



Technology for today and tomorrow

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OUTLINE



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EXECUTIVE SUMMARY



- Hot database skills in Demand
 - MySQL, Microsoft SQL server, PostgreSQL, SQLite
- Top Programming Languages on demand
 - Javascript, HTML/CSS, SQL, Bash/shell/powershell, python
- Popular platforms
 - Windows, Linux, Docker, AWS, Slack
- Popular Web frames
 - jQuery, Angular, React.js, ASP.NET, Express
- The Future
 - Python, SQL, TypeScript, Redis, Elasticsearch are the new guys in the block

INTRODUCTION



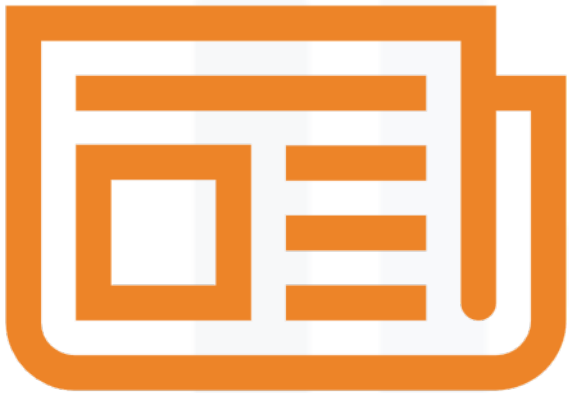
- **About**

- Analyzing programming jobs in demand
- Seeking to find where the world's top programmers reside
- Stack Overflow conducted a global survey of about 90,000 programmers.
- The survey covered a wide array of topics from preferred technology to career aspirations.

- **Purpose**

- What are the most preferred programming languages?
- What will be the future for current programming languages and programming jobs?
- This survey shed insights on the evolving trends of programming languages and platforms for professional developers.

METHODOLOGY



Data Sources

- Stack overflow Developer 2019 survey
- Programming language and annual salary data
- Field Surveys

Analysis of the data was conducted through completing IBM online labs on courser in Jupyternotebooks and CognosAnalytics. This encompassed webscrapping, dataset exploration, data wrangling and visualization.

RESULTS

Launcher M2DataWrangling-lab1.ipynl Launcher Python (Pyodide)

[12]: `df2[df2.isnull().any(axis=1)]`

[12]:

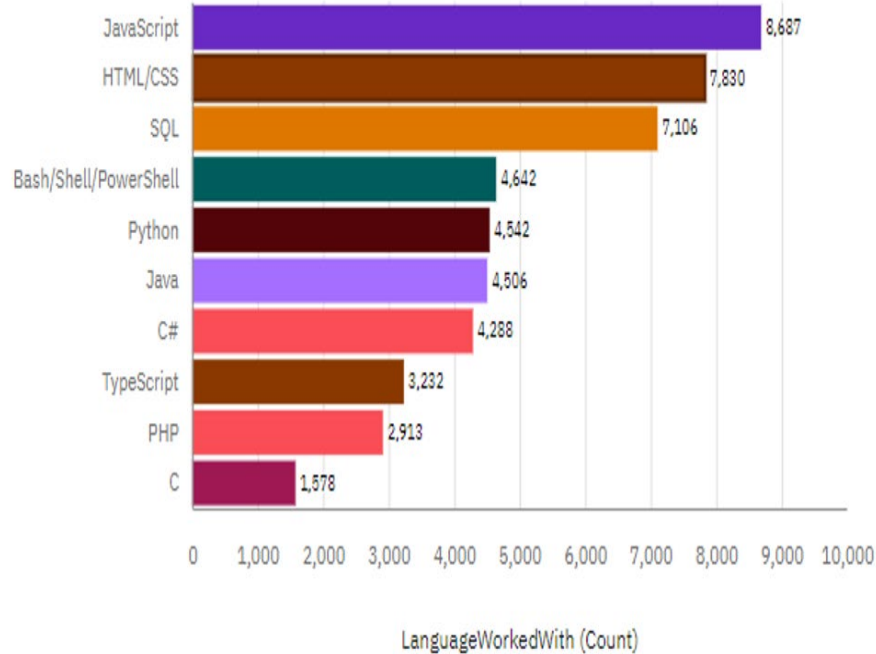
	Respondent	MainBranch	Hobbyist	OpenSourcer	OpenSource	Employment	Country	Student	EdLevel	UndergradMajor	...	WelcomeChange	SONewContent	Age	Gender	Trans
0	4	I am a developer by profession	No	Never	The quality of OSS and closed source software ...	Employed full-time	United States	No	Bachelor's degree (BA, BS, B.Eng., etc.)	Computer science, computer engineering, or sof...	...	Just as welcome now as I felt last year	Tech articles written by other developers;Indu...	22.0	Man	No Het
1	9	I am a developer by profession	Yes	Once a month or more often	The quality of OSS and closed source software ...	Employed full-time	New Zealand	No	Some college/university study without earning ...	Computer science, computer engineering, or sof...	...	Just as welcome now as I felt last year	NaN	23.0	Man	No
2	13	I am a developer by profession	Yes	Less than once a month but more than once per ...	OSS is, on average, of HIGHER quality than pro...	Employed full-time	United States	No	Master's degree (MA, MS, M.Eng., MBA, etc.)	Computer science, computer engineering, or sof...	...	Somewhat more welcome now than last year	Tech articles written by other developers;Cour...	28.0	Man	No Het
3	16	I am a developer by profession	Yes	Never	The quality of OSS and closed source software ...	Employed full-time	United Kingdom	No	Master's degree (MA, MS, M.Eng., MBA, etc.)	NaN	...	Just as welcome now as I felt last year	Tech articles written by other developers;Indu...	26.0	Man	No Het
4	17	I am a developer by profession	Yes	Less than once a month but more than once per ...	The quality of OSS and closed source software ...	Employed full-time	Australia	No	Bachelor's degree (BA, BS, B.Eng., etc.)	Computer science, computer engineering, or sof...	...	Just as welcome now as I felt last year	Tech articles written by other developers;Indu...	29.0	Man	No Het
...
11547	25136	I am a developer by profession	Yes	Never	OSS is, on average, of HIGHER quality than pro...	Employed full-time	United States	No	Master's degree (MA, MS, M.Eng., MBA, etc.)	Computer science, computer engineering, or sof...	...	Just as welcome now as I felt last year	Tech articles written by other developers;Cour...	36.0	Man	No Het
11548	25137	I am a developer by profession	Yes	Never	The quality of OSS and closed source software ...	Employed full-time	Poland	No	Master's degree (MA, MS, M.Eng., MBA, etc.)	Computer science, computer engineering, or sof...	...	A lot more welcome now than last year	Tech articles written by other developers;Tech...	25.0	Man	No Het

