Capstone–

Md.Tanvir Ahmed

Jul 17, 2025

Part 1

© IBM Corporation. All rights reserved.

OUTLINE

- Executive Summary
- Introduction
- Methodology
- Results
- Visualization – Charts
- Dashboard
- Discussion
- Findings & Implications

- Conclusion
- Appendix

EXECUTIVE SUMMARY

- Front end language usage is high and will remain high

- C# usage is high currently, but not in top 10 for the future use
- Microsoft and AWS platforms are and remain in top

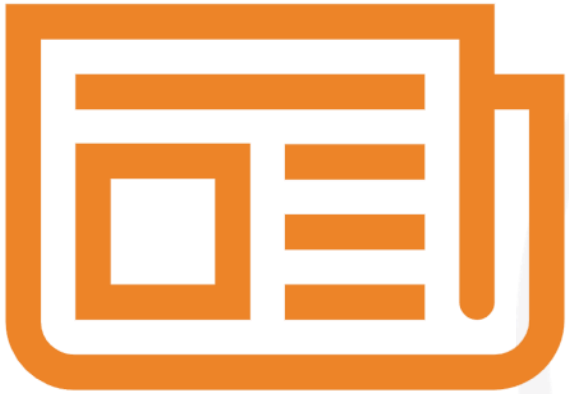
INTRODUCTION

- Purpose: show summary of information regarding Stack Overflow survey

- Target Audience: Stack Overflow users
- Value: Learn valuable information regarding current and future use of
  - Databases, Languages
  - Income and future growth

