DATA ANALYSY CAPSTONE

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October/24

OUTLINE

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- Methodology
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  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

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EXECUTIVE SUMMARY

- Web development languages are the most popular in use and will remain as such

- AI and Machine learning are driving trends language use
  - Python and SQL are growing in popularity
  - Interpreted languages, easier to learn, are trending up
  - The most popular languages are all focused on manipulating data

- A noticeable shift in databases away from mySQL towards PostgreSQL is developing

- NoSQL databases are trending

- Platform usage is dominated by web centered frameworks

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INTRODUCTION

- The most popular languages remain those focused on web development

- A growing trend is a group of languages related to data and machine learning

- Older compiled languages are continued to lose popularity

- Databases show a shift in the most popular open-source database
  - MySQL is dropping in popularity
  - PostGreSQL is replacing MySQL
  - MicrosoftSQL server remains the most used licensed database

METHODOLOGY

- Data was gathered from several websites and portals
  - Job posting content was scraped from and IT job website
  - Content was pulled from Portals
  - APIs were used to collect survey data from a leading IT board
- Once the data was collected, the data sets were explored and reviewed to decide how to proceed with normalization
- The data was cleaned and prepared for analysis
  - Duplicate rows and data sets were removed
  - Missing values were dealt with
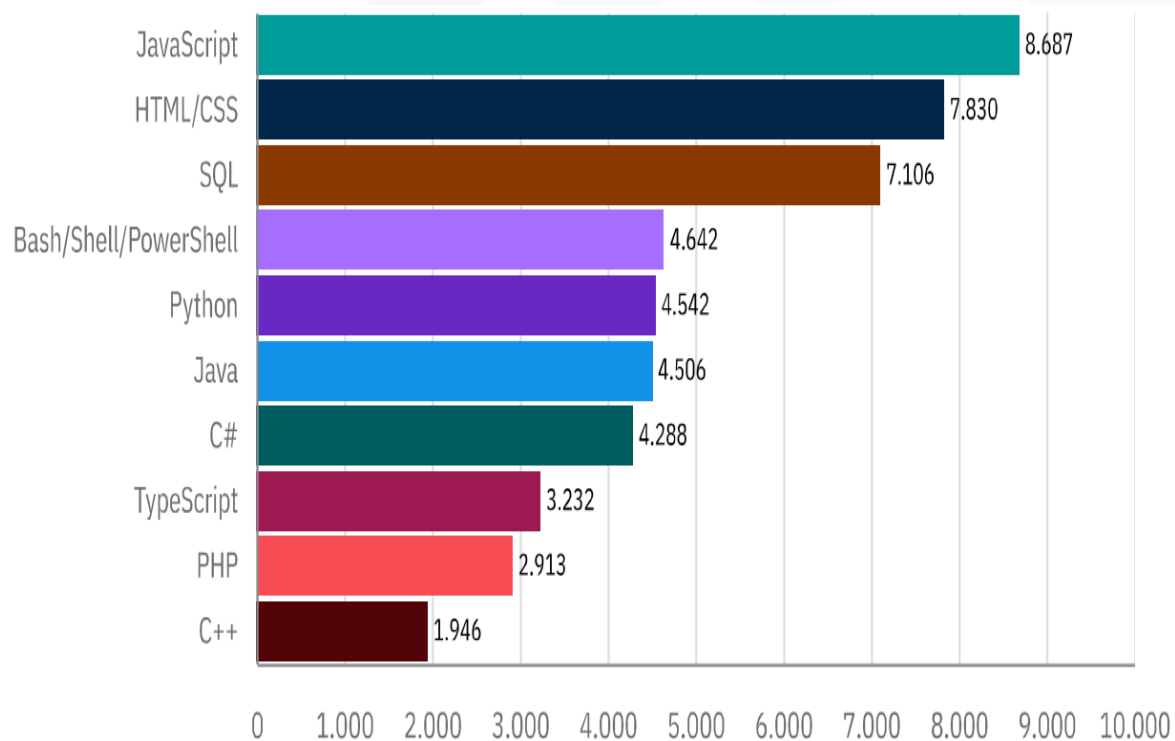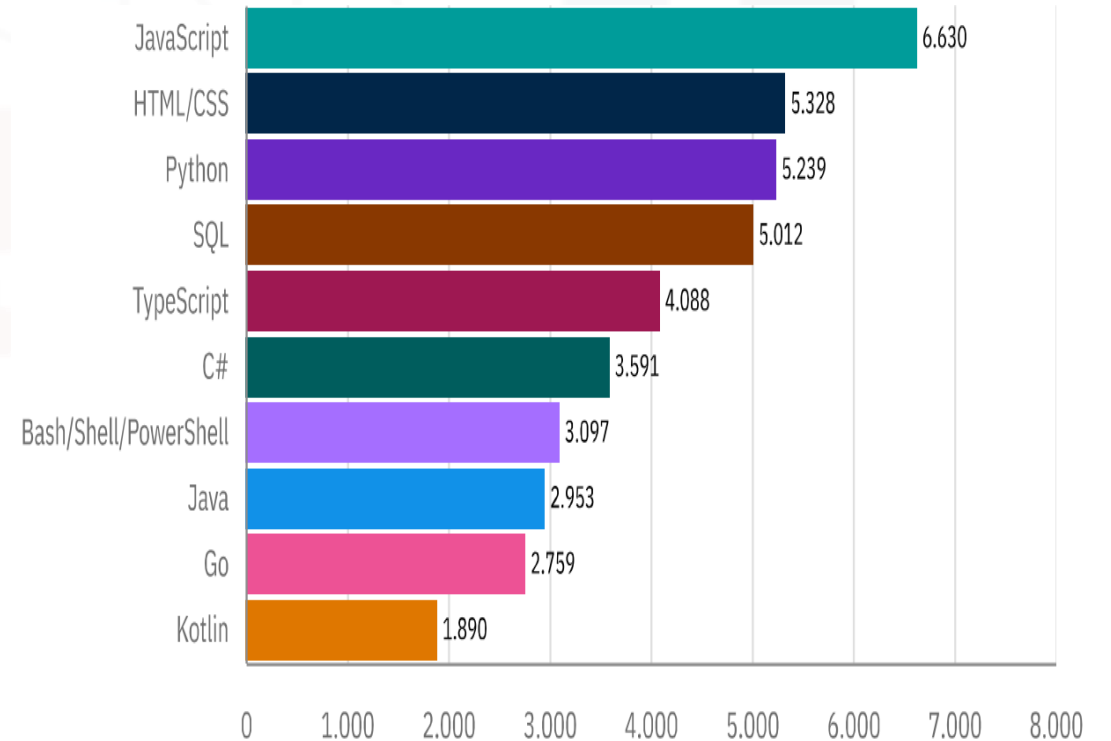 - Some data values were normalized or formatted for better analysis

RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Language	Value
JavaScript	8.687
HTML/CSS	7.830
SQL	7.106
Bash/Shell/PowerShell	4.642
Python	4.542
Java	4.506
C#	4.288
TypeScript	3.232
PHP	2.913
C++	1.946

Next Year

Language	Value
JavaScript	6.630
HTML/CSS	5.328
Python	5.239
SQL	5.012
TypeScript	4.088
C#	3.591
Bash/Shell/PowerShell	3.097
Java	2.953
Go	2.759
Kotlin	1.890

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Javascript and HTML/CSS are the top languages for this year and next

- Python will play a larger role next year
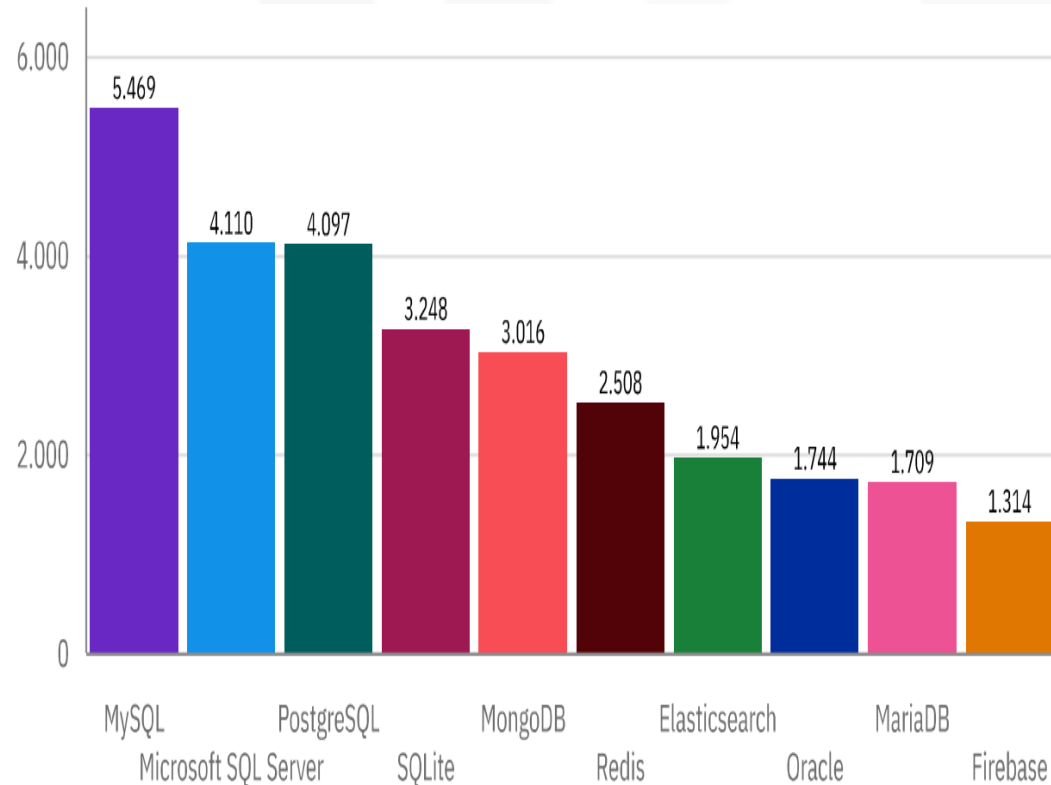
- SQL will remain in the top 5 languages

Implications

- Languages integral to the internet are popular and will remain so

- The highest-ranking languages are interpreted rather than complied

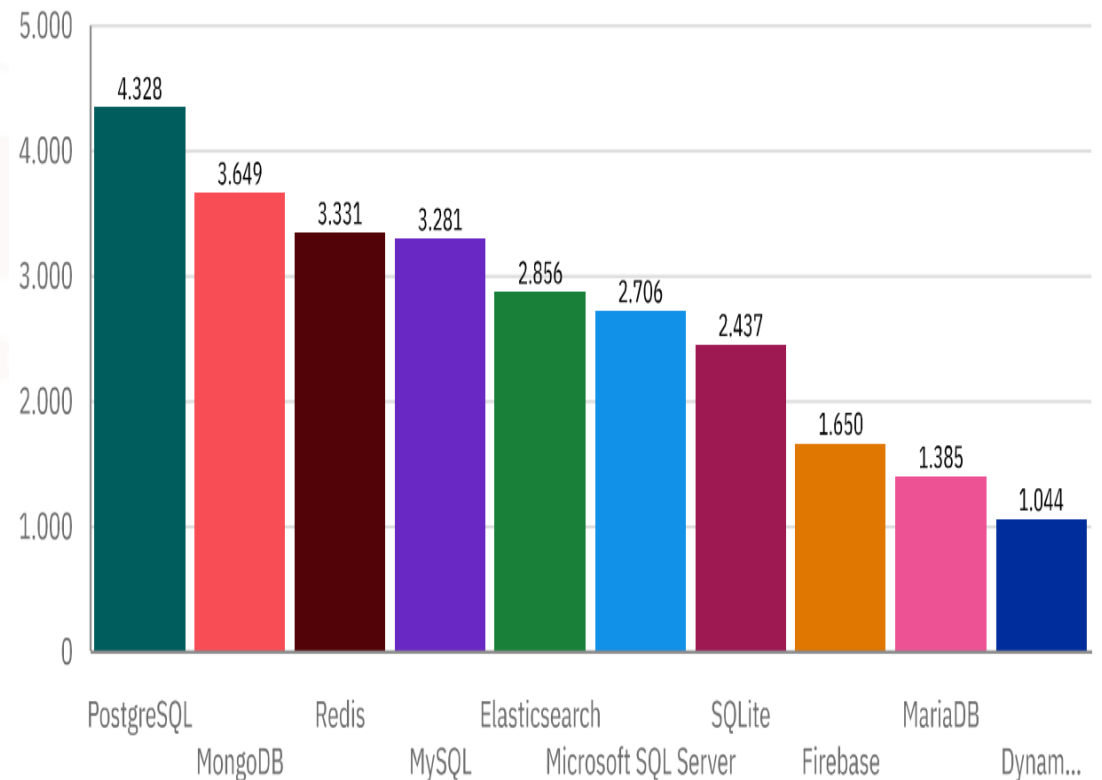- The Internet and AI drive the ranking

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DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Open-sources databases occupy most of the top slots