PROGRAMMING LANGUAGE TRENDS

Current Year

Language Worked With

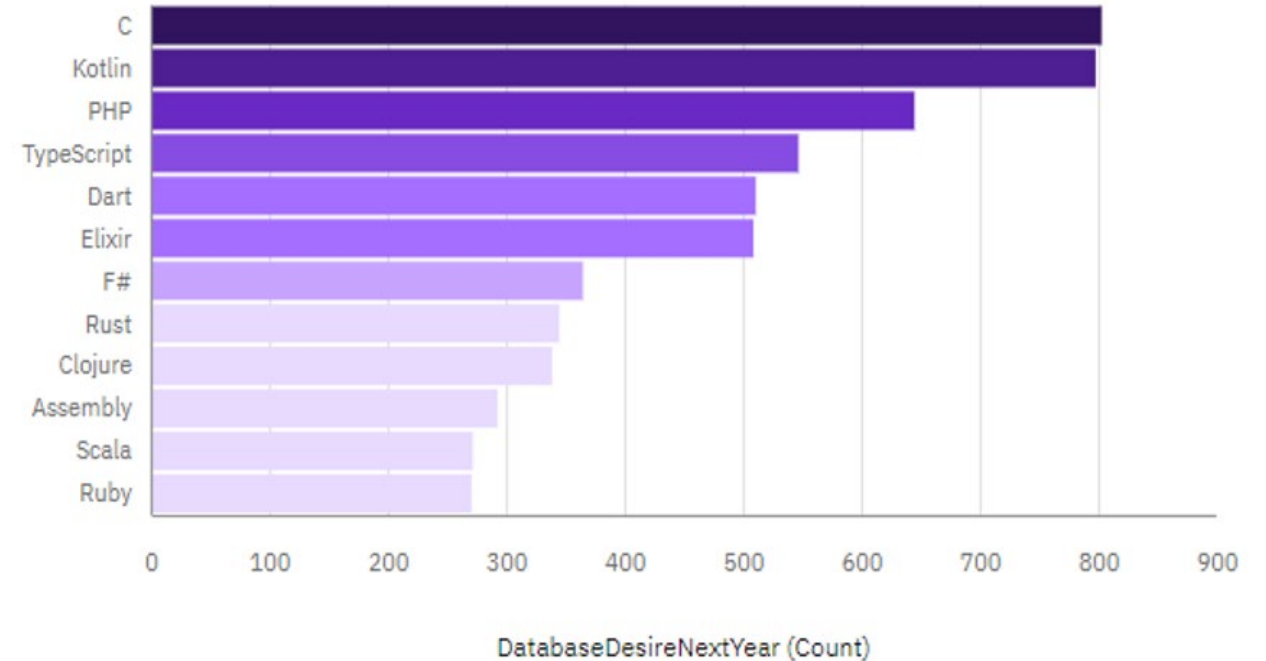
LanguageWorkedWith



Next Year

Database Desire Next Year

LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- ❑ Javascript, Html/CSS, & SQL are top 3 currently
- ❑ Python, and typescript will be popular next year
- ❑ PowerShell will be exit the competition next year

