Analysis on Emerging Technology Skills and Trends

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OUTLINE

- Executive Summary

- Introduction

- Methodology

- Results
  - Visualization – Charts
  - Dashboard

- Discussion
  - Findings & Implications

- Conclusion

- Appendix

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EXECUTIVE SUMMARY

- Collecting Technology trends in various location
- Analyzing the data and identify insights and trends
  - The top programming languages
  - Top Database
  - Popular Platform
  - Popular Web Frame
- Presenting the analyses with dashboard showing current skills, future trend skills.
- Demographics

INTRODUCTION

- This report uses data analytics to highlight current and projected trends in the need for skills related to programming languages, databases, platform and web frames.

- The following inquires were investigated using the data:
    1. Which programming languages are most in demand today?
    2. What are the most in-demand database skills?
    3. What popular IDEs or Web frames are there?

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METHODOLOGY

- Data Collection

- Data Wrangling

- Data Exploration

- Data Visualization
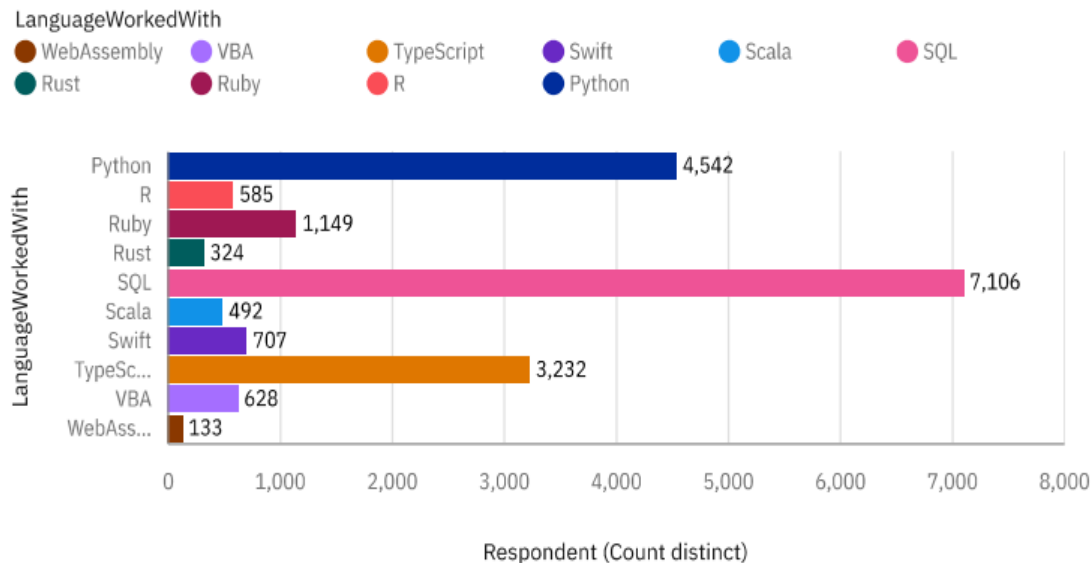
- Dashboard Creation

