Emerging Trending Skills In IT industry

Wing Sing Leng

June 4, 2021

OUTLINE

- Executive Summary

- Introduction

- Methodology

- Results
  - Visualization – Charts
  - Dashboard

- Discussion
  - Findings & Implications

- Conclusion

- Appendix

IBM Developer

SKILLS NETWORK

EXECUTIVE SUMMARY

- IT industry is a competitive and ever changing industry which require constant refine new programing skill and DataBases. This project is used to analyze the trends

- This project is used to analyze the trend:
  - Current Technology Usage
  - Future Technology Trend
  - Demographics in IT industry

- The project is to identify the top programming languages

- Identifying top database skills in demand

- Popular IDEs

IBM Developer

SKILLS NETWORK

INTRODUCTION

- **What is the emerging trend and future skill requirements in the Industry?**
  - What are the top programming language in demand?
  - What are the top database skills in demand?
  - What are the popular IDEs?

- collecting data from various sources and identifying trends for this year's report on emerging skills:
  - Job Postings
  - Training Portals
  - Surveys

- A Data Analyst in a global IT and business consulting services firm that is known for their expertise in IT solutions and their team of highly experienced IT consultants. In order to keep pace with changing technologies and remain competitive, your organization regularly analyzes data to help identify future skill requirements.

IBM Developer

SKILLS NETWORK

METHODOLOGY

1. **Data Source:** Stack Overflow, Two data is used Demographics and Survey data technologies

2. Survey Data technologies was used to analyze the current technology trend and future technology trend:
   - Respondents
   - LanguageWorked With, DataBaseWorked With, PlatfarmWorked With, WebframeWorked With
   - LanguageDesireNextYear, DataBaseDesireNextYear, PlatformDesireNextYear, WebframeDesireNextYear,

3. Demographic data was used for demographic data:
   - Man and woman
   - Age
   - Formal education level and Countries

4. Data is filtered with:
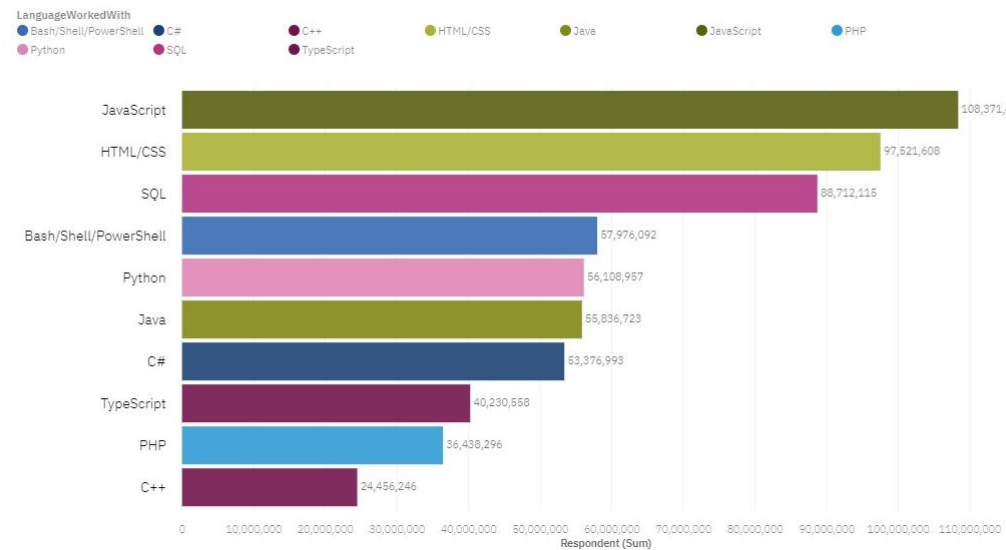   - NoValue or null is cleaned
   - Demographic: man and woman only

