



IBM Developer
SKILLS NETWORK

Languages and its Worldwide Usage

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Outline

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- Methodology
- Results
- Discussion
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Executive Summary

- To be competitive in the Global IT sector, it's essential to keep up with the ever-changing Technologies. This report uses Data Analytics to highlight current and projected trends in the need for skills related to programming languages, data basis and other Technologies. It also studies the demographics of professionals in the Technology Sector
- Data was gather from stack overflow survey, IBM site, and GitHub job postings. It was collected, cleaned, subjected to Exploratory analysis, and visualized on dashboards.
- The finding show that JavaScript as currently the most popular programming language and is anticipated to be so in the future MySQL has the highest database uses of the moment but Postgre SQL is projected to have more demand in the future.
- Further more, of the survey response are male, are from the USA and are 28 years of age.

Introduction

- This presentation reproduces Data Analytics to highlight current and projected trends in the need for skills related to programming languages, databases, Platforms and Web frames.
- The following enquiry is very investigated using the data:
 - Which programming language are most in demand today?
 - What are the most in-demand database skills?
 - What popular IDEs or web frames are there?

That target audience for this research or it professionals, HR managers, and anybody else with an interest in the IT sector who wants to learn about the top on demand it skills in their respective sectors that will also still relevant in the future.

Methodology

- Data server format such as the number of jobs currently available for different technology and for different places were gathered using the kit have jobs API on python.
- To obtain the names of the programming languages in their early wages the IBM website was scraped. That datasheet from 2019 is tag overflow developer Survey was downloaded and saved.
- Python was used to clean and analyze the data. To access the distribution at data the presence of outlets and the correlation between various columns in the data set and exploratory data analysis was carry out.
- Chart, graphs and dashboards were created using Python and Cognos and electric visualize the data all the Python analysis were carried out on Jupiter notebook through Anaconda navigator



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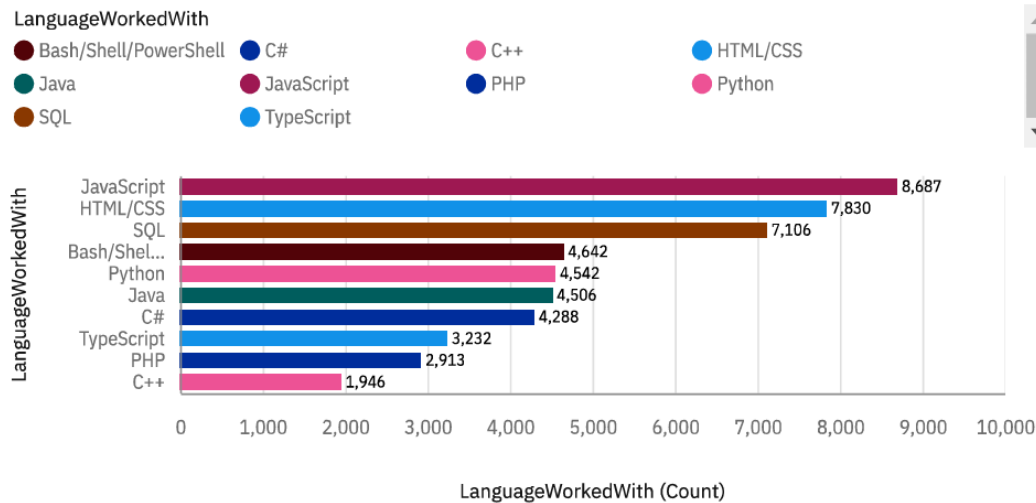
Results

