Current and Future Technology Trends

Deborah Marcum

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EXECUTIVE SUMMARY

- The purpose of this analysis is to evaluate and decide the company's next steps in the ever-changing world of technology

- Data gathered from job postings, training portals, and surveys was analyzed in order to assess the skills needed to be successful in the current and future job markets.

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INTRODUCTION

- In order to keep pace with changing technologies and to remain competitive in the business world, the company must continuously stay up on the technology trends and skills needed to be successful.

- Data gathered from a variety of sources, such as current job postings, surveys conducted from current data analysts, and training portals.

- Data was gathered using web scraping and accessing APIs, and then cleaned and formatted in order to apply statistical analyses.

- Once analyzed and organized through graphical representations, a dashboard was created to present the data in a meaningful manner

METHODOLOGY

- The data sources used job postings, training portals, and surveys through web scraping and accessing APIs

- The data was cleaned and formatted so the data points could be used in statistical analyses.

- The data, mainly categorical data, was then organized using a variety of graphical representations, such as bar charts, line charts, and pie charts.
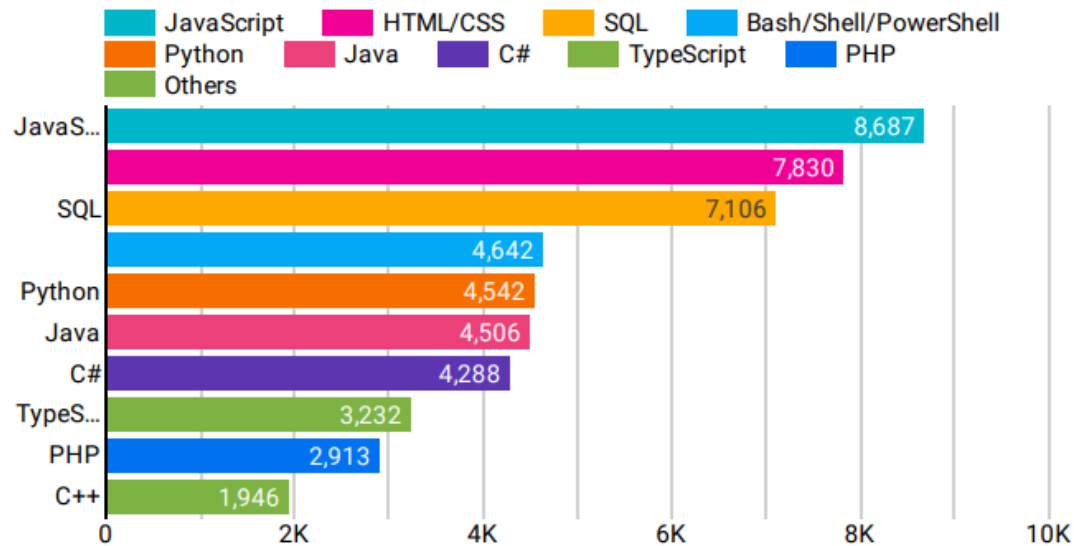
RESULTS

- Job postings, training portals, and surveys were used to collect data. These sources were accessed via web scraping and the use of APIs. The data was tabulated in csv formats.
- Null values or empty cells were either eliminated or filled with the median value of the column.
- Data was organized in graphical representations, including bar charts, line charts, pie charts, and geographical maps.
- The focus of the data was the current usage and future trends of programming languages, databases, platforms, and web frames. Respondents were analyzed based on gender, age, and physical location.
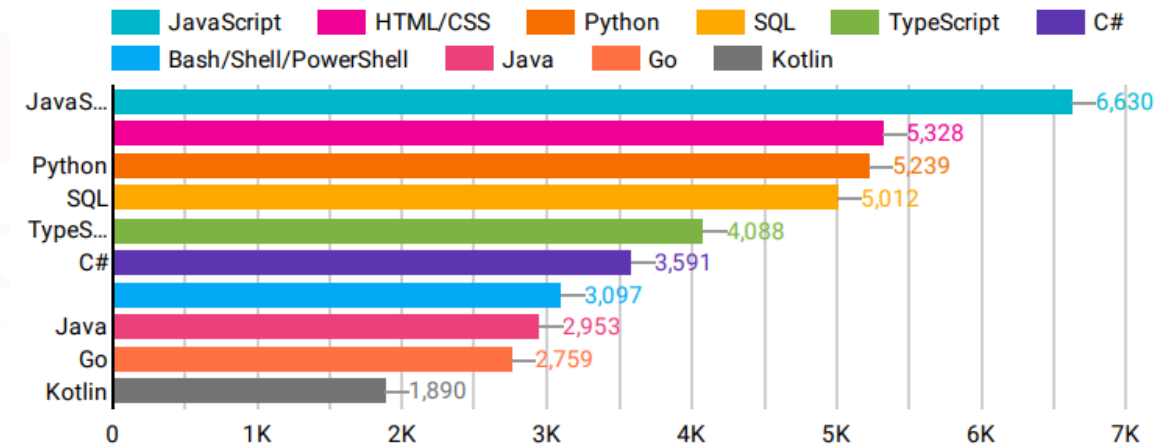
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PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 Languages Used