- MySQL is losing popularity

- MongoDB, a NoSQL database is expected to grow next year

Implications

- Open-source databases are popular due to features and cost

- Databases from large corporations are dropping in popularity

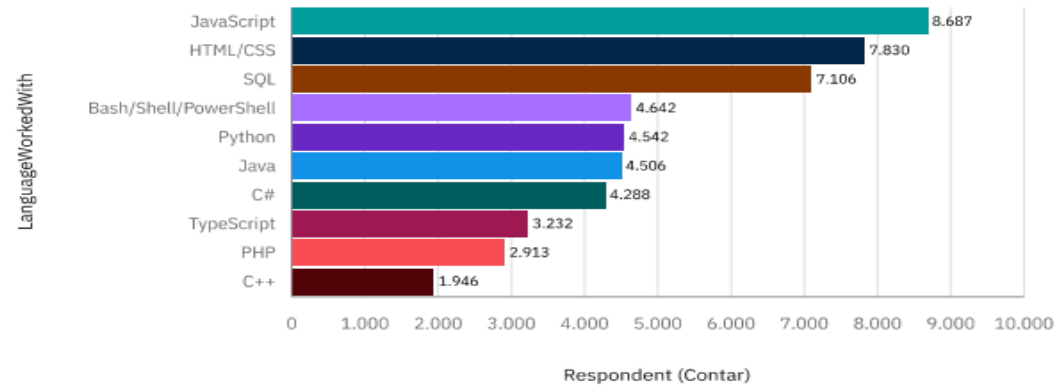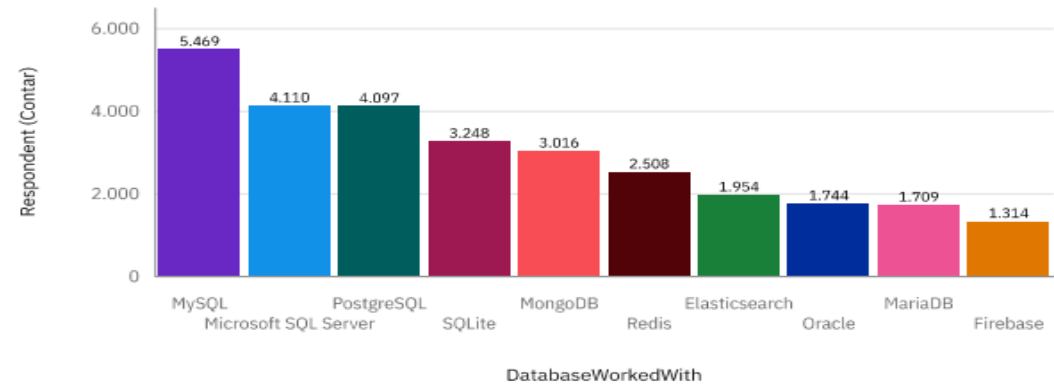- NoSQL databases may take a larger role as AI develops