PROGRAMMING LANGUAGES TRENDS

Current
Year

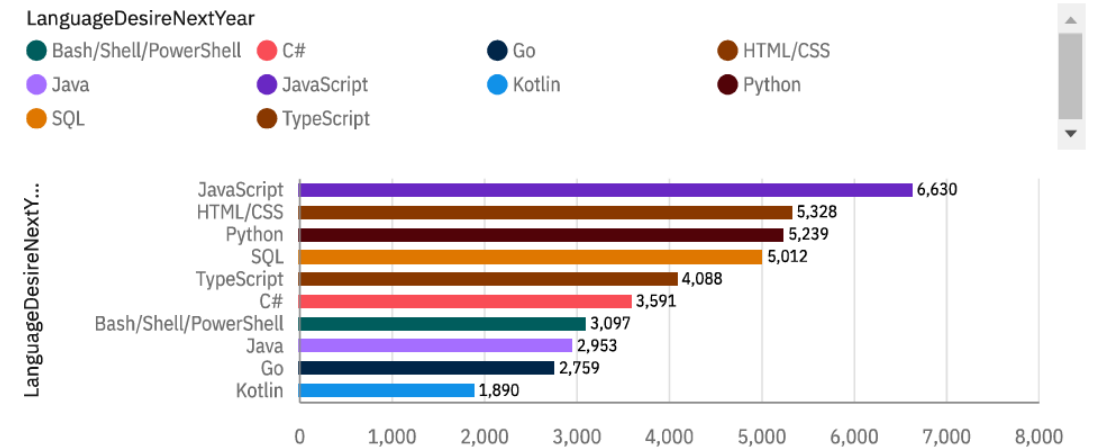
Tab 1

Top 10 LanguageWorkedWith



Next Year

Top 10 LanguageDesireNextYear



Programming Languages trends- Findings and Implications

- Findings

- Javascript, html/CSS, SQL, shell languages and Python are the most use language is currently.
- Javascript, html/css, SQL, and Typescript will be the most use languages next year and future years.
- Python will have more demand then SQL next year

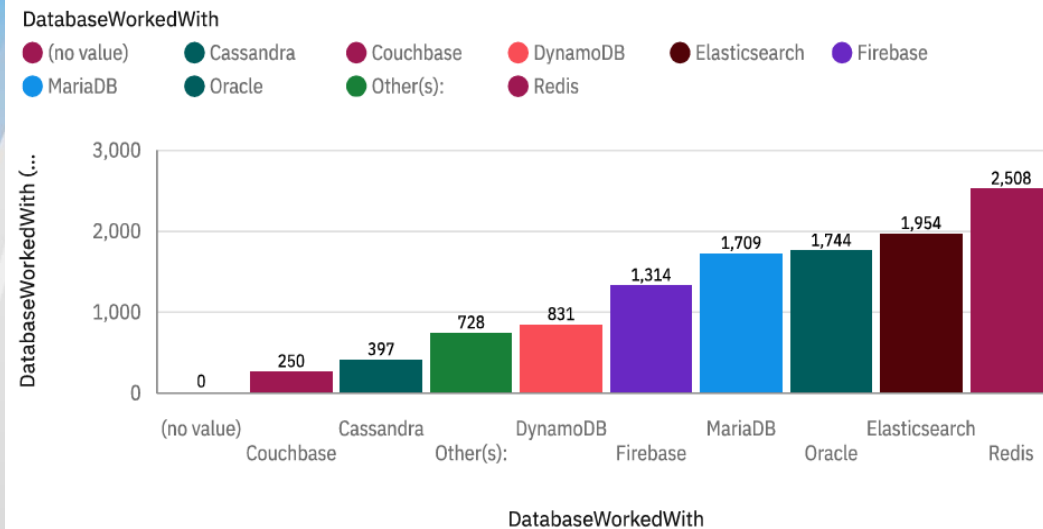
- Implications

- JavaScript and HTML are used for web development as a tech skill has the highest demand especially Typescript is getting viral.
- Python is gaining more and more traction due to the increasing demand for AI and ml skills.
- The most relevant language for data professionals. It is important for Aspiring data analyst, scientist, business analytic, etc to have SQL skills.