IBM **Dev**cloper

SKILLS NETWORK

RESULTS

PROGRAMMING LANGUAGE TRENDS

Current Year

Top 10 LanguageWorkedWith

LanguageWorkedWith
● Bash/Shell/PowerShell ● C# ● C++ ● HTML/CSS ● Java ● JavaScript ● PHP
● Python ● SQL ● TypeScript

Language	Respondent (Sum)
JavaScript	108,371,442
HTML/CSS	97,521,608
SQL	88,712,115
Bash/Shell/PowerShell	57,976,092
Python	56,108,957
Java	55,836,723
C#	53,376,993
TypeScript	40,230,558
PHP	36,438,296
C++	24,456,246

Next Year

Top 10 LanguageDesireNextYear

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

Language	Respondent (Sum)
JavaScript	82,435,603
Python	65,819,056
HTML/CSS	65,736,854
SQL	62,270,210
TypeScript	50,369,647
C#	44,603,822
Bash/Shell/PowerShell	38,409,434
Java	36,736,341
Go	34,588,729
Kotlin	23,464,961

IBM Developer

SKILLS NETWORK
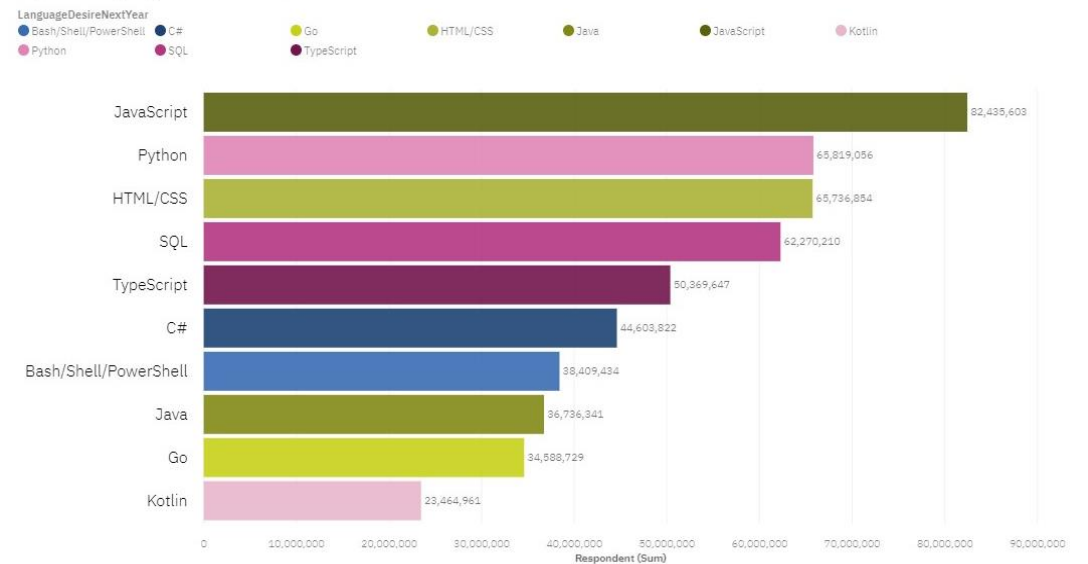
PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings:

- ==JavaScript== is the top most demanded for current and future programming language.