IBM

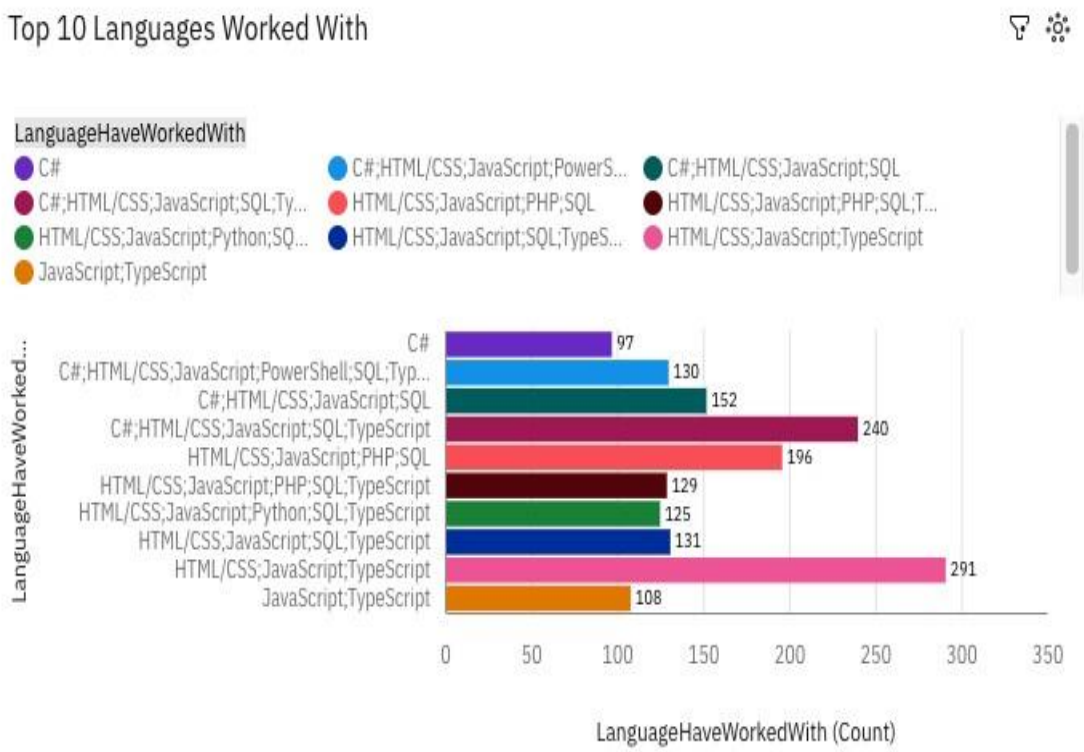
METHODOLOGY



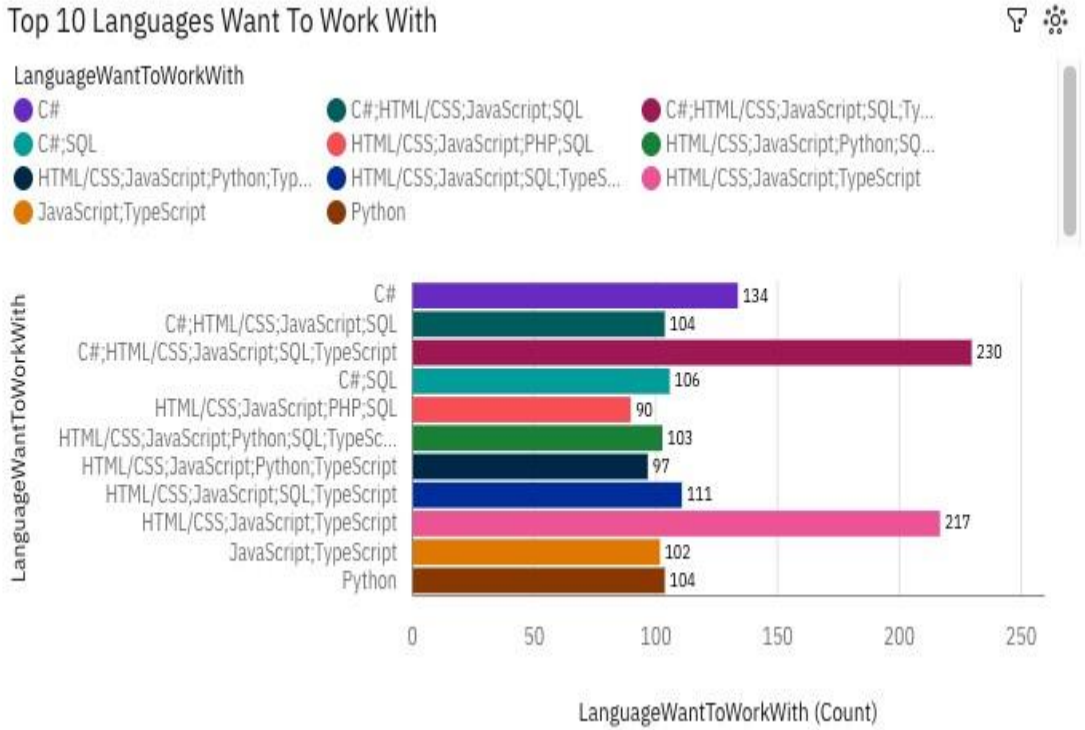
- Data taken from job posting portals, training portals and the annual Stack Overflow survey
- Data was collected using web scraping and the using the data from the Stack Overflow survey
- Data Cleaning
- Removed duplicates
- Removed na's
- Created numeric variables where necessary (for age etc)

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Lots of front end languages used
- Python is in future usage