PROGRAMMING LANGUAGES TRENDS

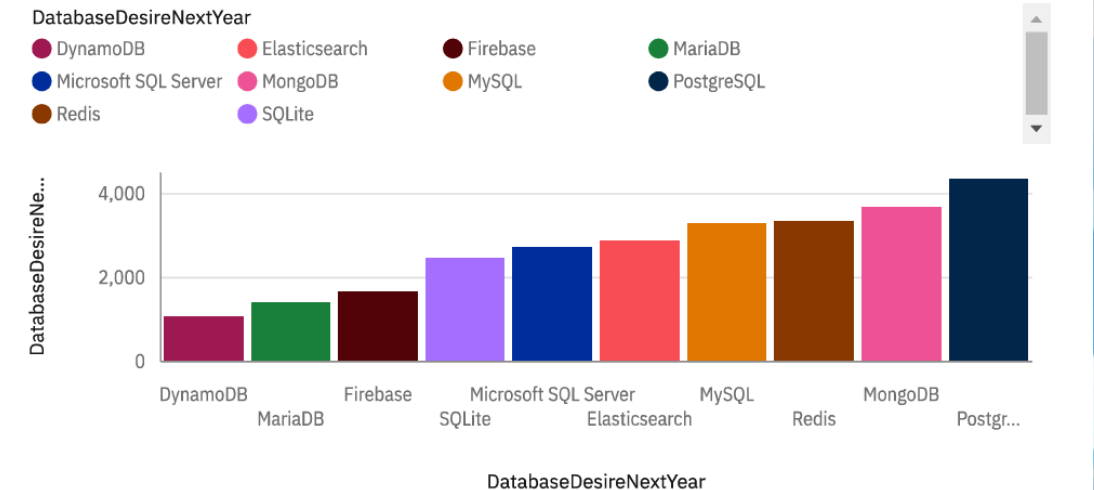
Current Year

Top 10 DatabaseWorkedWith



Next Year

Top 10 DatabaseDesireNextYear



Database trends- Findings and Implications

- Findings

- MySQL, Microsoft SQL server, PostgreSQL SQLite and MongoDB are the top 5 most used data bases at the moment.
- However, PostgreSQL, MongoDB, redis MySQL and Elasticsearch are project to become more popular in the future.
- Redis and Elasticsearch are relatively new tools and are set to gain more fraction in the IT Space.

- Implications

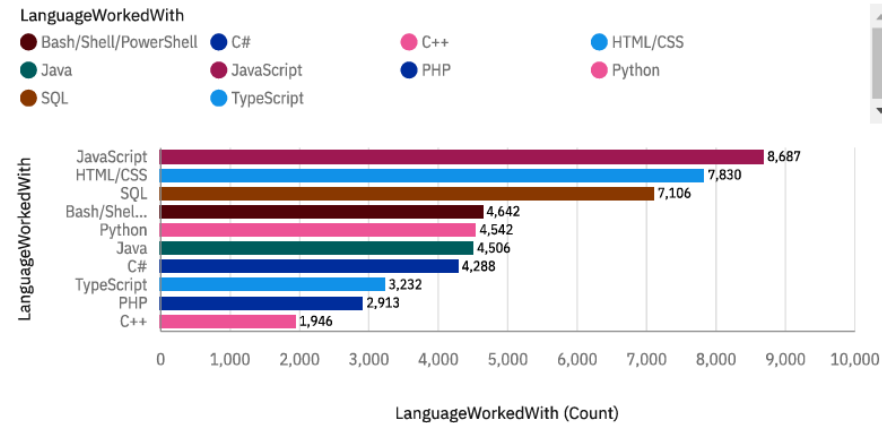
- SQL is still a top told to watch out for in data specialist
- Companies still prefer open source databases.
- Oracle SQL was not among the top 5. It is Losing relevance as time passes.