- Significantly Increasing desire for ==Python==

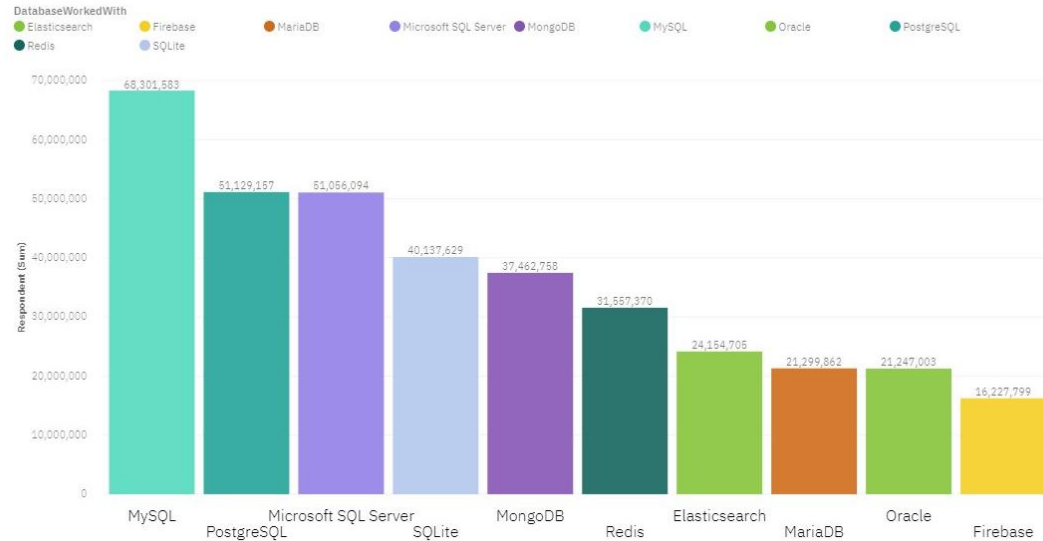- The trends of programming language has shifted

Implications:

- ==JavaScript== is still most popular and widely used in programming language in IT industry.

- ==Python== has become a new desired and required skills in IT industry.

- ==JavaScript, Python, HTML/CSS,SQL, TypeScript== are the top 5 most desired skills.

IBM Developer

SKILLS NETWORK

DATABASE TRENDS

Current Year

Next Year

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings:

- PostgreSQL,MongoDB, Redis have become the most desired Database.

- MongoDB, Redis, Elasticsearch are becoming increasingly popular for desiredDatabased roughly 10,000 increased in respondants.

- Oracle Database has become less popular and less desired

Implications:

- PostgreSQL, MongoDB,Redis,MySQL,Elasticsearch are the desired and most used Database.

- MongoDb, Redis,Elasticsearch have new and better functionalities or services.

- Oracle Database is to avoid

DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/605c0ca9-4f1e-4293-9a8b-5d07d706cf44/view/7520e63c158c2aed48d1b1e407cf2e0574342208bbbbd25780d67b490b627897a93c4099c82843098b15506aa6e4155198
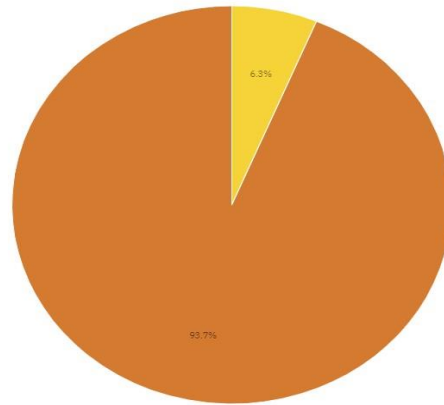
IBM **Developer**

