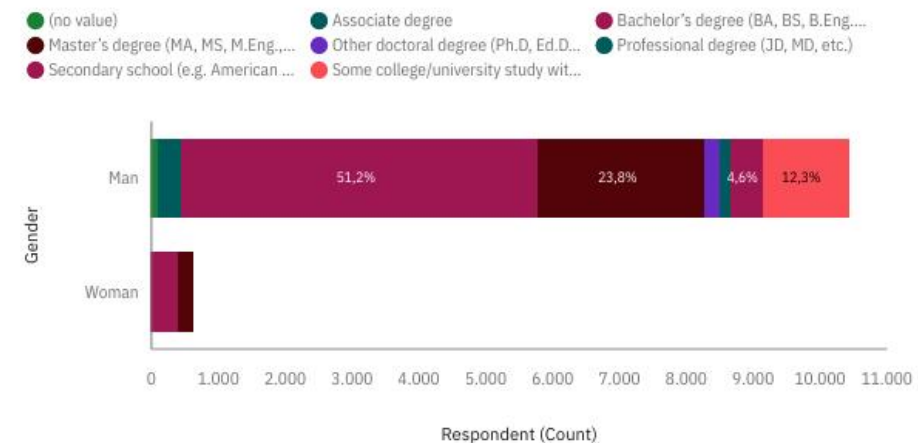
Respondent by Country



Respondent by Age



Respondent by Gender





# DISCUSSION

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- For future skills requirements and recommendations:
- Top programming languages Future Desire are:
  - JavaScript, Python, HTML/CSS, SQL, have become the new desire programming language that are gaining popularity in the IT industry
- Top Database Skills:
  - PostgreSQL, MongoDB, Redis, MySQL are becoming more sought after as compared to current most popular databases that people worked with.
- Popular Webframes:
  - React.js, Angular/Angular.js, Vue.js , jQuery and ASP.net are the popular Web Frameworks.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- JavaScripts, Python, HTML/CSS,SQL, TypeScript are the new desire programming language
- PostgreSQL, MongoDB, Redis, MySQL, are the new desired Database
- The trends shows a drastic changes in Desire for next year programming languages, Database and Webframes

## Implications

- Programming Language:
  - JavaScripts, Python, HTML/CSS, SQL, TypeScript
- Database:
  - PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch
- Webframes:
  - React.js, Angular/Angular.js, Vue.js , jQuery and ASP.net
- The numbers of Skills requirements to be able to be competitive in the IT industry has been changing in the vast development and redefine of current tech.

# ADDITIONAL FINDINGS & IMPLICATIONS

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## Findings

- The survey that is done where **Men are more involve** in the IT industry as depicts from the Dashboard Pie chart where it shown about 93.5% of the industry are men.
- From the research it also shows that the respondent for the survey are roughly around **age of 18-54**
- From the survey also illustrated that most respondent has atleast an education level of a **bachelors degree**

## Implications:

- There might be a relationship related between the next year desire skills and the education level of the respondent.
- Gender might plays a role in the ever changing industry of IT

# CONCLUSION

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- The Open source data collected from StackFlow can be recreated and analyze to avoid any data biased.
- The technologies that worked with in current year has shown a shift in trend, in order to remain competitive changes in skills requirements are needed.
- The significant changes and desires are shown in programming languages and the databases.Hence the new requirements:
- Programming Language:
  - JavaScripts, Python, HTML/CSS,SQL,TypeScript
- Database:
  - PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch
- IDEs:
  - React.js,Angular/Angular.js,Vue.js , jquery and ASP.net

# APPENDIX

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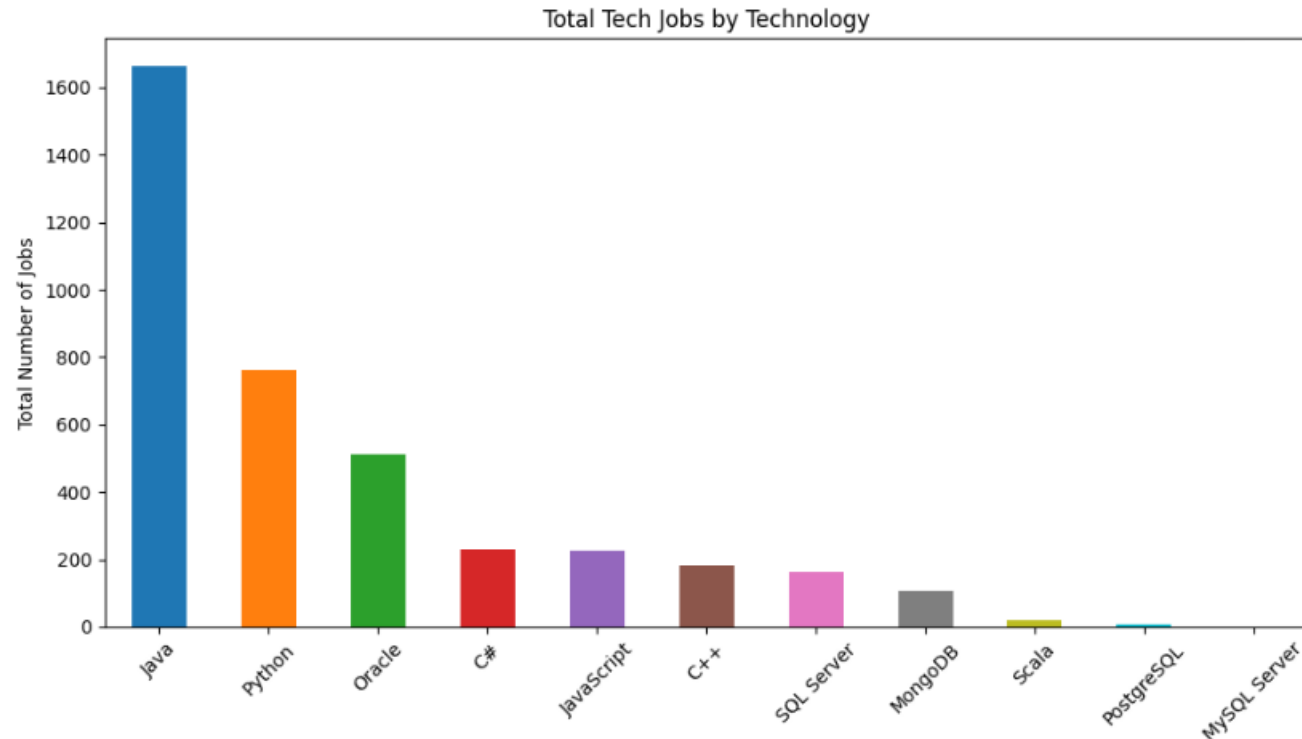
file named *popular-languages.csv*



Language	Average Annual Salary
Python	\$114,383
Java	\$101,013
R	\$92,037
Javascript	\$110,981
Swift	\$130,801
C++	\$113,865
C#	\$88,726
PHP	\$84,727
SQL	\$84,793
Go	\$94,082

# GITHUB JOB POSTINGS

In Module 1 you have collected the job postings data using GitHub API in a file named “github-job-postings.xlsx”. Present that data using a bar chart here. Order the bar chart in the descending order of number of job postings.



# POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named “popular-languages.csv”. Present that data using a bar chart here. Order the bar chart in the descending order of salary.