Dashboard

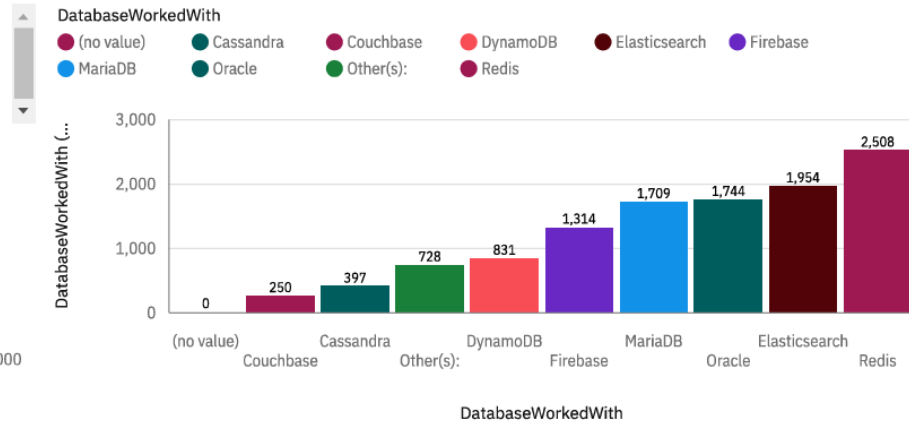
- Dashboard Link:- <https://github.com/Cyberghost91/IBM-Cognos-Analytics/blob/main/Languages%20and%20its%20Worldwide%20Usage.pdf>