SKILLS NETWORK
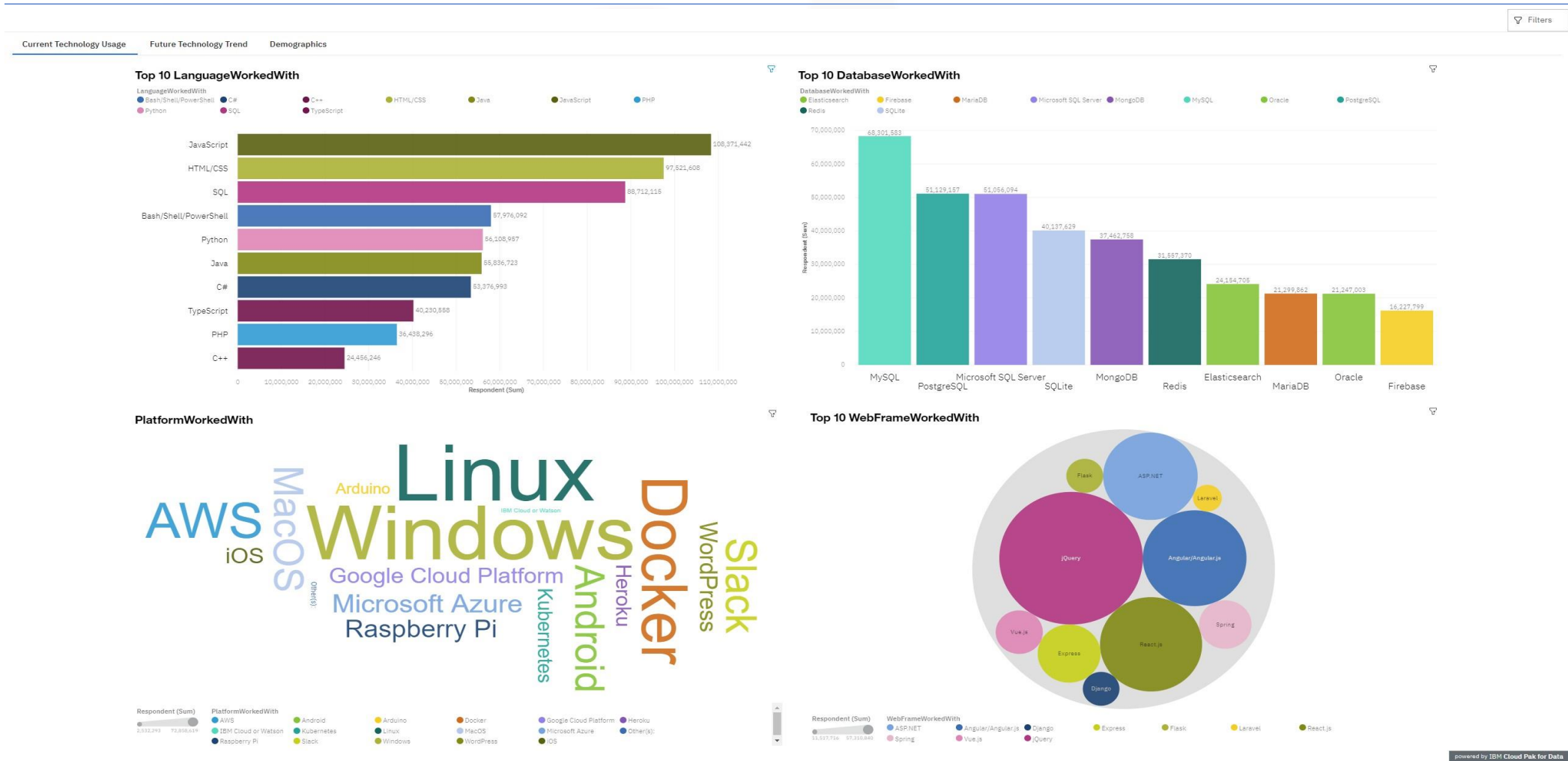
DASHBOARD TAB 1

DASHBOARD TAB 2