JavaScript	HTML/CSS
SQL	Bash/Shell/PowerShell
Python	Java
C#	TypeScript
PHP	Others

- JavaS... 8,687
- (HTML/CSS) 7,830
- SQL 7,106
- (Bash/Shell/PowerShell) 4,642
- Python 4,542
- Java 4,506
- C# 4,288
- TypeS... 3,232
- PHP 2,913
- C++ 1,946

Next Year

Top 10 Desired Languages

JavaScript	HTML/CSS	Python	SQL	TypeScript	C#
Bash/Shell/PowerShell	Java	Go	Kotlin		

- JavaS... 6,630
- (HTML/CSS) 5,328
- Python 5,239
- SQL 5,012
- TypeS... 4,088
- C# 3,591
- (Bash/Shell/PowerShell) 3,097
- Java 2,953
- Go 2,759
- Kotlin 1,890

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

JavaScript and HTML/CSS are the top two most widely used and desired programming languages.

- The third most used programming language is SQL, but Python is an up and coming language.

- Other widely used languages include Bash/Shell/PowerShell, Java, C#, and TypeScript.
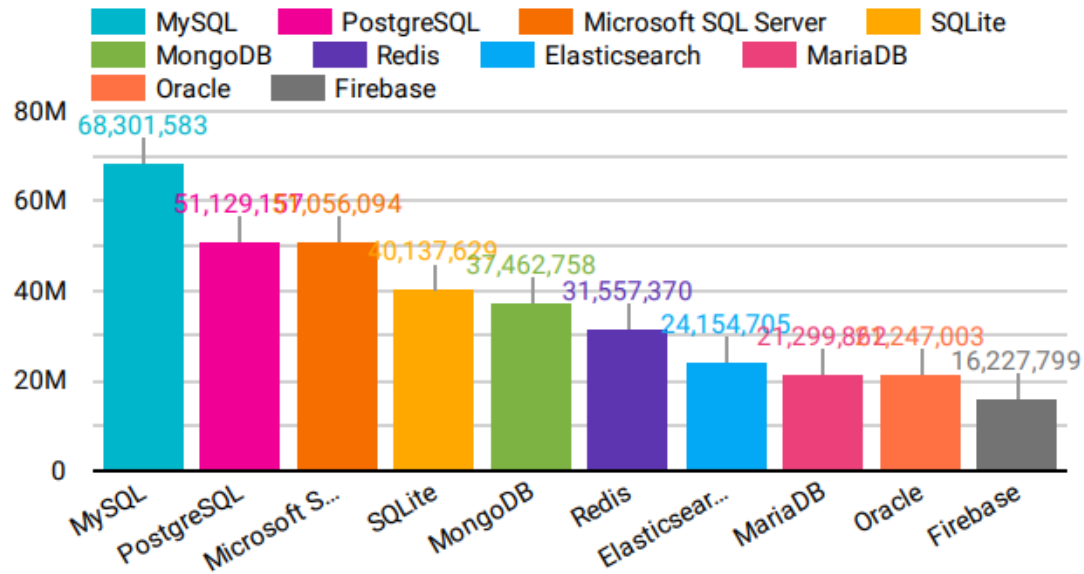
Current skills are essentially matching the desired skills in programming languages

- While SQL is more widely used as compared to Python, Python is becoming a more and more desired language.

- Surprisingly, the programming language Kotlin is desired, however, it is not currently a top ten used language.