Dashboard 1

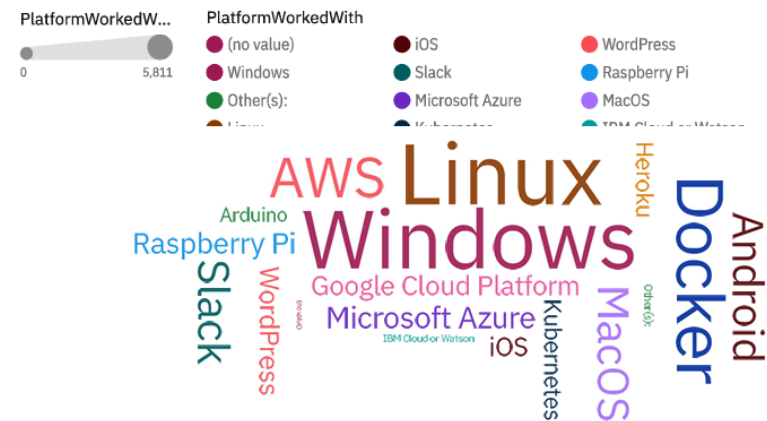
Top 10 LanguageWorkedWith



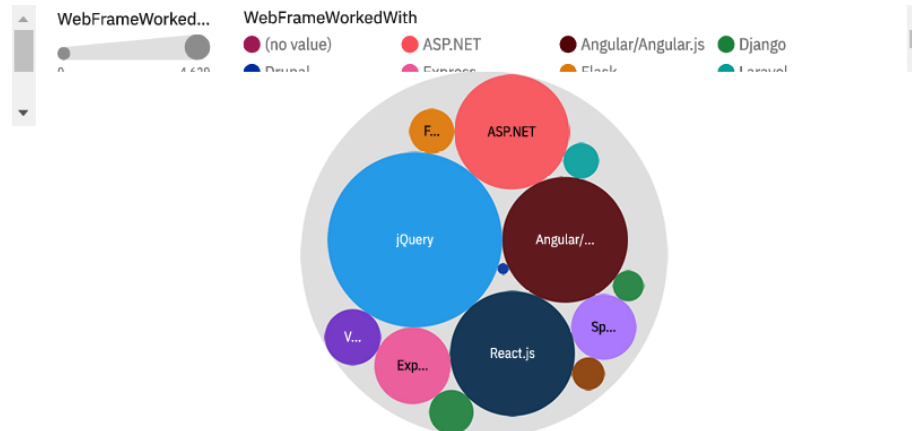
Top 10 DatabaseWorkedWith



PlatformWorkedWith

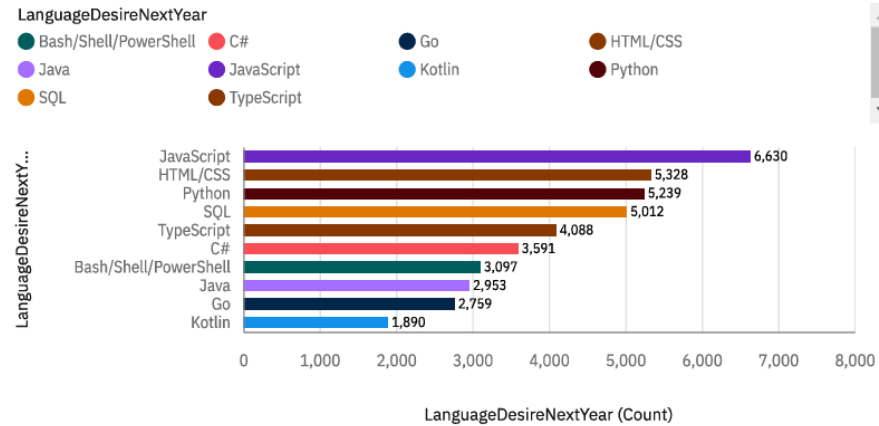


Top 10 WebFrameWorkedWith

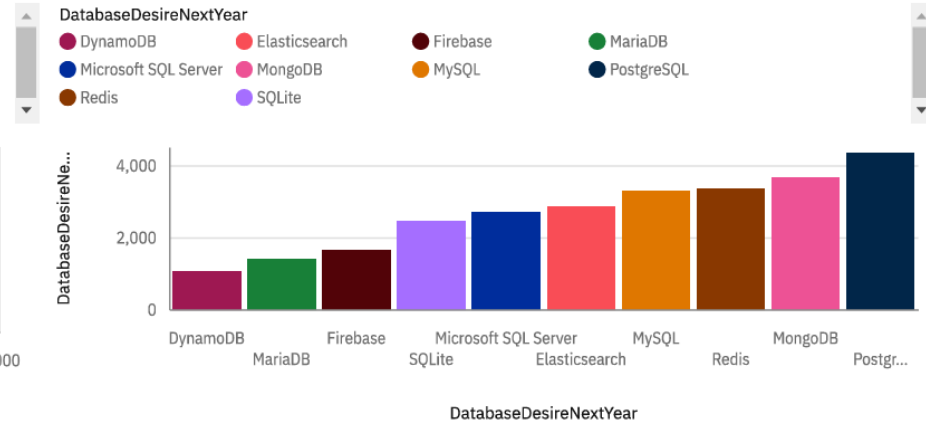


Dashboard 2

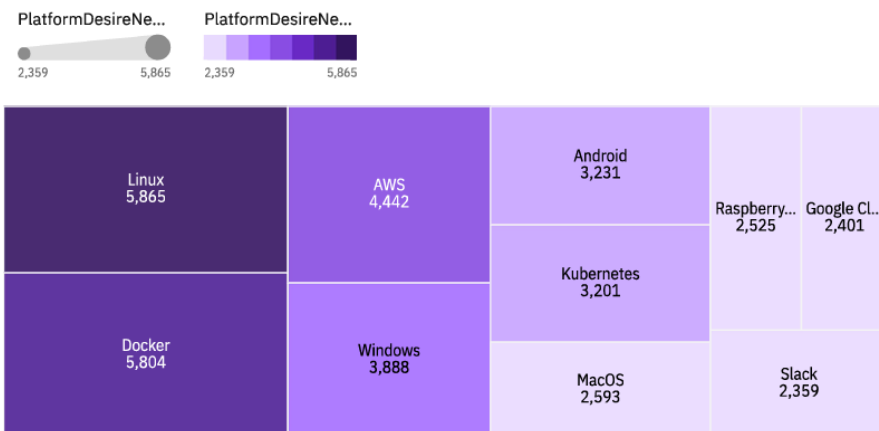
Top 10 LanguageDesireNextYear



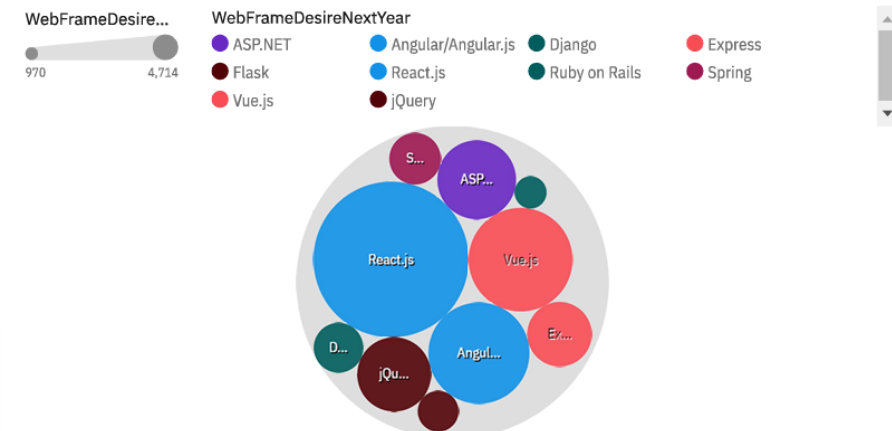
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear



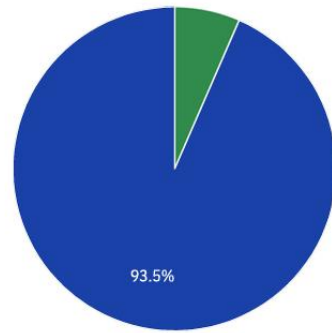
Top 10 WebFrameDesireNextYear



Dashboard 3

Respondent Classified by Gender

Gender
● Woman ● Man

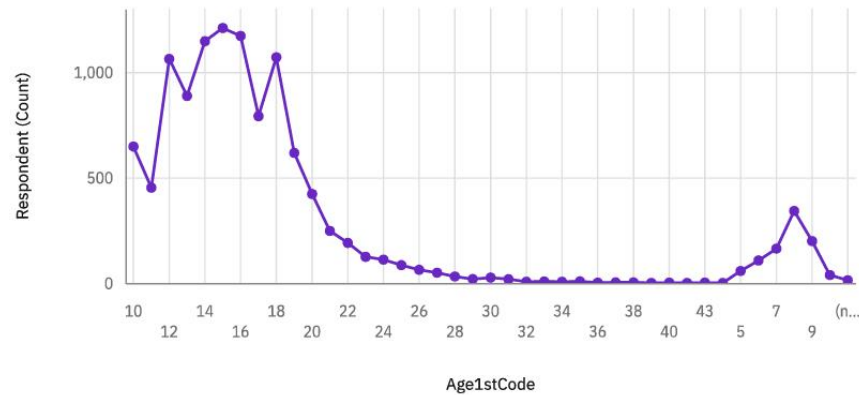