- Lots of front end languages in future usage

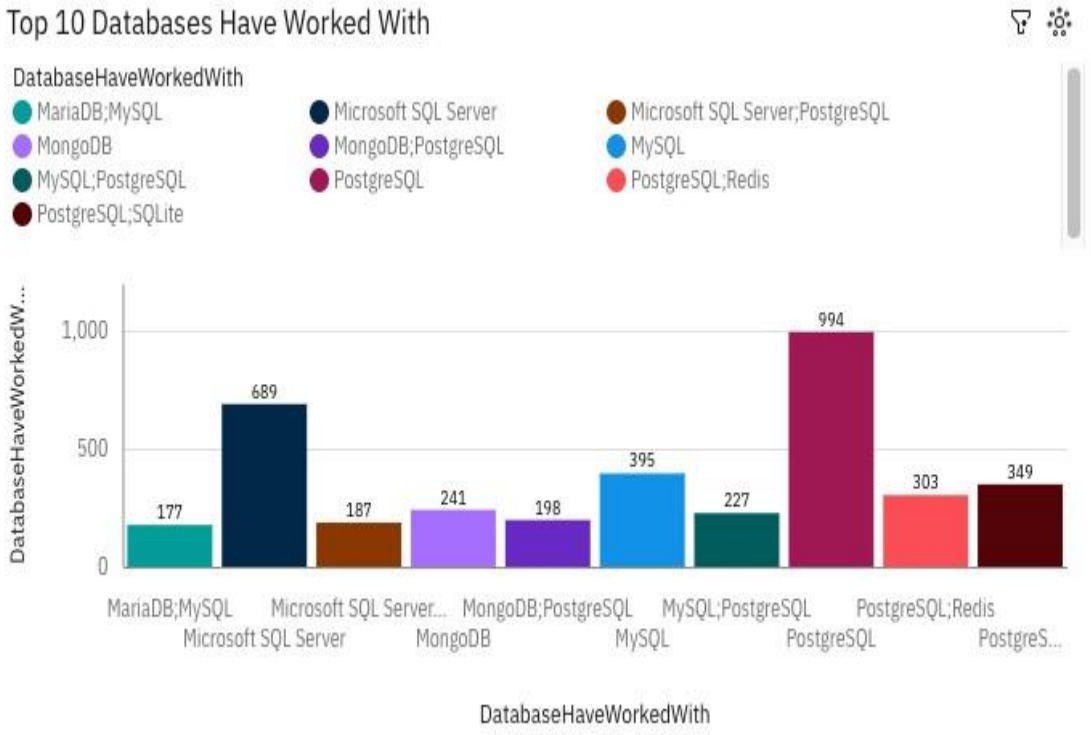
Implications

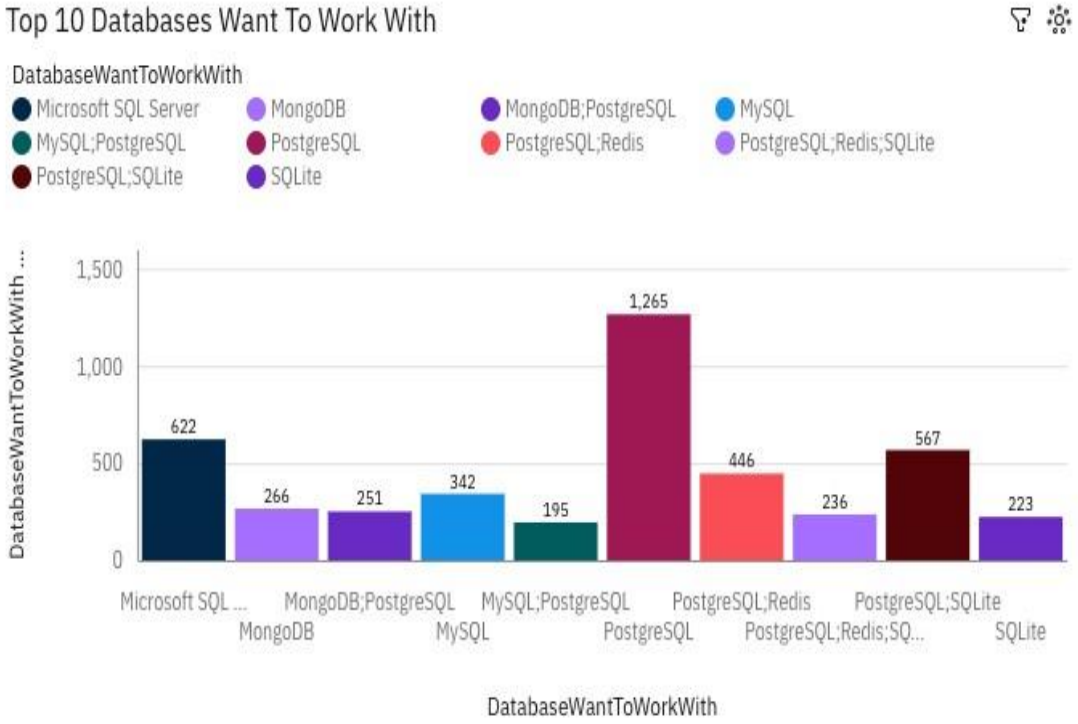
- People want to learn python
- Front end languages are high on the current and future usage

IBM

DATABASE TRENDS Current Year Next

Year





DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Postgre is a standout in both future
- Microsoft is a standout in both

Implications

- Prostgre and Microsoft seem current and to be the front runners for usage
- Other databases might have a need for dbas as interest wanes