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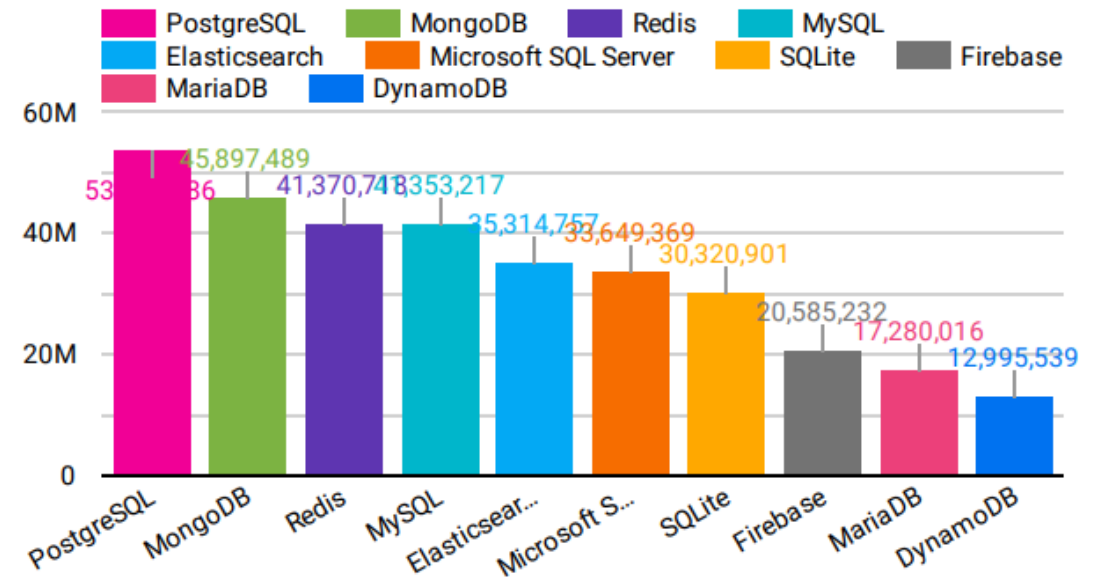
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DATABASE TRENDS

Current Year

Top 10 Databases Used

Legend:
- MySQL
- PostgreSQL
- Microsoft SQL Server
- SQLite
- MongoDB
- Redis
- Elasticsearch
- MariaDB
- Oracle
- Firebase

Database	Value
MySQL	68,301,583
PostgreSQL	51,129,157
Microsoft S...	57,056,094
SQLite	40,137,629
MongoDB	37,462,758
Redis	31,557,370
Elasticsear...	24,154,705
MariaDB	21,299,862
Oracle	22,247,003
Firebase	16,227,799

Next Year

Top 10 Desired Databases

Legend:
- PostgreSQL
- MongoDB
- Redis
- MySQL
- Elasticsearch
- Microsoft SQL Server
- SQLite
- Firebase
- MariaDB
- DynamoDB

Database	Value
PostgreSQL	53...86
MongoDB	45,897,489
Redis	41,370,748
MySQL	353,217
Elasticsear...	35,314,757
Microsoft S...	33,649,369
SQLite	30,320,901
Firebase	20,585,232
MariaDB	17,280,016
DynamoDB	12,995,539

DATABASE TRENDS - FINDINGS & IMPLICATIONS

The most widely used database is MySQL, but the most desired database is PostgreSQL, which is the second most used database.

- Current databases are matching the desired databases. Skills are meeting the desired skills.

- Other top databases in use include Microsoft SQL Server, SQLite, MongoDB, and Redis

Current skills are meeting the future demands.

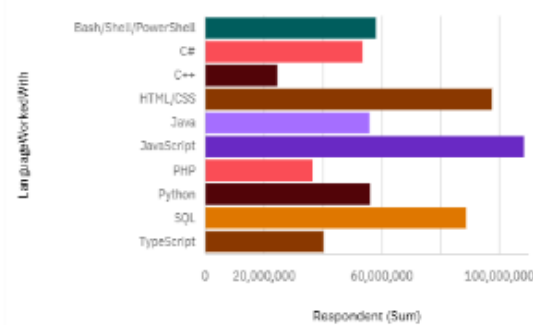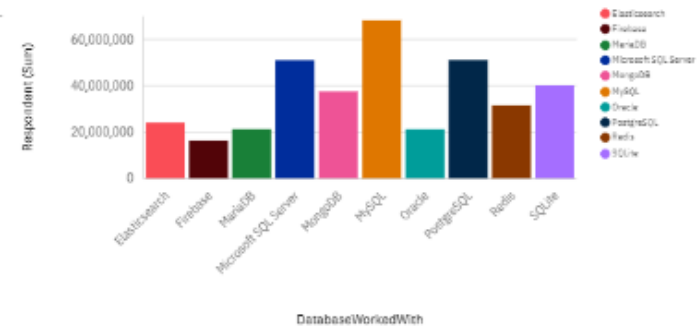- Some form of SQL remains the most widely used and desired database.