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DASHBOARD

https://github.com/MeierCwb/cognos

DASHBOARD TAB 1

DASHBOARD TAB 2

Future Technology Trend

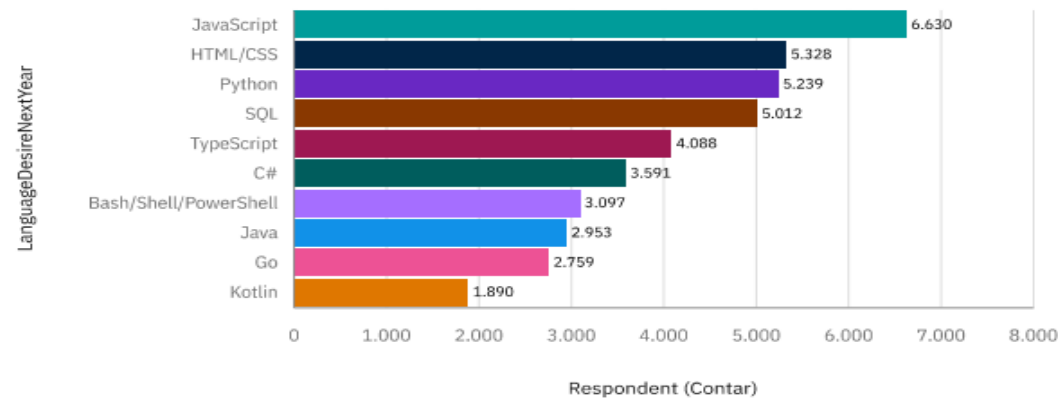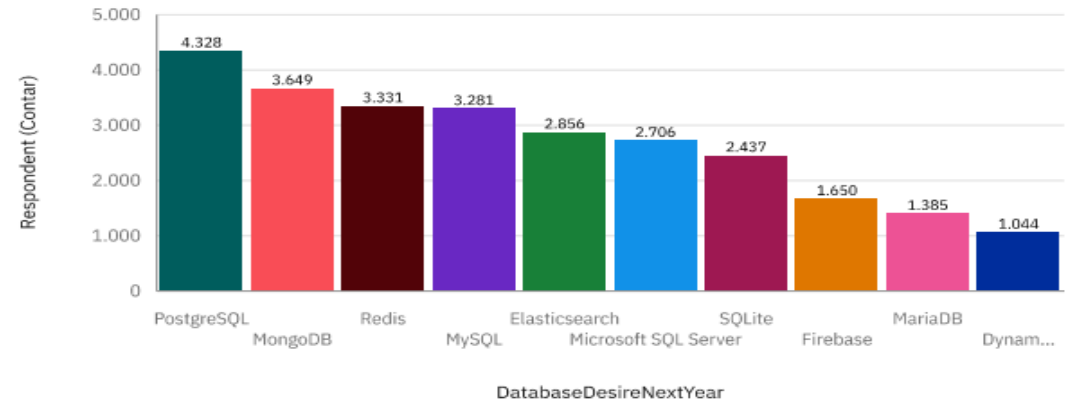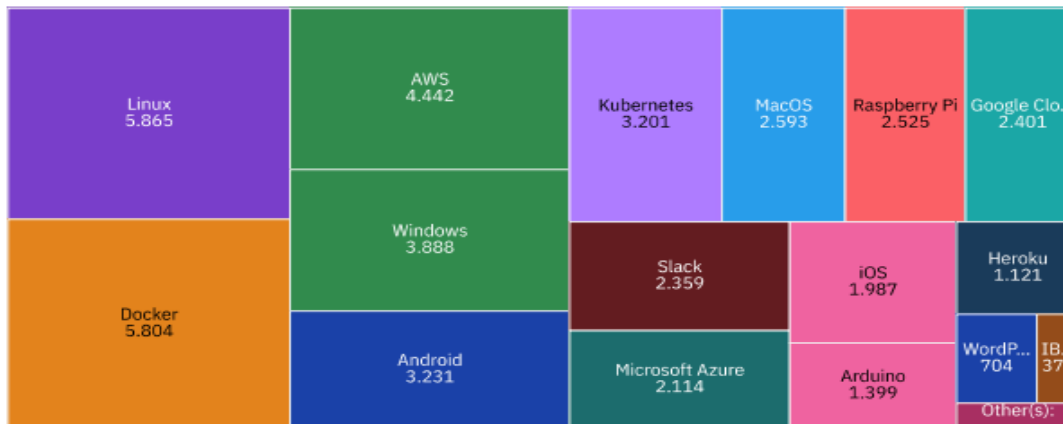Top 10 LanguageDesireNextYear — 5
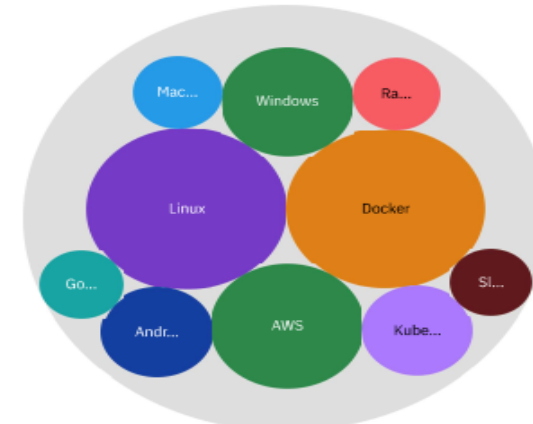
Top 10 DatabaseDesireNextYear — 6