- Presentation

RESULTS

The collected data is cleaned and then analyzed by applying statistical techniques and finally the information is presented by make dashboards showing current and future trends.
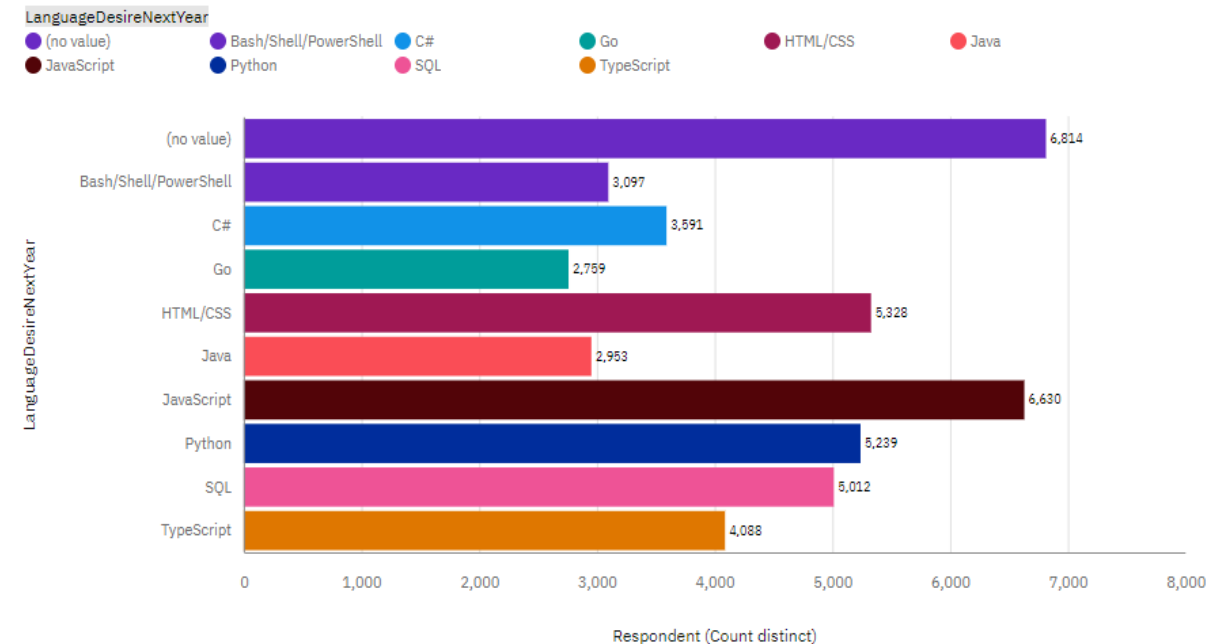
PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Language Worked With

LanguageWorkedWith
- WebAssembly
- VBA
- TypeScript
- Swift
- Scala
- SQL
- Rust
- Ruby
- R
- Python

Language	Respondent (Count distinct)
Python	4,542
R	585
Ruby	1,149
Rust	324
SQL	7,106
Scala	492
Swift	707
TypeSc...	3,232
VBA	628
WebAss...	133

Respondent (Count distinct)

Next Year

Top 10 Language Desire Next Year

LanguageDesireNextYear
- (no value)
- Bash/Shell/PowerShell
- C#
- Go
- HTML/CSS
- Java
- JavaScript
- Python
- SQL
- TypeScript

Language	Respondent (Count distinct)
(no value)	6,814
Bash/Shell/PowerShell	3,097
C#	3,591
Go	2,769
HTML/CSS	5,328
Java	2,953
JavaScript	6,630
Python	5,239
SQL	5,012
TypeScript	4,088

Respondent (Count distinct)

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Javascript,HTML/CSS and SQL are top 3 in the current year.

- Python gained popularity in desired language next year.

- PowerShell popularity fall down in coming years.
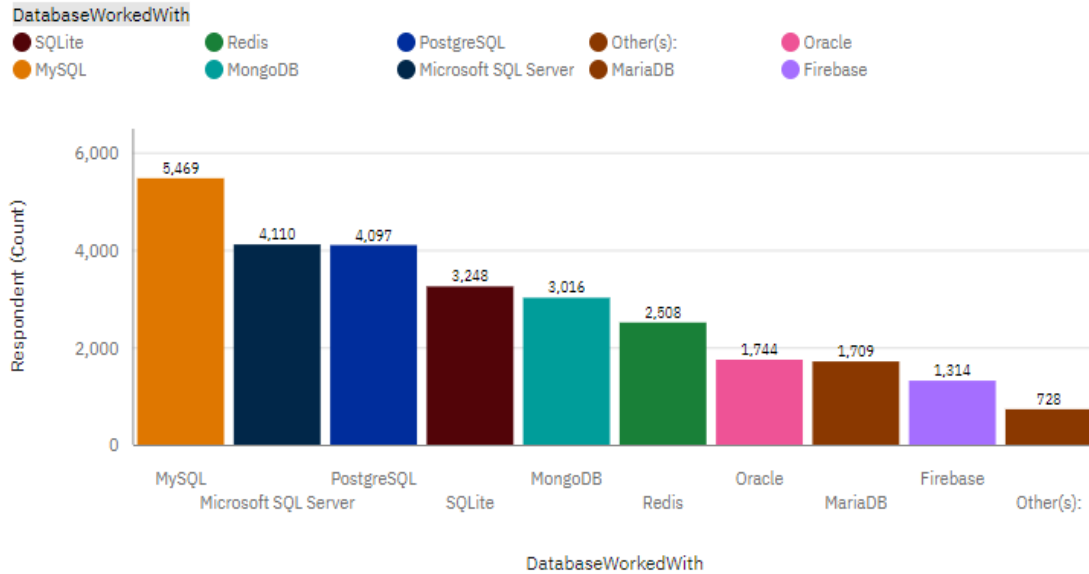
Implications