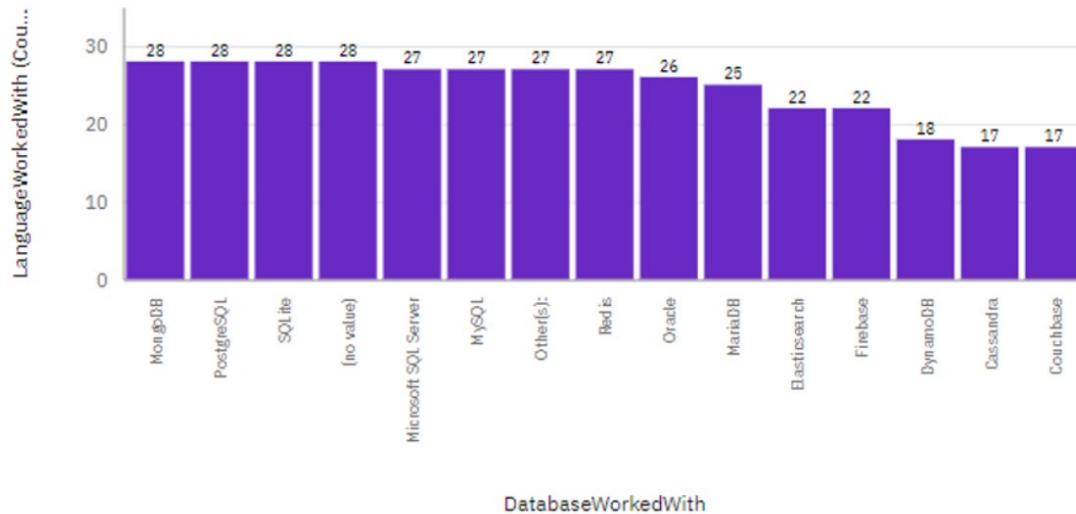
Implications

- ❑ Web development skills are in high demand
- ❑ Big data and machine learning technologies still requires SQL
- ❑ Python is increasingly becoming relevant due to AI and ML rise.

DATABASE TRENDS

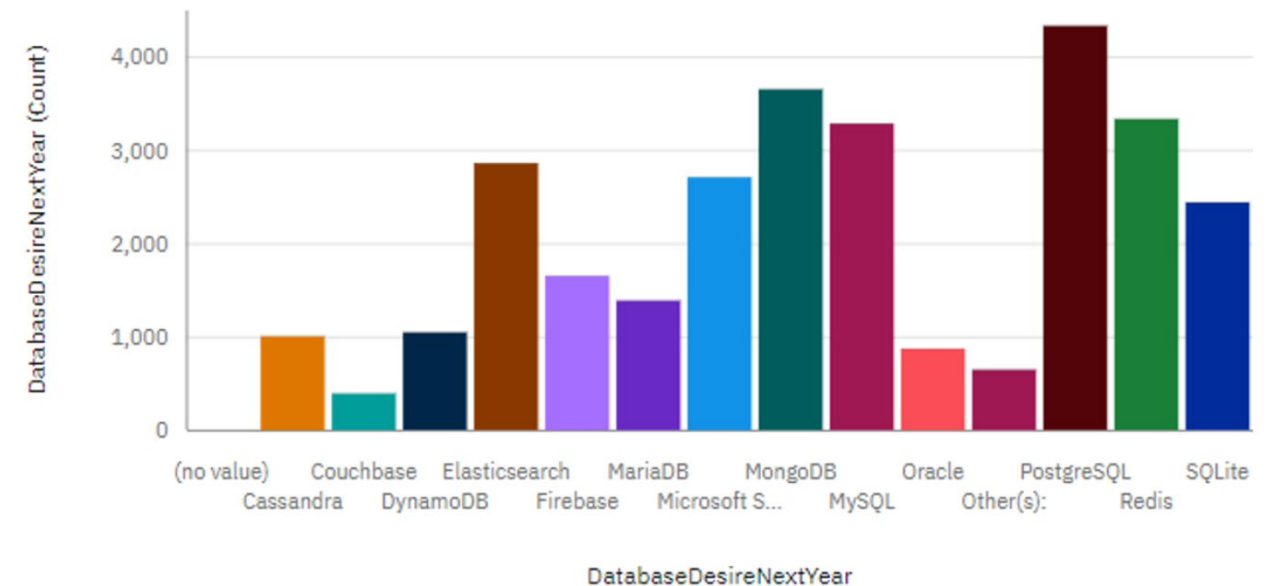
Current Year

Database Worked With



Next Year

Database Desire Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- ❑ The new kid on the block: Redis
- ❑ MySQL and Microsoft SQL Server are the most popular currently
- ❑ MongoDB will become popular next year.