Respondent Count for Countries

Country (Count)
1 3,127

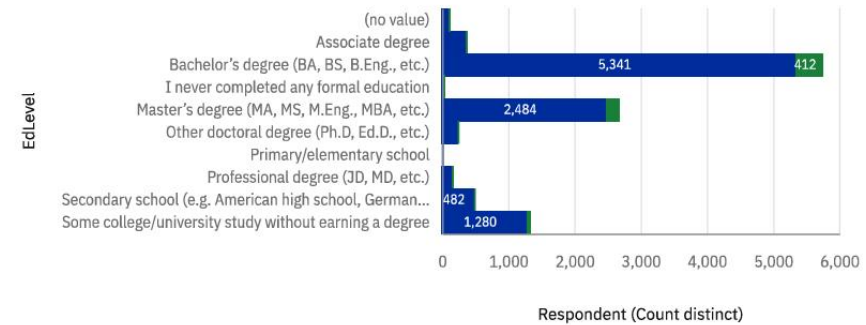


Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level

Gender
● Man ● Woman



Discussion

- Upskilling in the Technology Sector.
- How do we close the white gender gap in the Technology Sector?
- Is completing a Masters or doctorate a degree a requirement ?
- The increasing demand for mobile development as Kotlin is getting popular
- More take education, access and development in less developed regions in south east asia, south America, africa and some parts of Europe.
- How relevant will OracleSQL still be in the future?