- Web Development is still in high demand.

- Python is the best choice of programming language in future.

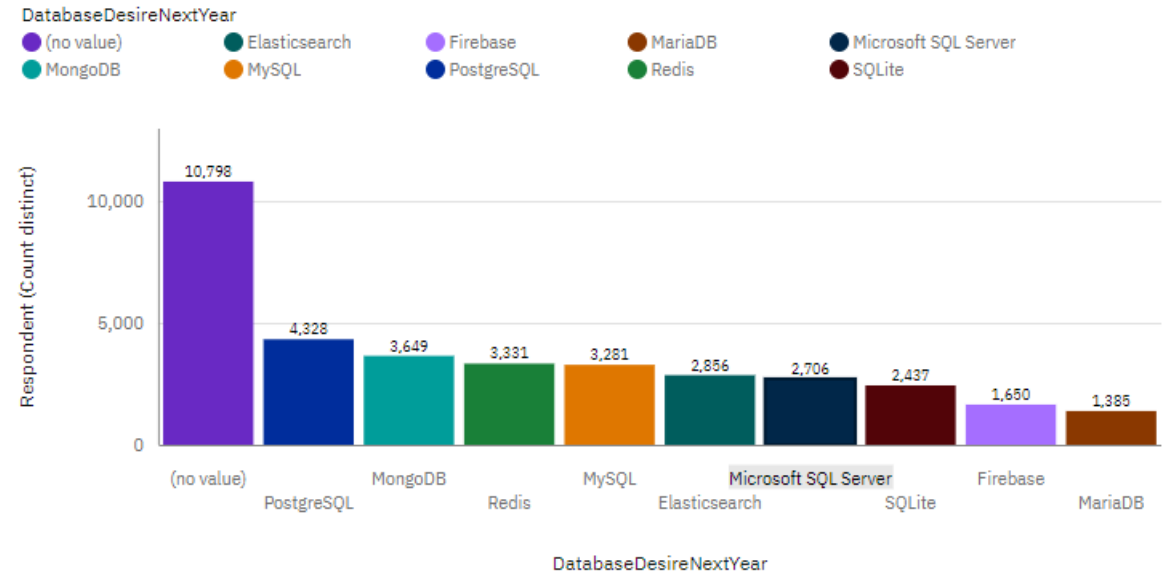- SQL still in high demand due to its vast application and usage.

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DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL,MicrosoftSQL server, PostgreSQL, SQLite and MongoDB are the top 5 most used databases at the moment.

- However, PostgreSQl, MongoDb, Redis, MySQL and Elasticsense are projected to become more popular in the future.

- Redis and Elasticsense are relatively new tools and are set to gain more traction in the IT space.

Implications

- SQL is still a top tool to watch out for in data specialists.

- Companies still prefer Open source databases.