Implications

- ❑ Companies still prefer open source databases
- ❑ NoSQL will still be popular for non relational data
- ❑ MySQL will lose the competition to PostgreSQL

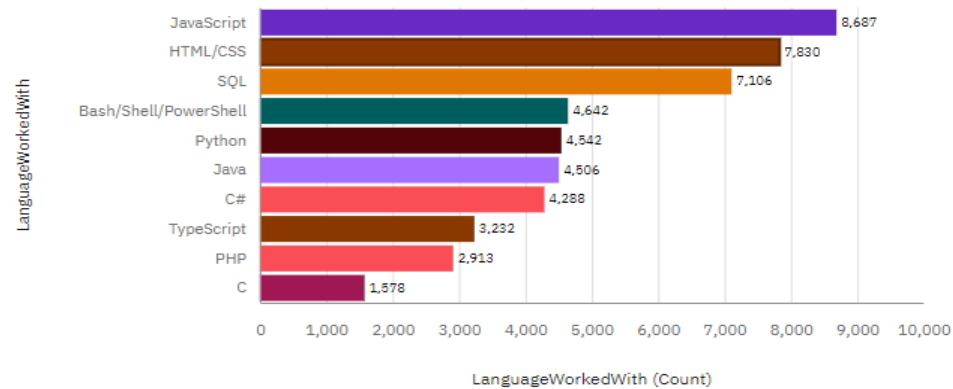
DASHBOARD



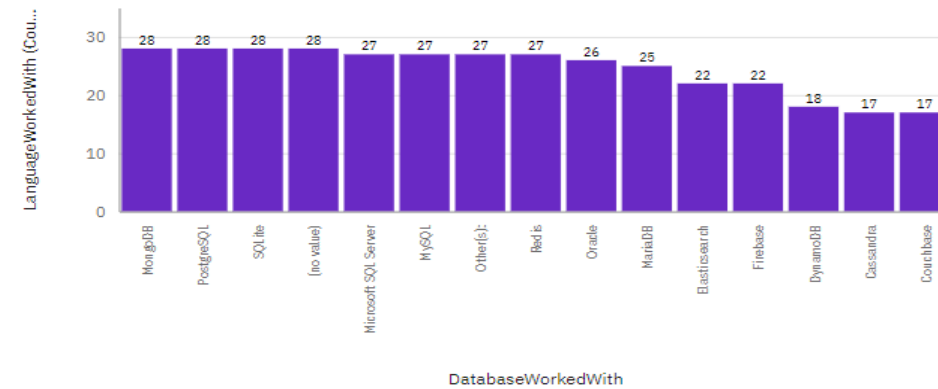
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Current Technology Usage