Overall Findings and Implications

- Findings

- Most people in the ID field have a bachelor's degree.
- Web development languages are the most popular and on demand tools in the IT field currently.
- The IT sector is filled with majorly young people under 40 years of age.
- Most respondents want to learn postgresSQL and React JSnext year.

- Implications

- It is important for data professionals to develop proficiency in NoSQL in addition to SQL databases.
- Development is still a very lucrative Skill.
- Less developed countries need more access to take trainings and education.

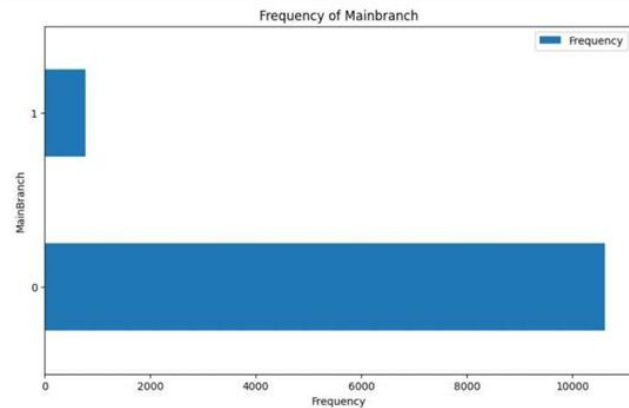
Conclusion

IT IS EXPEDIENT TO STAY UPDATED IN THE TECH SECTOR AS THE TRENDS KEEP CHANGING OVER TIME.

APPENDIX

	MainBranch	Frequency
0	I am a developer by profession	10618
1	I am not primarily a developer, but I write co...	780

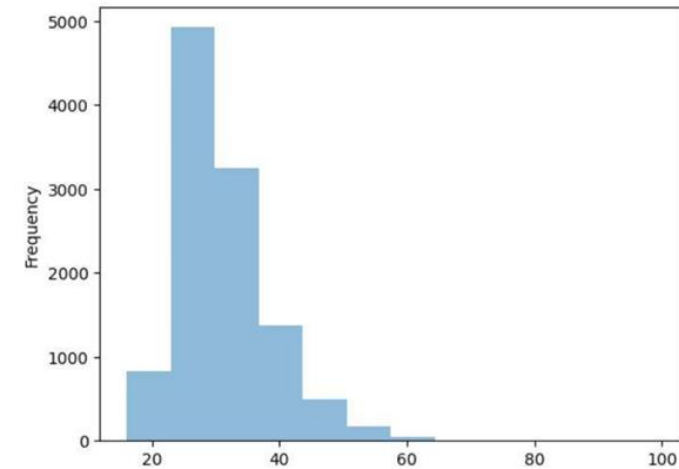
```
bar_df.plot(kind='barh', figsize=(10,6))
plt.xlabel('Frequency')
plt.ylabel('MainBranch')
plt.title('Frequency of Mainbranch')
plt.show()
```



Plot a histogram of the column Age .

```
df['Age'].plot.hist(bins=12, alpha=0.5) #
```