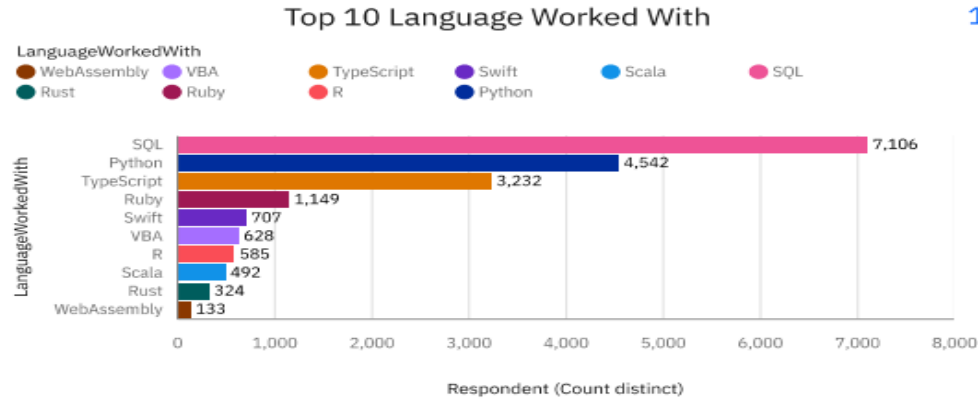- Oracle SQL was not among the top 5. It is losing relevance as time passes.

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DASHBOARD
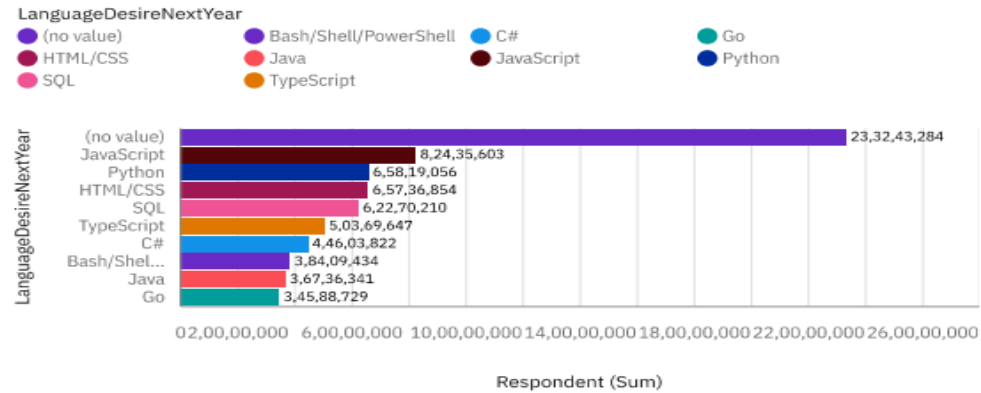
Link of the Cognos dashboard

Click here

DASHBOARD TAB 1
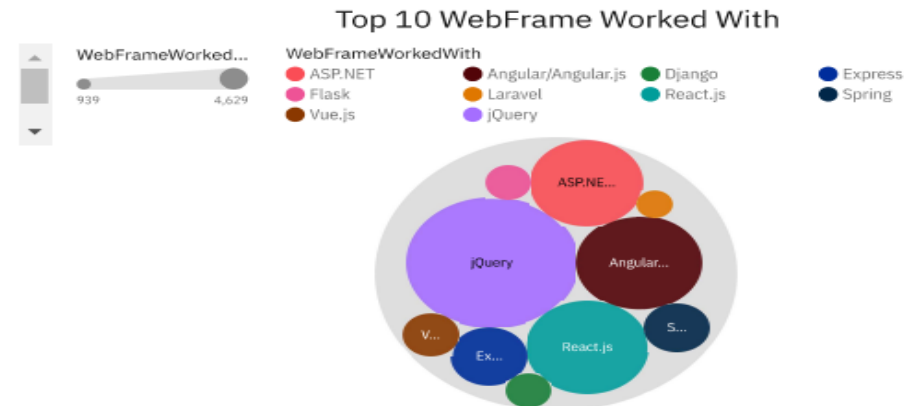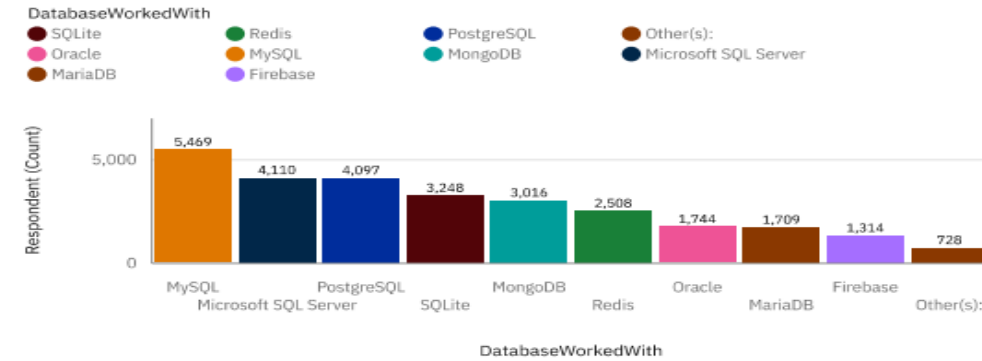
DASHBOARD TAB 2