Language Worked With



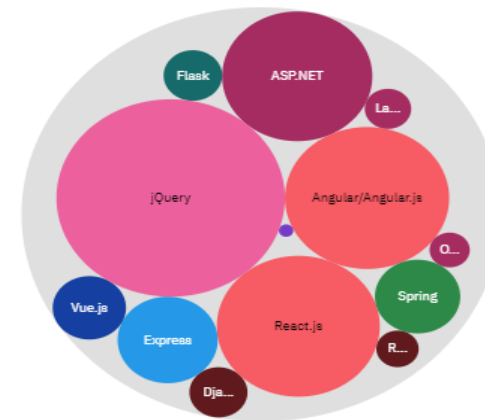
Database Worked With



Platform Worked With

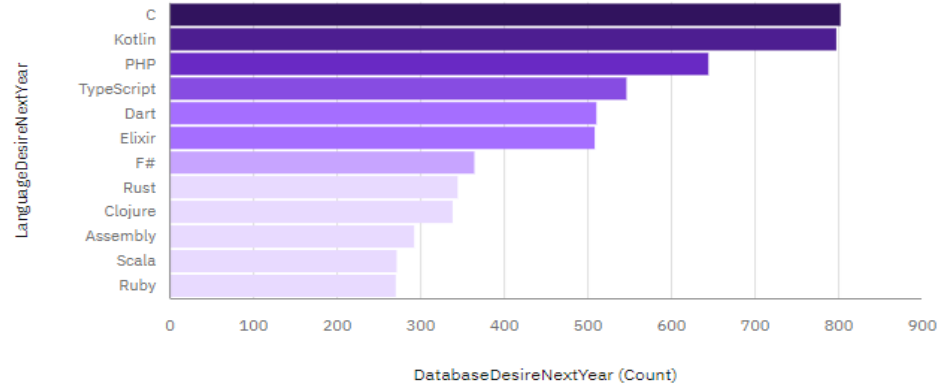


Web Frame Worked With

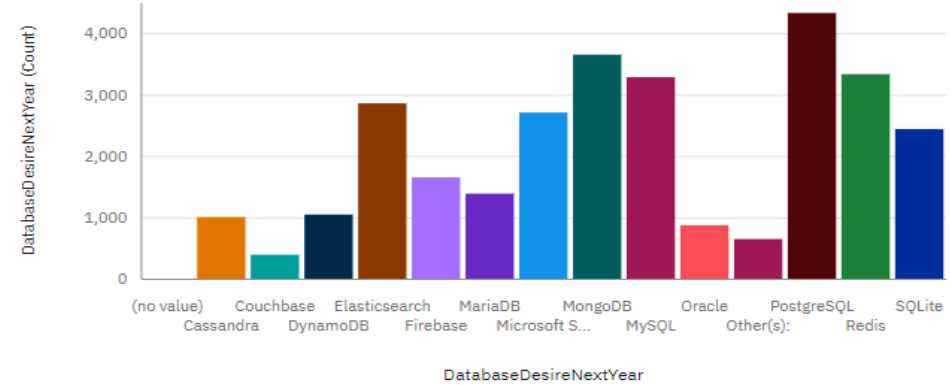


Future Technology Trend

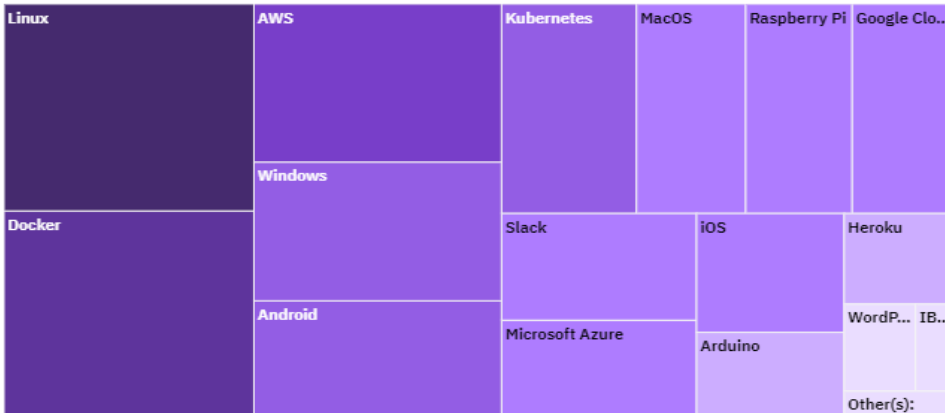
Database Desire Next Year



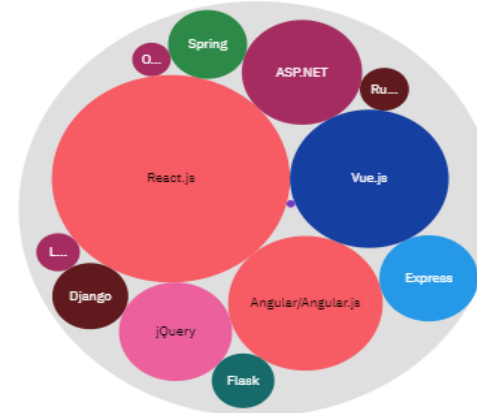
Database Desire Next Year



Platform Desire Next Year



Web Frame Desire Next Year

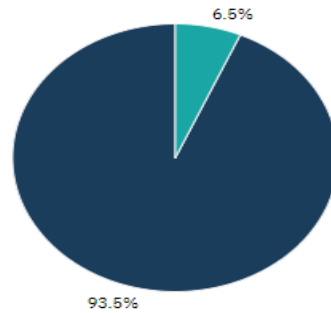


Demographics

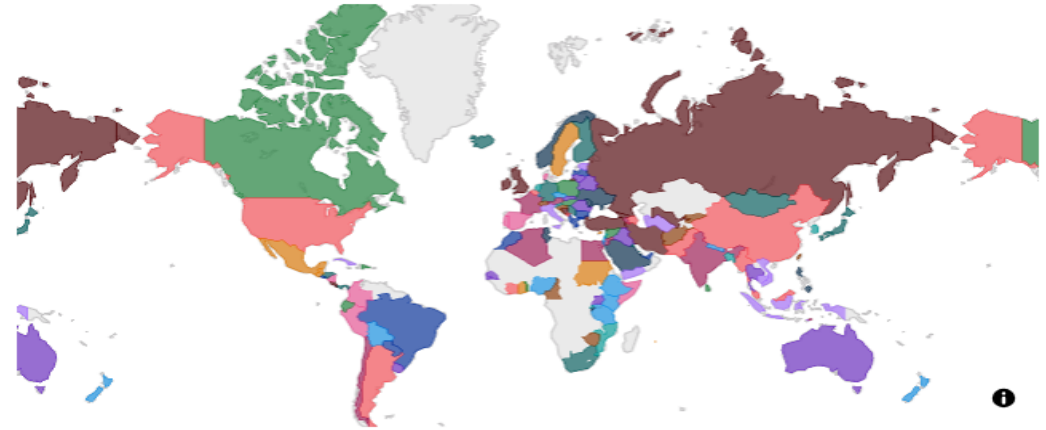
Classified by Gender

Gender

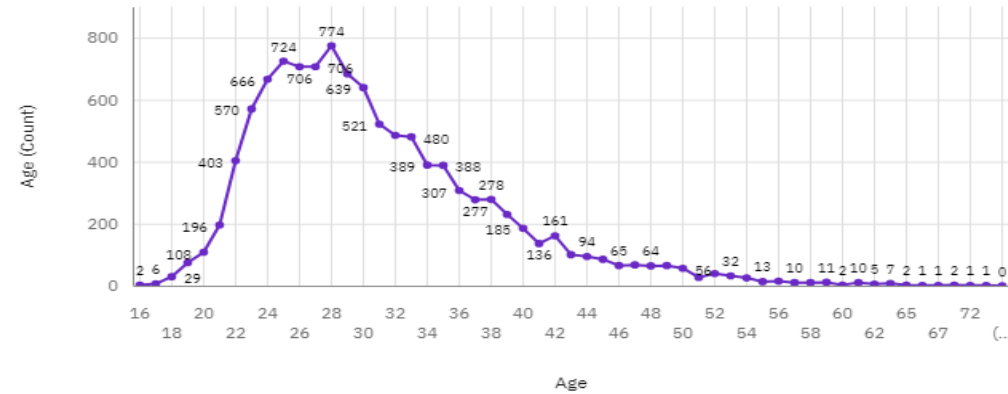
Woman Man



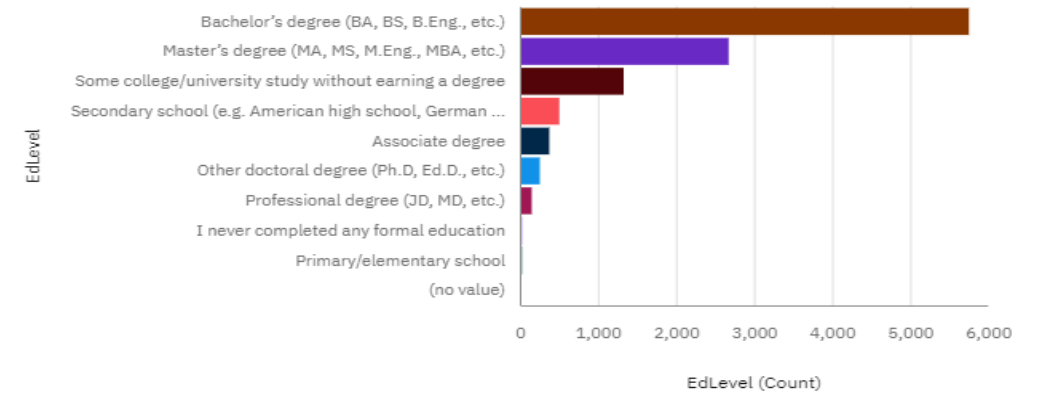
Count for Country regions



Count by Age



Formal Education Level



DISCUSSION



- ❑ Today's IT application technologies are integral to how businesses operate, innovate, and compete in the global marketplace. Cloud computing, AI, ERP, cybersecurity, and data analytics lead the technological stack, providing essential tools for digital transformation. As companies continue to evolve, these technologies will remain critical for maintaining agility, improving efficiency, and driving growth in an increasingly digital world.
- ❑ Gen-Zs prefer technology and programming jobs more than other generations.
- ❑ There is gender disparity regarding technology and programming jobs
- ❑ Companies still prefer open source database to closed ones.