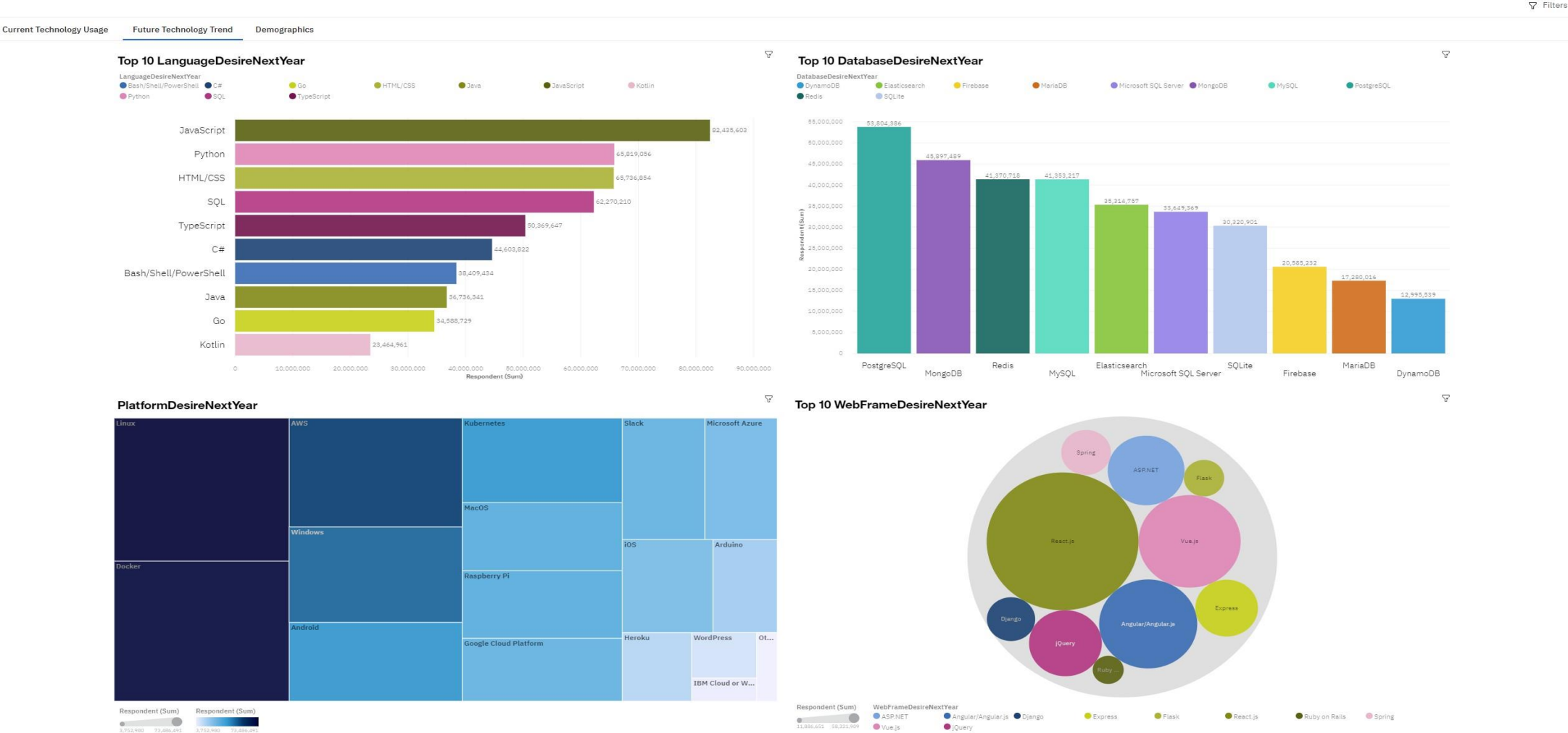
DASHBOARD TAB 3
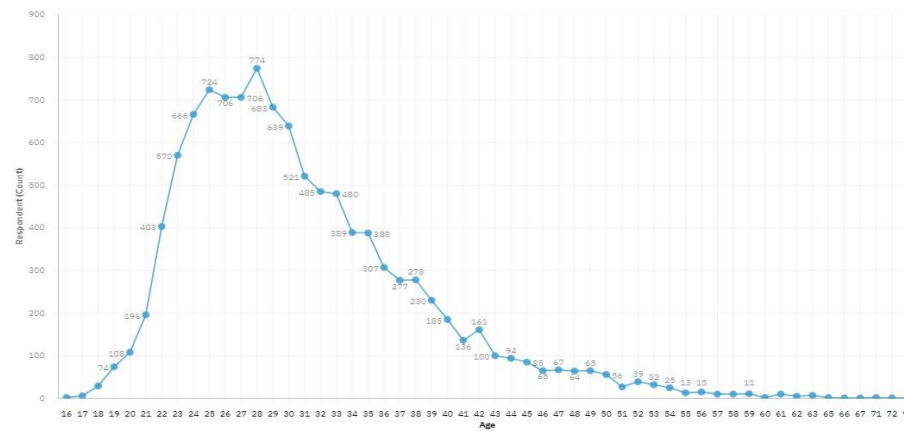