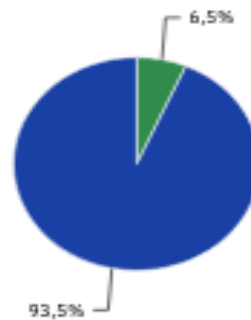Most desire plataforms next year — 7

Top 10 WebFrameDesireNextYear — 8

DASHBOARD TAB 3
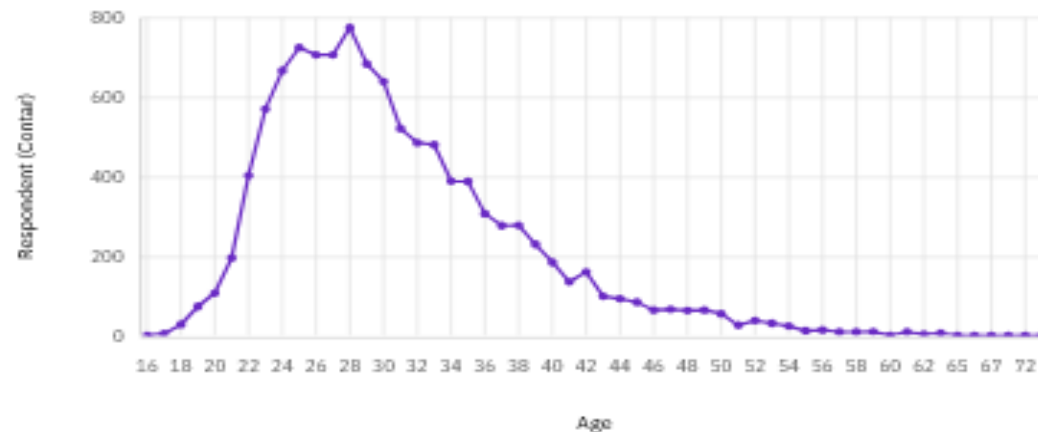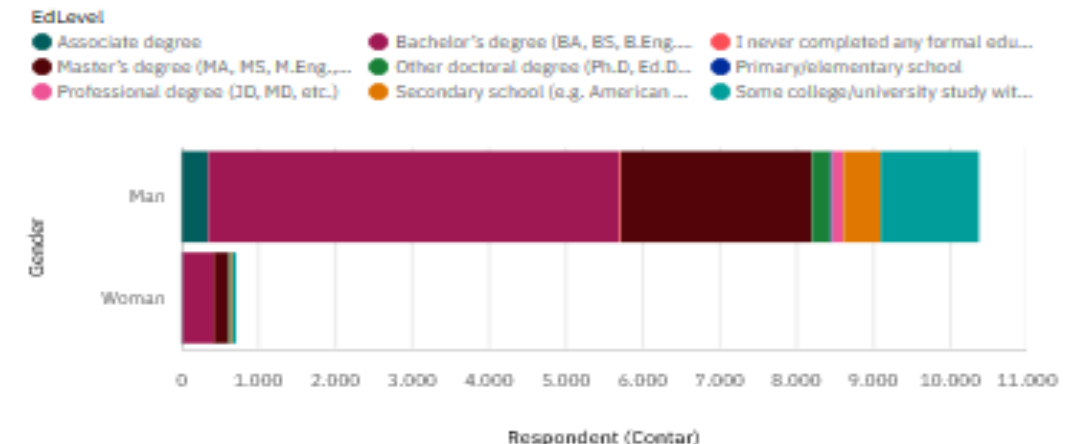
DISCUSSION

OVERALL FINDINGS & IMPLICATIONS

Findings

- Languages for internet development the most popular languages
- Interpreted languages focused on AI and data science becoming popular
- Open-source databases are trending

Implications

- Web development dominates most development
- AI activity is driving future trends in language use
- Large companies are losing ground in their databases usage reach