Future Technology Trend

Top 10 Language Desire Next Year 4

LanguageDesireNextYear
- (no value)
- Bash/Shell/PowerShell
- C#
- Go
- HTML/CSS
- Java
- JavaScript
- Python
- SQL
- TypeScript

(no value)	23,32,43,284
JavaScript	8,24,35,603
Python	6,58,19,056
HTML/CSS	6,57,36,854
SQL	6,22,70,210
TypeScript	5,03,69,647
C#	4,46,03,822
Bash/Shel...	3,84,09,434
Java	3,67,36,341
Go	3,45,88,729

02,00,00,000 6,00,00,000 10,00,00,000 14,00,00,000 18,00,00,000 22,00,00,000 26,00,00,000

Respondent (Sum)

Top 10 Database Desire Next Year 5

DatabaseDesireNextYear
- (no value)
- Elasticsearch
- Firebase
- MariaDB
- Microsoft SQL Server
- MongoDB
- MySQL
- PostgreSQL
- Redis
- SQLite

Value	Count
(no value)	10,798
PostgreSQL	4,328
MongoDB	3,649
Redis	3,331
MySQL	3,281
Elasticsearch	2,856
Microsoft SQL Server	2,706
SQLite	2,437
Firebase	1,650
MariaDB	1,385

DatabaseDesireNextYear

Platform Desire Next Year
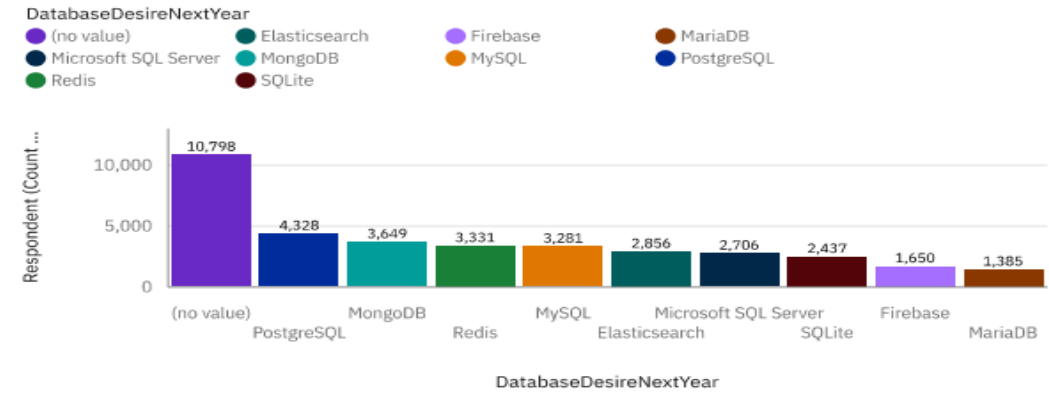
PlatformDesireNe... 0 — 5,865
PlatformDesireNe... 0 — 5,865