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DASHBOARD

https://github.com/dnmarcum/Capstone-Project.git

DASHBOARD TAB 1

DASHBOARD TAB 2

Future Technology Trend

Top 10 Languages Respondents Want to Learn Next Year

Top 10 Databases Respondents Want to Learn Next Year
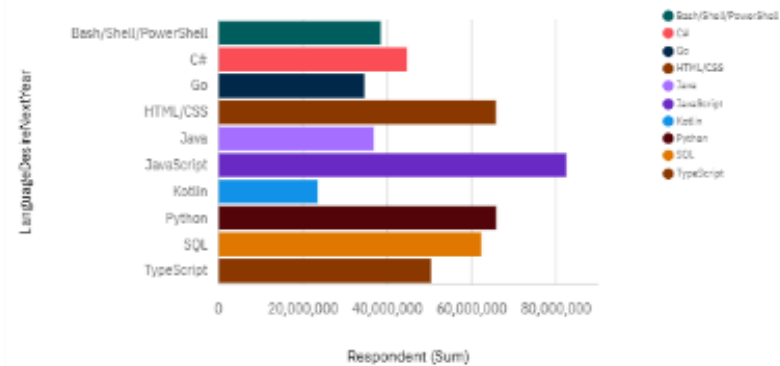
Platforms Desired by Respondents in the Next Year
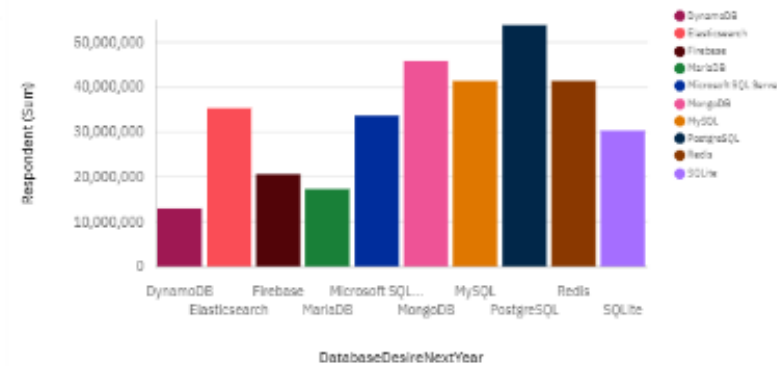
Top 10 Web Frames Desired by Respondents Next Year

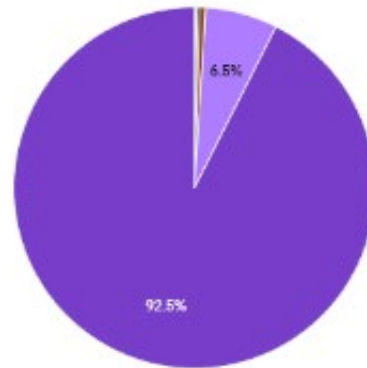# DASHBOARD TAB 3
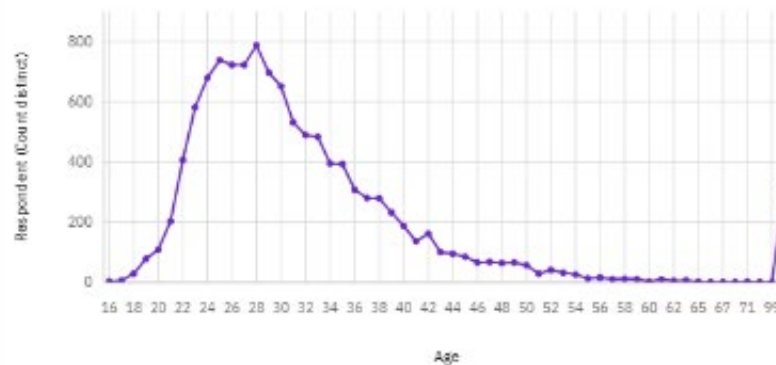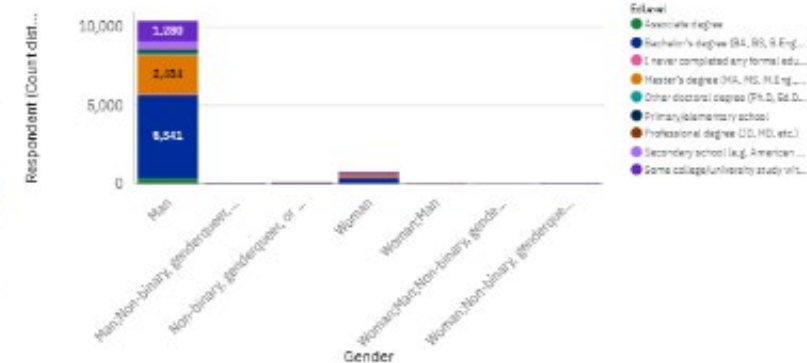
DISCUSSION