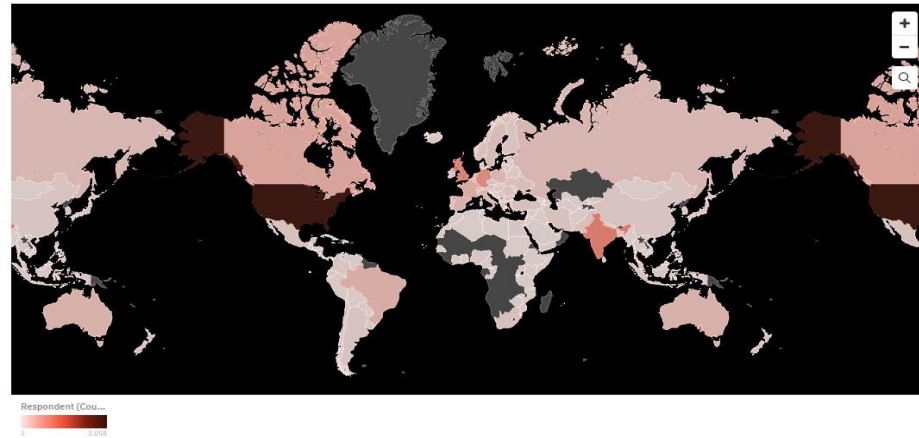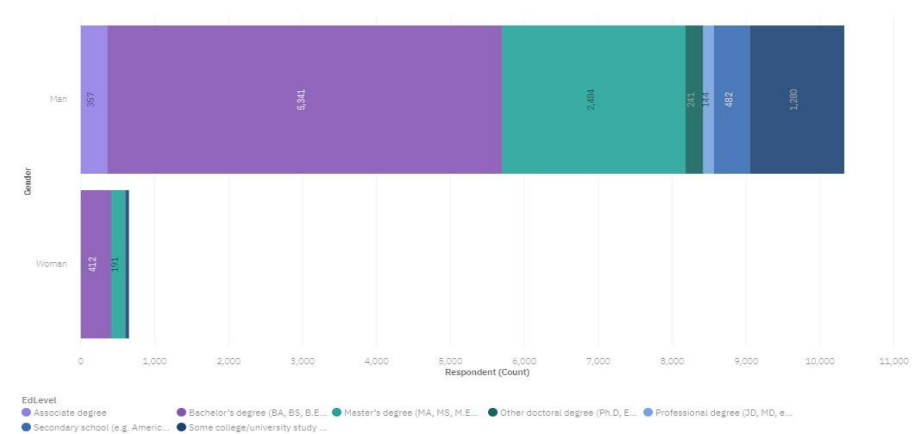
DISCUSSION