Top 10 WebFrame Desired for Next Year 6
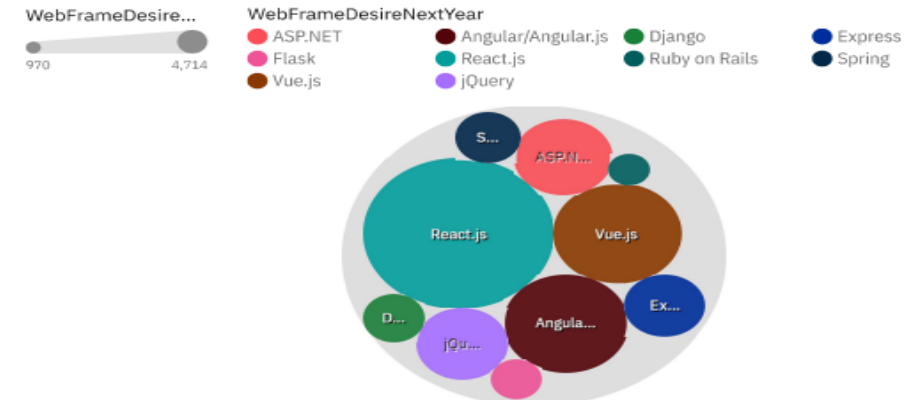
WebFrameDesire... 970 — 4,714

WebFrameDesireNextYear
- ASP.NET
- Angular/Angular.js
- Django
- Express
- Flask
- React.js
- Ruby on Rails
- Spring
- Vue.js
- jQuery

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DASHBOARD TAB 3
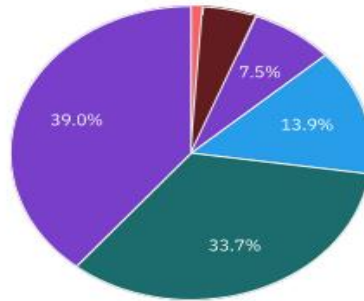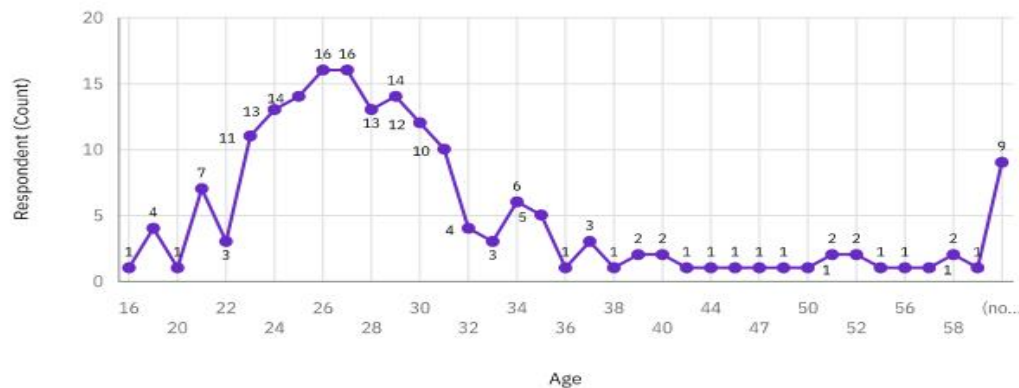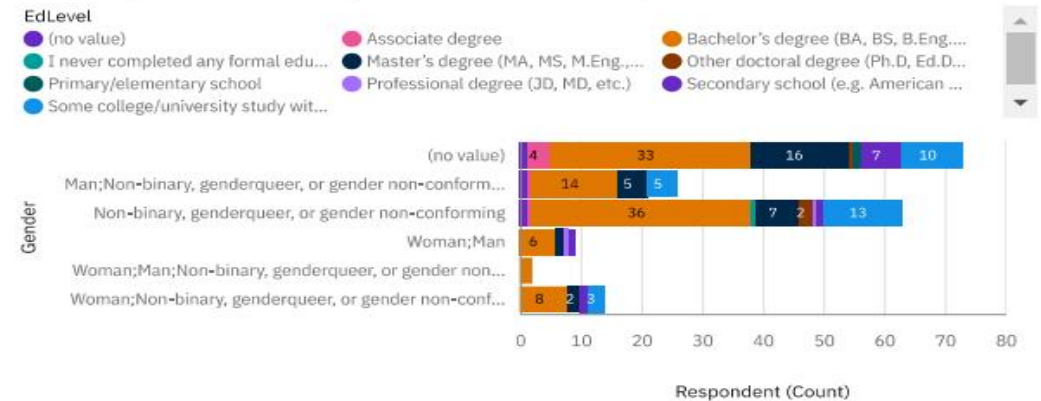
DISCUSSION