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CONCLUSION

- Point 1
- Point 2
- Point 3
- Point 4

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APPENDIX

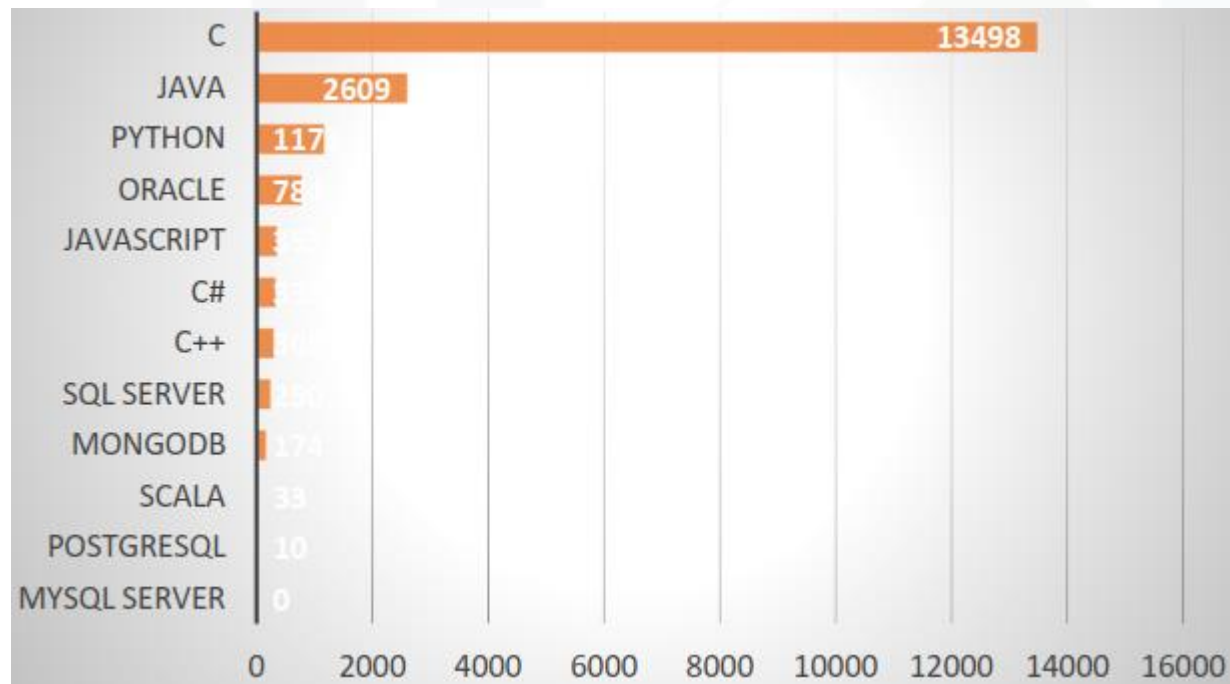| Respondent	MainBranch	Hobbyist	OpenSourcer
4	I am a developer by profession	No	Never
9	I am a developer by profession	Yes	Once a month or more often
13	I am a developer by profession	Yes	Less than once a month but more than once per year
16	I am a developer by profession	Yes	Never
17	I am a developer by profession	Yes	Less than once a month but more than once per year
19	I am a developer by profession	Yes	Never
20	I am not primarily a developer, but I write code sometimes as part of my work	No	Never
22	I am a developer by profession	Yes	Less than once per year
23	I am a developer by profession	Yes	Less than once per year
24	I am a developer by profession	Yes	Never
25	I am a developer by profession	No	Never
26	I am a developer by profession	Yes	Less than once per year
29	I am a developer by profession	Yes	Less than once a month but more than once per year
32	I am a developer by profession	No	Never
38	I am a developer by profession	Yes	Never

- Sample of data.

JOB POSTINGS

- Job posting pulled from the job board. Count of jobs via language keywords

POPULAR LANGUAGES

Average Annual Salary

Language	Salary
PYTHON	$114,383
C++	$113,865
SWIFT	$113,801
JAVASCRIPT	$110,981
JAVA	$101,013
GO	$94,082
R	$92,037
C#	$88,726
SQL	$84,793
PHP	$84,727

- Popular languages based on average salary