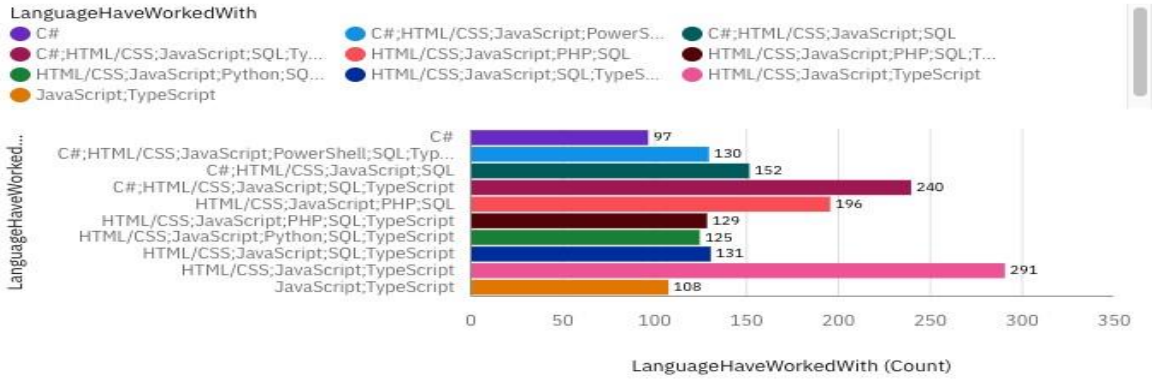
DASHBOARD

<Please present your dashboard in the following slides.>

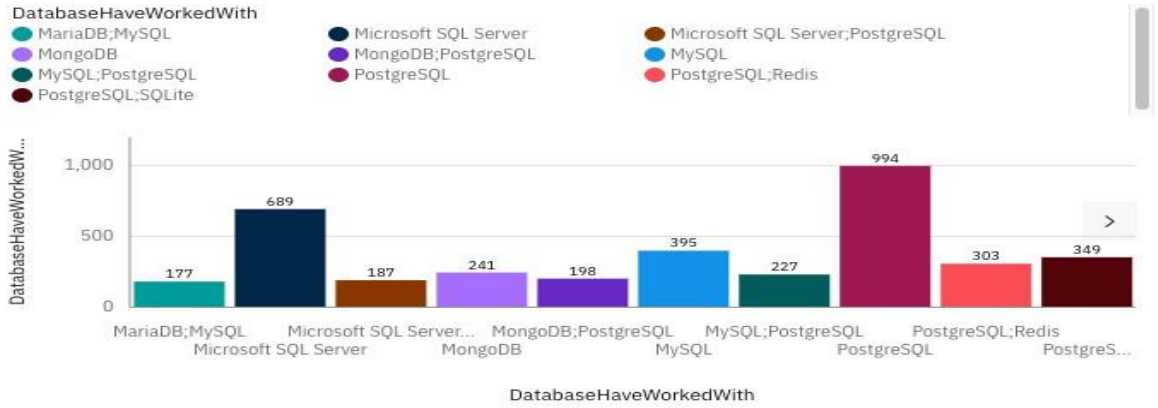
DASHBOARD TAB 1

Current Technology Usage | Future Technology Trend | Demographics

Top 10 Languages Worked With

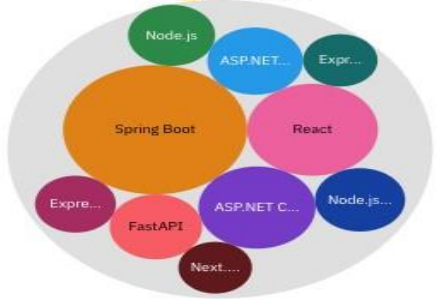


Top 10 Databases Have Worked With



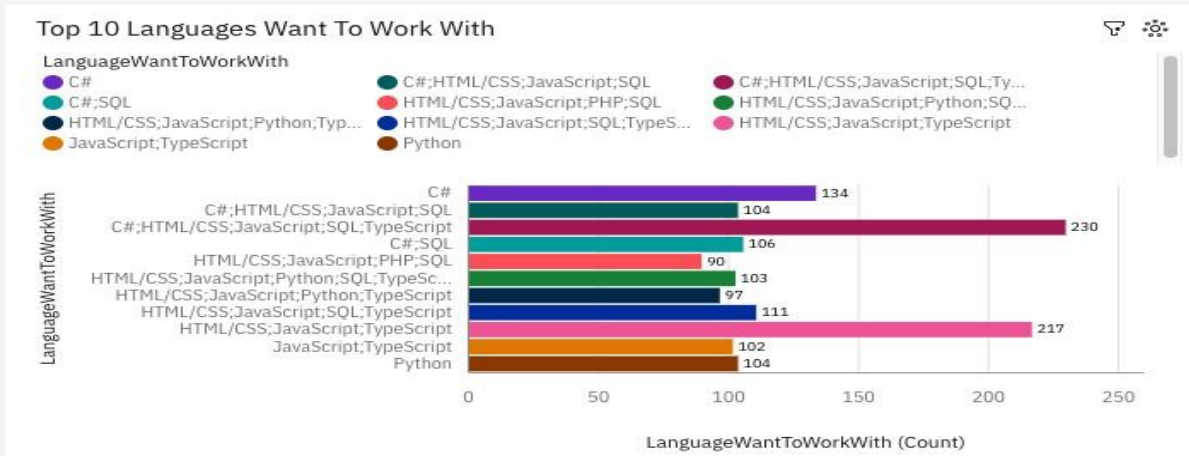
Top 10 Platform Have Worked With