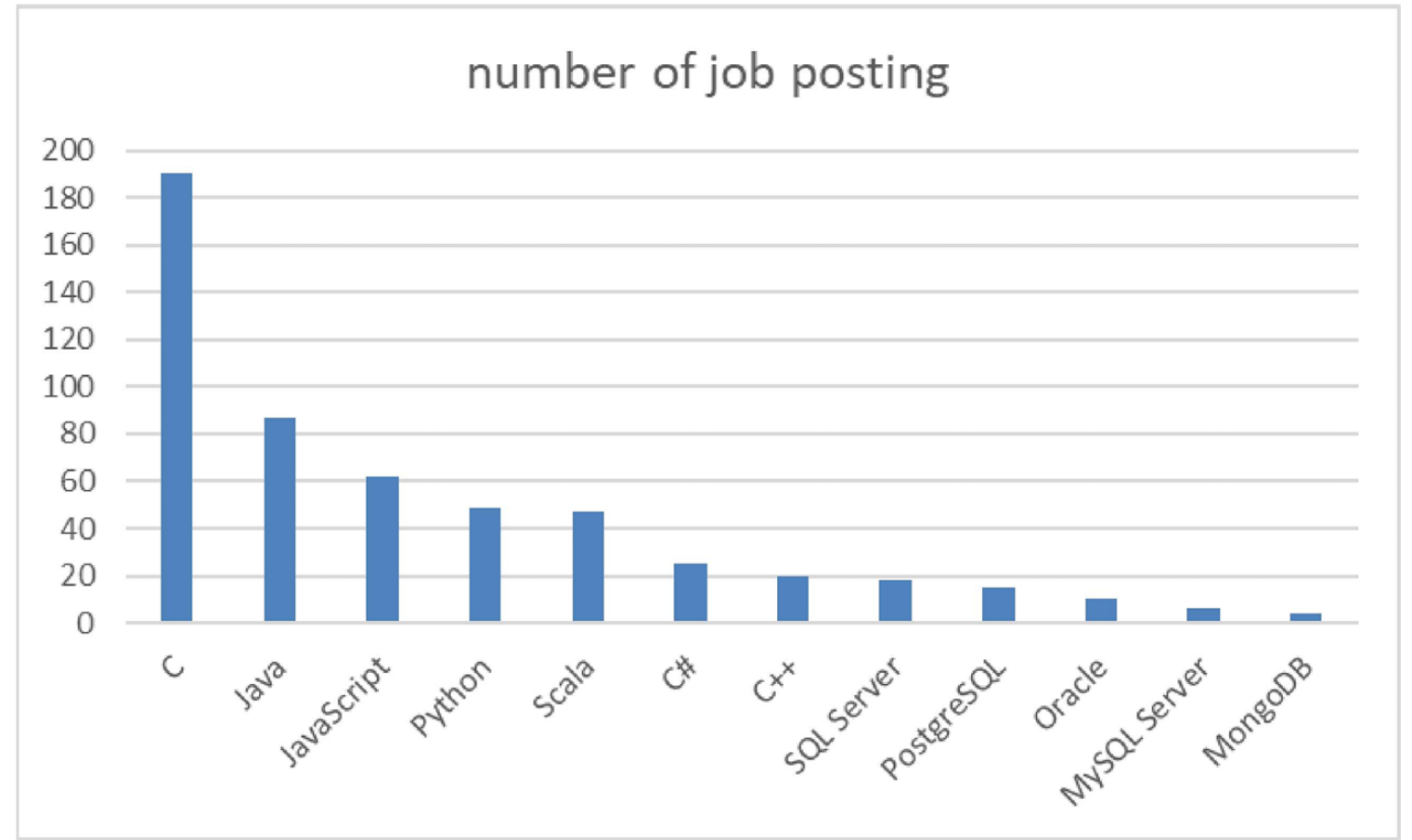
<AxesSubplot: ylabel='Frequency'>



Respondent	0.004041
CompTotal	0.006970
ConvertedComp	0.105386
WorkWeekHrs	0.036518
CodeRevHrs	-0.020469
Age	1.000000
Name: Age, dtype: float64	

Job postings

Bar chart
presenting the
job posting data
collected using
Github Job API.



Popular Languages

Bar chart displaying popular languages and their average annual salary. The data was collected through web scraping the Github jobs data and saved in a csv file.