- Women places in global IT areas
- Why the SQL servers are remained the most interest in the future?
- What is the key value of HTML/CSS to be still required?
- Upskilling in the technology sector.
- How do we close the wide gender gap in the technology sector?

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OVERALL FINDINGS & IMPLICATIONS

Findings

- By next year Javascript and HTML/CSS will be in top positions.
- Python is most used programming language.
- PostgreSQL is presented to be the top .
- Platform Linux is the largest proportion while windows will be replaced by Docker.
- React.js is predicted to be the highest preference of WebFrame .
- Most people in the IT field have a Bachelor's degree.

Implications

- It is important for data professionals to develop proficiencies in NoSQL in addition to SQL databases.
- Web development is still a very lucrative skill.
- Less developed countries need more access to tech trainings and education.
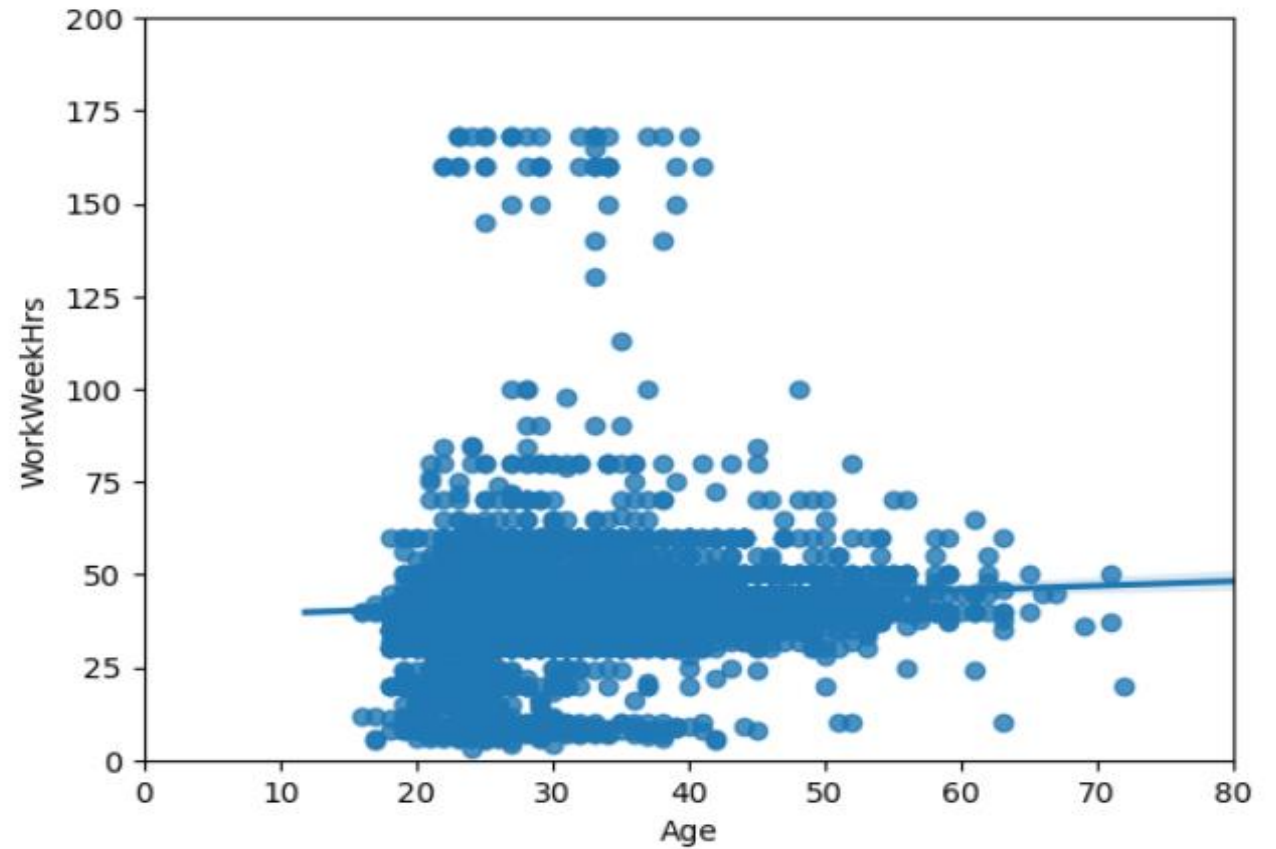
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CONCLUSION