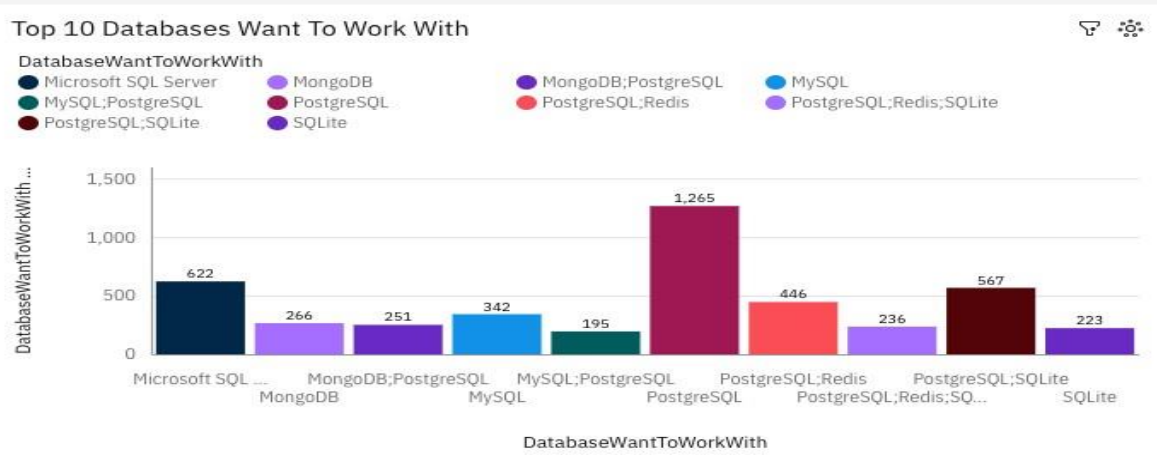
Top 10 Web Frame Have Worked With

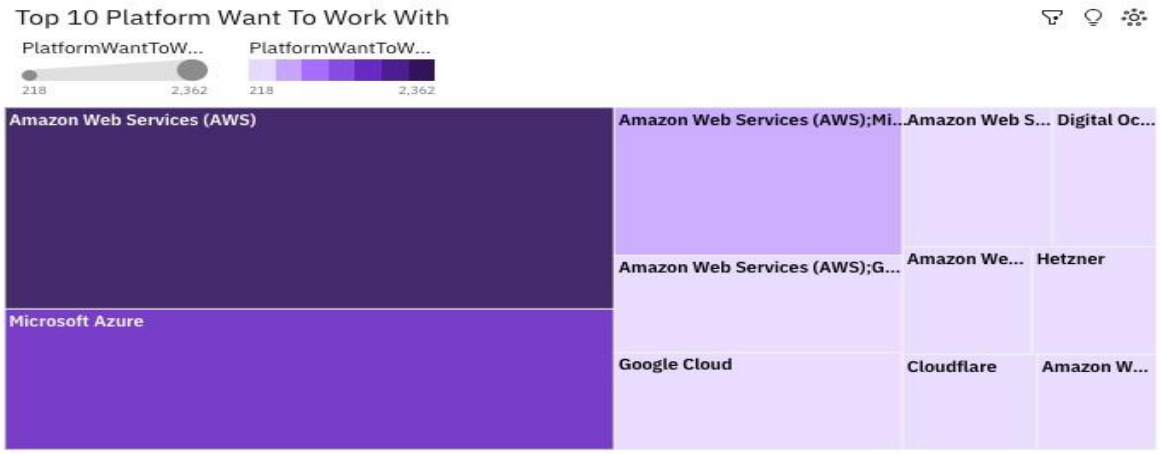


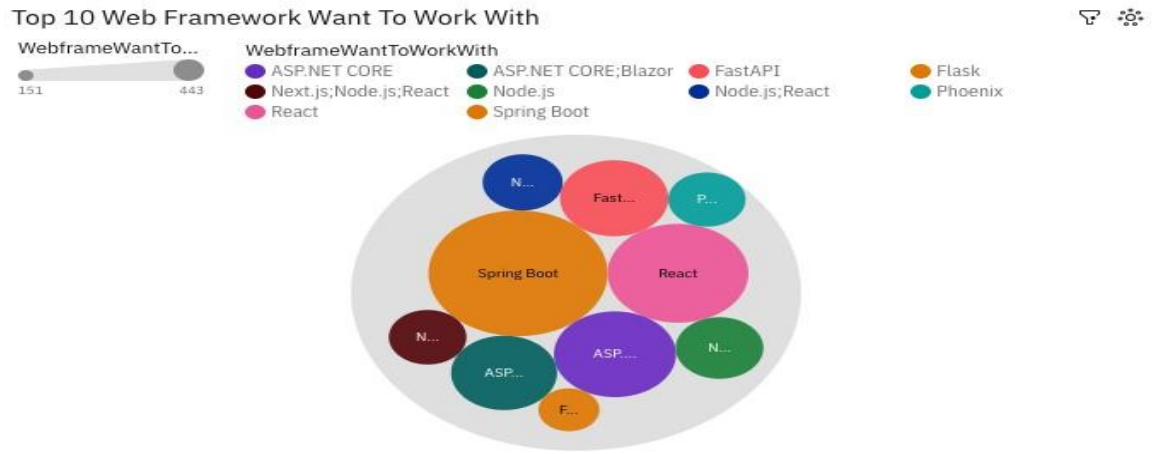
DASHBOARD TAB 2

Current Technology Usage | Future Technology Trend | Demographics



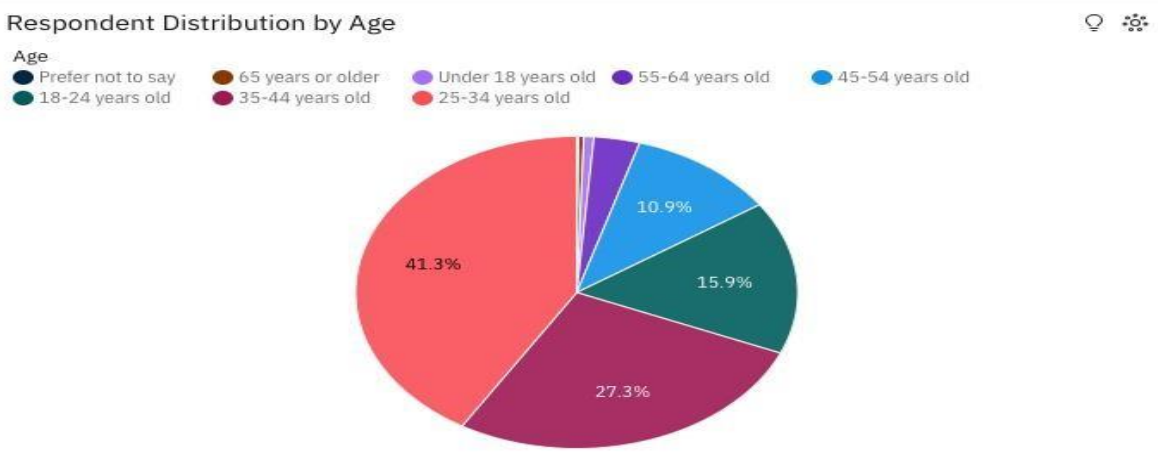


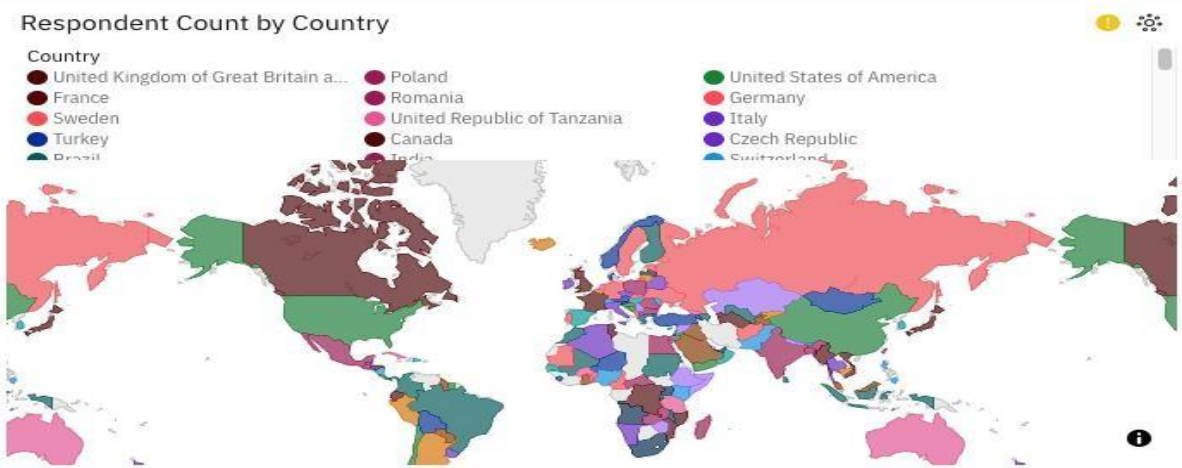


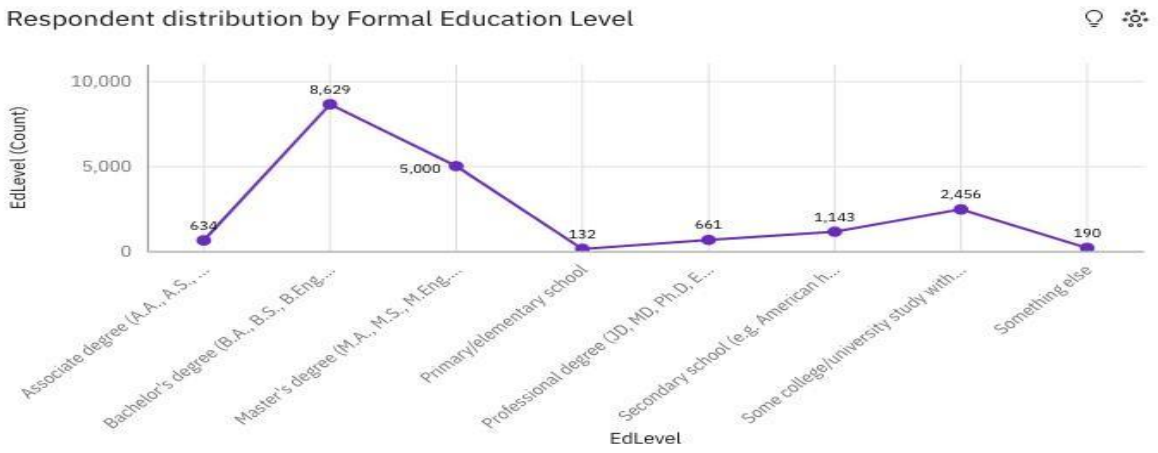


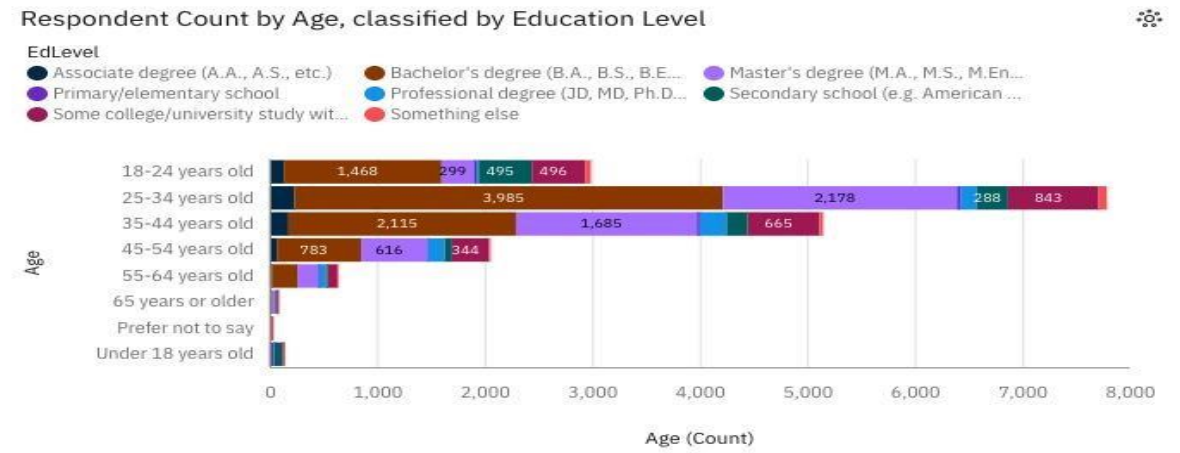