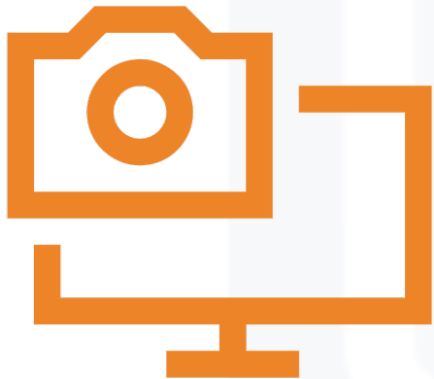
CONCLUSION



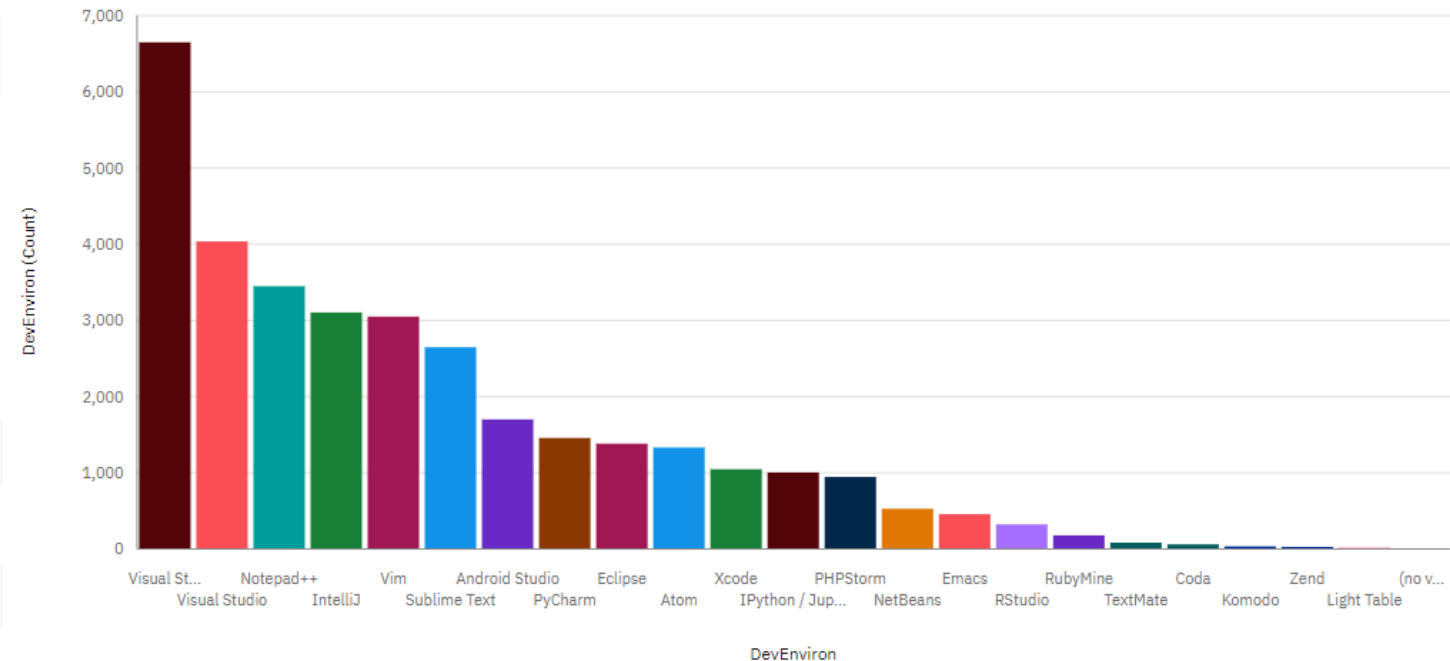
- ❑ There is great gender disparity regarding programmers which needs to be curtailed by giving females a lot of opportunities.
- ❑ Windows, Linux and AWS are still the most preferred platforms for programmers and might see minor changes next year.
- ❑ ReactJs will overtake jQuery as the popular web framework next year.
- ❑ Interestingly, you don't really need an advanced degree to become a programmer.

APPENDIX 1

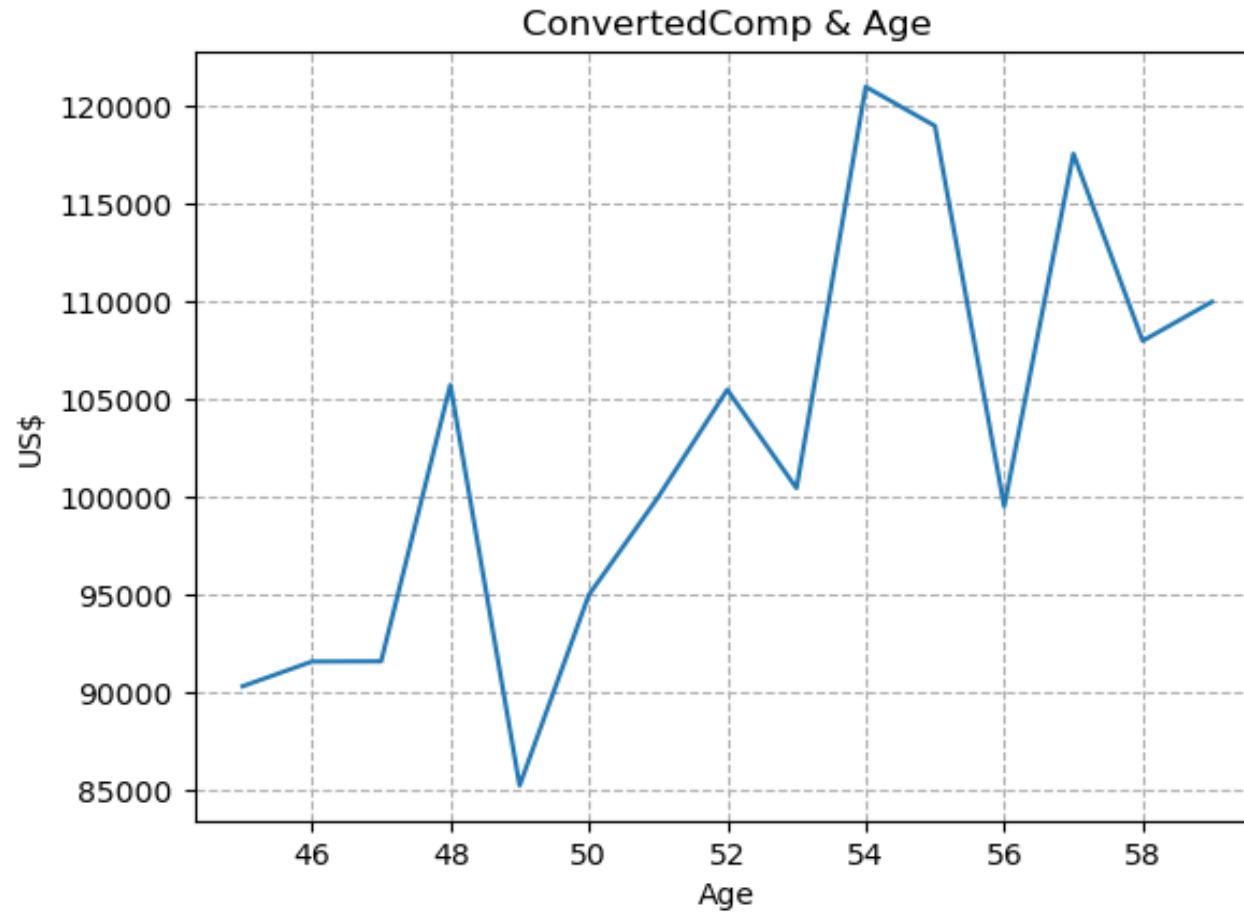
These tools help developers write, test, debug, and manage code efficiently. Below are some of the top developer environment apps widely used today, each with its unique strengths catering to different development needs.