- HTML/CSS is estimated to stay popular
- PostgreSQL will be the most demand of database.
- Linux platform is predicted to stay at the top
- The most percentage of Webframe will be occupied by React.js
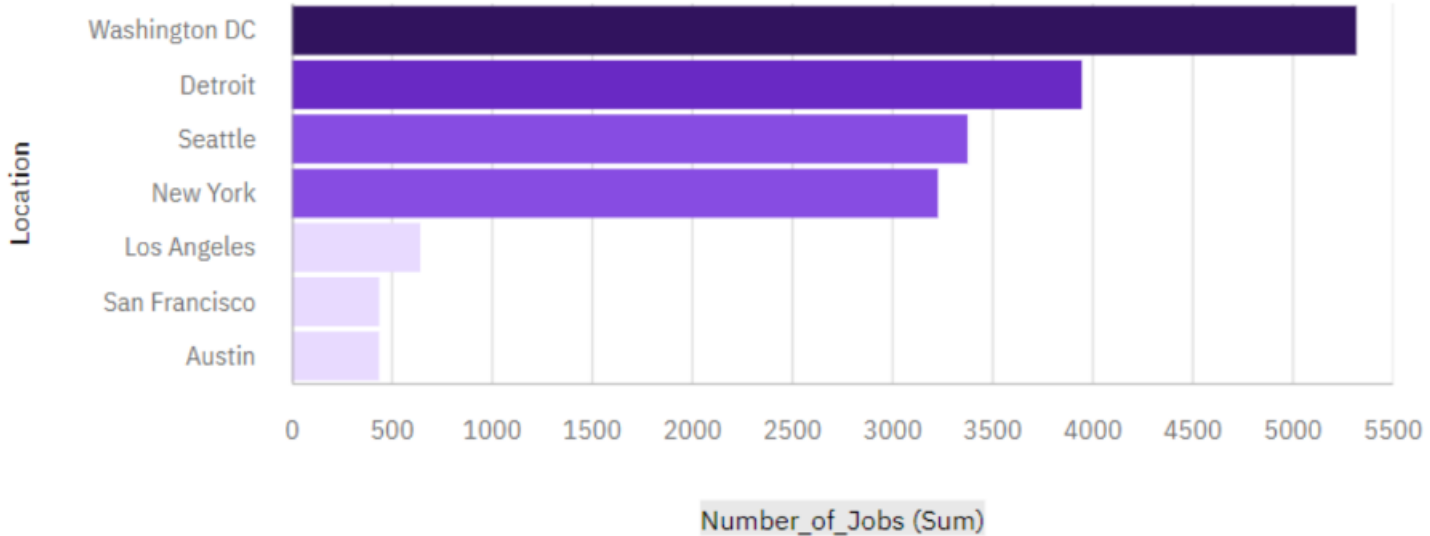- Men are interested in IT skills more than women

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APPENDIX

Scatter plot of age and workweekhrs

JOB POSTINGS

Number_of_Jobs by Location

POPULAR LANGUAGES

Annual average salary by Language name

annual average sa...

84,727   130,801

annual average salary (Average)