DASHBOARD TAB 3

Current Technology Usage | Future Technology Trend | Demographics









DISCUSSION

- A high portion of respondents 25-44 have a Bachelor or higher, so a

higher education

is likely a key to working in programming

- Get comfortable with

Microsoft and AWS

OVERALL FINDINGS & IMPLICATIONS

Findings

- Microsoft and AWS have high usage in dbs and platforms

- C seems to be falling out of favor for future use

Implications

- Good idea to learn and get comfortable with Microsoft and AWS products

- While C jobs are advertised most C is not as popular – might want to learn C languages

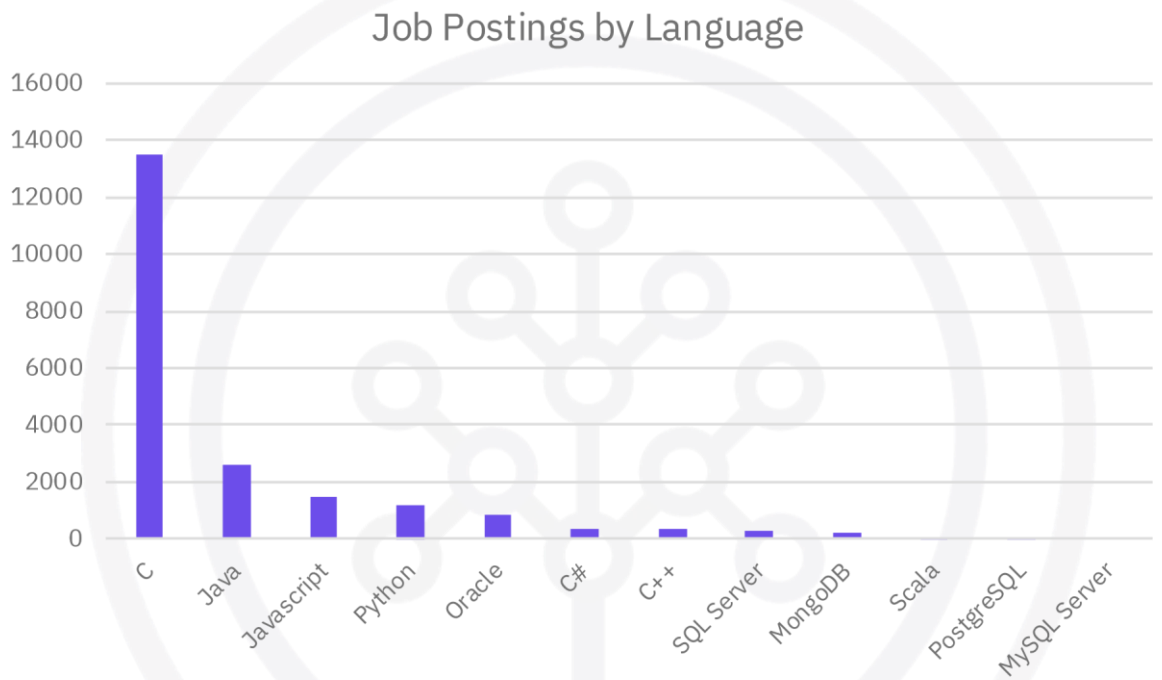
CONCLUSION

- It seems like Microsoft and AWS are and will remain leaders
- A good education is ideal
- Front end programming languages seem very popular, that might not be the way to go