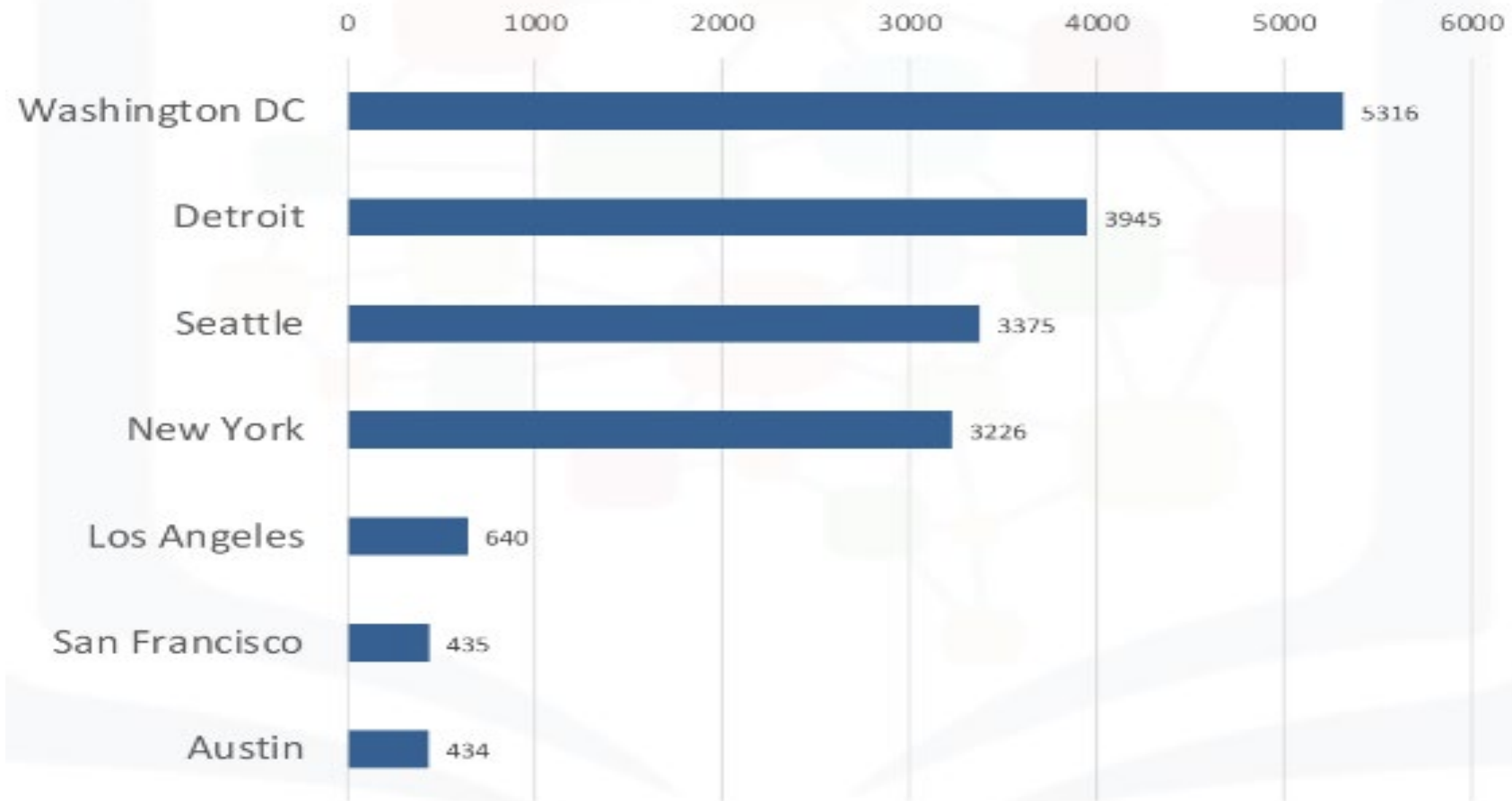
Developer environment



APPENDIX 2



JOB POSTINGS CHART



POPULAR LANGUAGES CHART