- While some companies are moving away from some of the more popular technologies, the data indicates that current skills are still meeting the demands of the job market.

- Learning multiple languages and databases will enhance an analyst's competitive edge in the current and future job markets.

OVERALL FINDINGS & IMPLICATIONS

The majority of companies throughout the world are using the same programming language and database. Analysts who are learning these top languages and databases are meeting the demands of the current job markets.

Some companies are slowly beginning to move away from current trends. Analysts who can learn multiple programming languages and databases will be more competitive in the future job market.
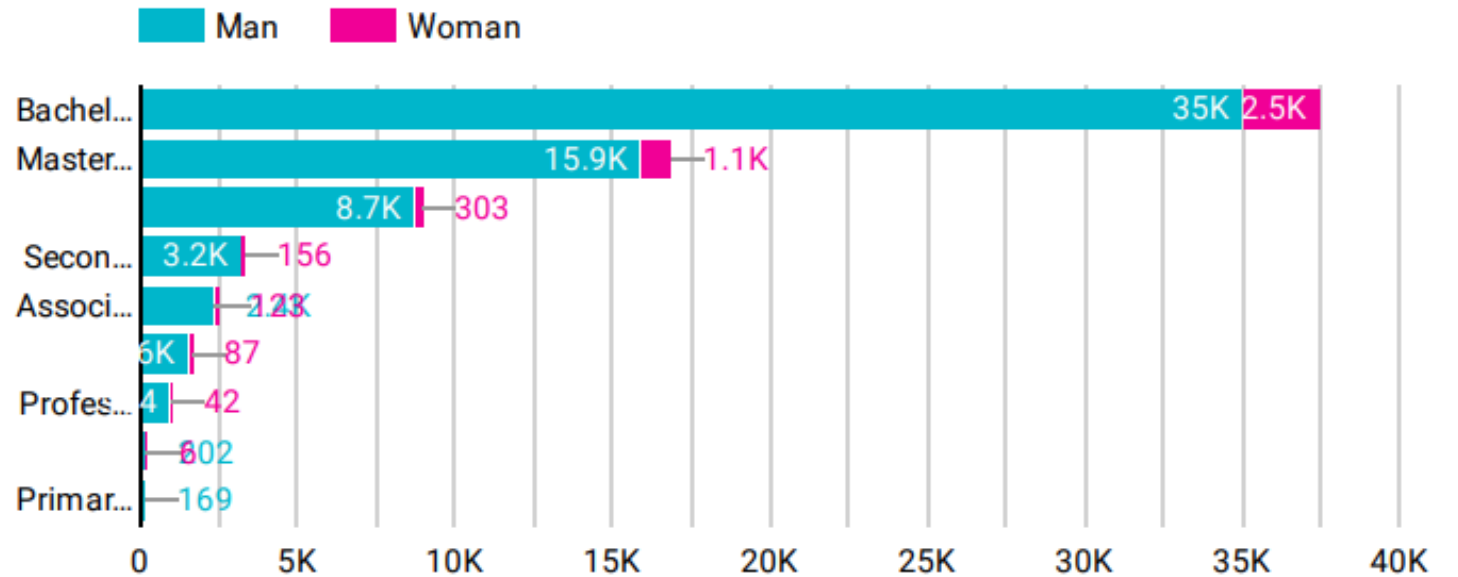
CONCLUSION

- JavaScript and HTML/CSS are the most widely used and desired programming language.

- Forms of SQL are the most widely used and desired databases.