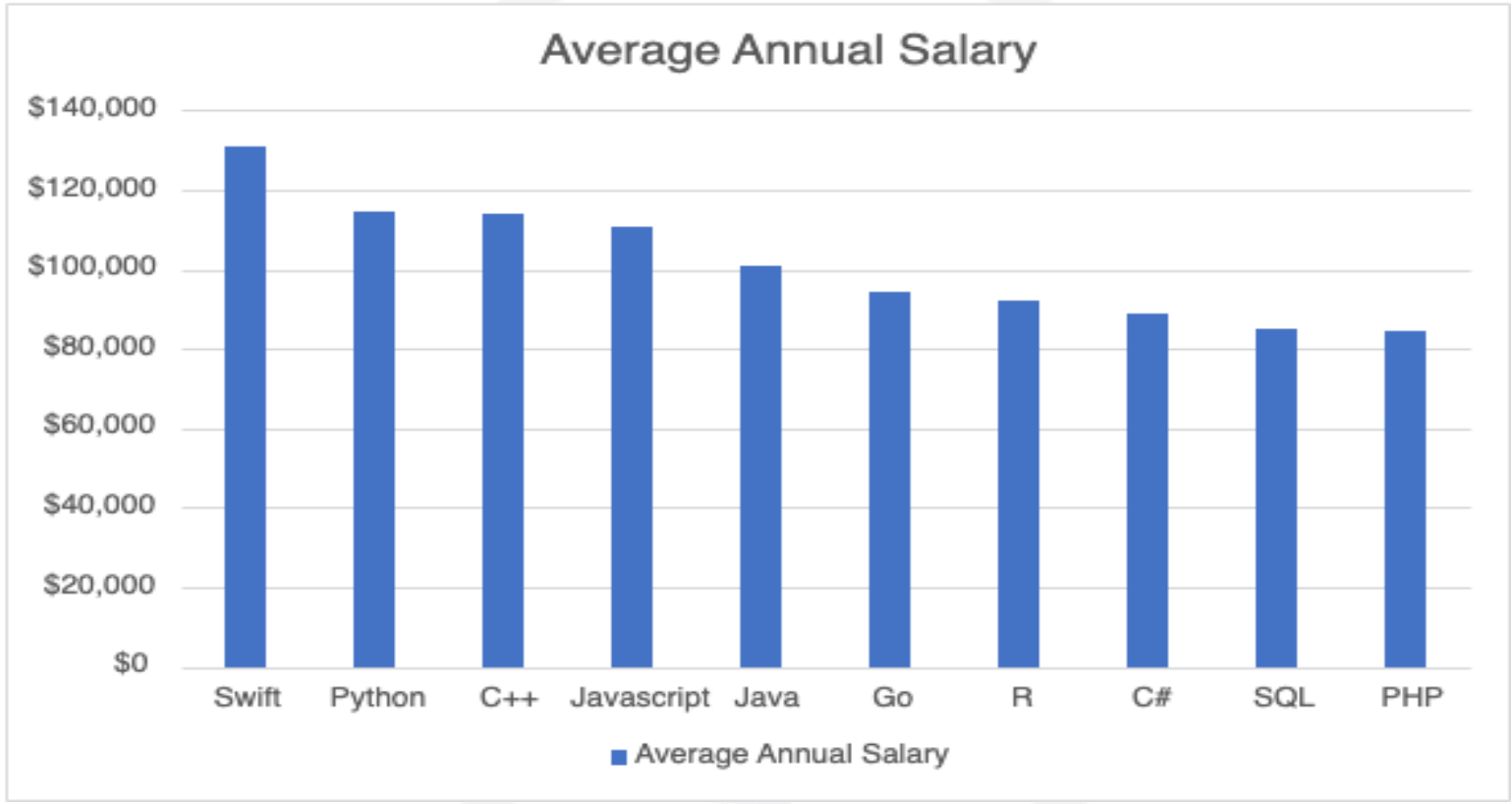
APPENDIX

- Include any relevant additional charts, or tables that you may have created during the analysis phase.

JOB POSTINGS


Job Postings by Language
16000
14000
12000
10000
8000
6000
4000
2000
0
C
Java
Javascript
Python
Oracle
C#
C++
SQL Server
MongoDB
Scala
PostgreSQL
MySQL Server

POPULAR LANGUAGES


Average Annual Salary
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$0
Swift
Python
C++
Javascript
Java
Go
R
C#
SQL
PHP
Average Annual Salary