- ### For future skills requirements and recommendations:

1. Top programming languages FutureDesire are:
   - JavaScripts, Python, HTML/CSS,SQL,TypeScript have become the new desire programming language that are gaining popularity in the IT industry

2. Top Database Skills:
   - PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch are becoming more sought after as compared to current most popular databases that people worked with.

3. Popular IDEs:
   - React.js,Angular/Angular.js,Vue.js , jquery and ASP.net are the popular IDEs.

IBM Developer

SKILLS NETWORK

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScripts, Python, HTML/CSS,SQL,TypeScript are the new desire programming language

- PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch are the new desired Database

- React.js,Angular/Angular.js,Vue.js , jquery and ASP.net are the popular IDEs

Implications

- Future Skills Requirements implements:
  1. Programming Language:
     JavaScripts, Python, HTML/CSS,SQL,TypeScript
  2. Database:
     PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch
  3. IDEs:
     React.js,Angular/Angular.js,Vue.js , jquery and ASP.net

IBM Developer

SKILLS NETWORK

CONCLUSION

- The Open source data collected from StackFlow can be recreated and analyze to avoid any data biased.

- The technologies that worked with in current year has shown a shift in trend, in order to remain competitive changes in skills requirements are needed.

- The significant changes and desires are shown in programming languages and the databases.Hence the new requirements:

  Programming Language:
  > JavaScripts, Python, HTML/CSS,SQL,TypeScript

  Database:
  > PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch

  IDEs:
 > React.js,Angular/Angular.js,Vue.js , jquery and ASP.net

APPENDIX

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

IBM **Developer**

SKILLS NETWORK

GITHUB JOB POSTINGS

In Module 1 you have collected the job postings data using GitHub API in a file named "github-job-postings.xlsx". Present that data using a bar chart here. Order the bar chart in the descending order of number of job postings.
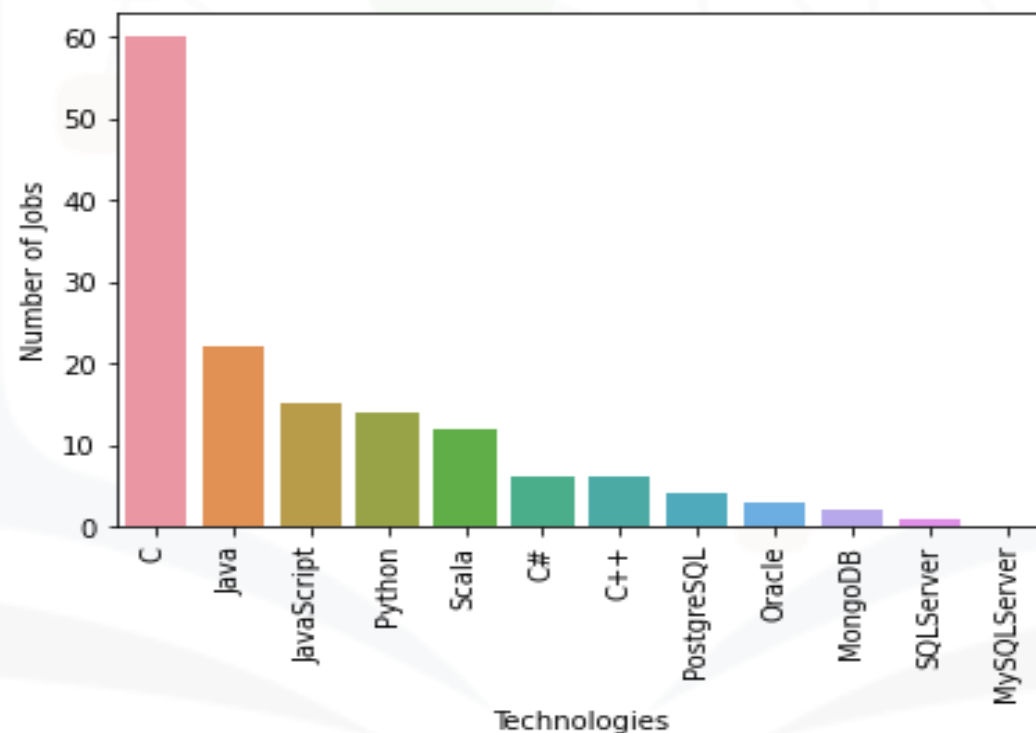
POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named "popular-languages.csv". Present that data using a bar chart here. Order the bar chart in the descending order of salary.

IBM Developer

SKILLS NETWORK