- While current technology skills are meeting the demands of the job market, analysts who learn multiple languages and databases will have a competitive edge in future job markets.
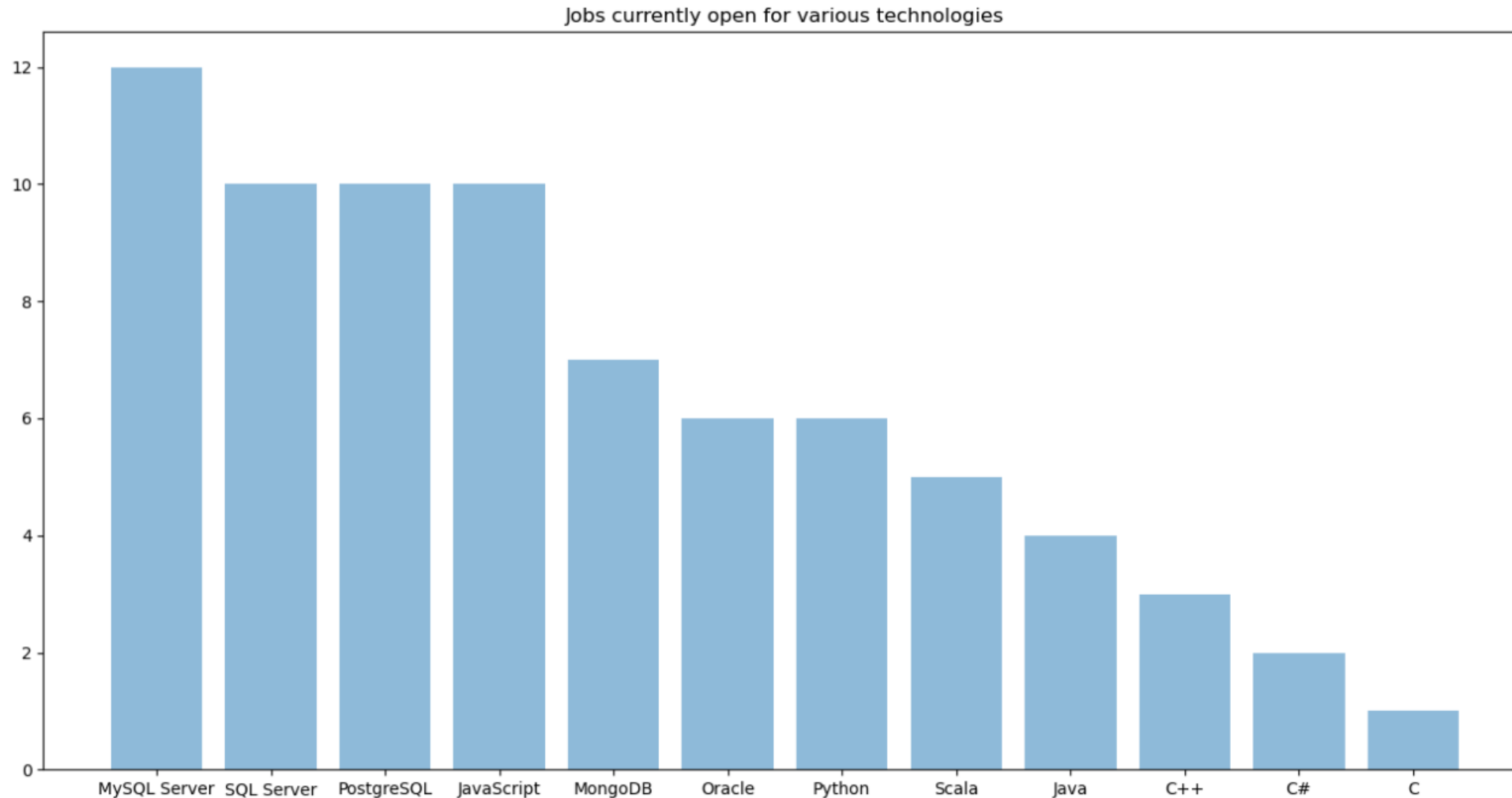
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APPENDIX

Education Levels by Gender

Legend: Man (teal), Woman (pink)

Education Level	Man	Woman
Bachel...	35K	2.5K
Master...	15.9K	1.1K
	8.7K	303
Secon...	3.2K	156
Associ...	1.2K	123
	6K	87
Profes...	4	42
		602
Primar...	169	

Axis: 0, 5K, 10K, 15K, 20K, 25K, 30K, 35K, 40K

JOB POSTINGS

Jobs currently open for various technologies

POPULAR LANGUAGES