Emerging Trending Skills Required In IT industry In the future

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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

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.

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
5. Illustration of the data is used as follows:
   - Python libraries: Numpy, Matplotlib, Pandas,Seaborn
   - IBM Cognos Analytics Dashboard
   - Jupyternotebook for Data Cleaning and Data Science Analysis

RESULTS

The Results shown as follows are the analysis comparing the graphs between the current technology usage and Future technology usage.

Results as follows:

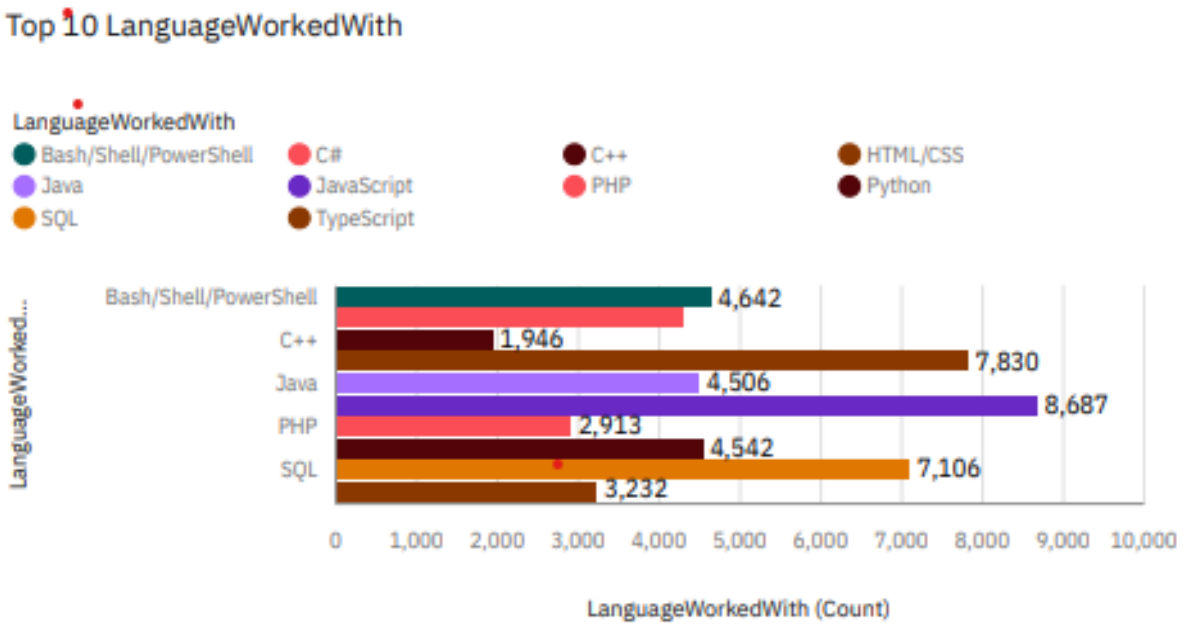
1. **Programming Language trends**

2. **DataBase trends**

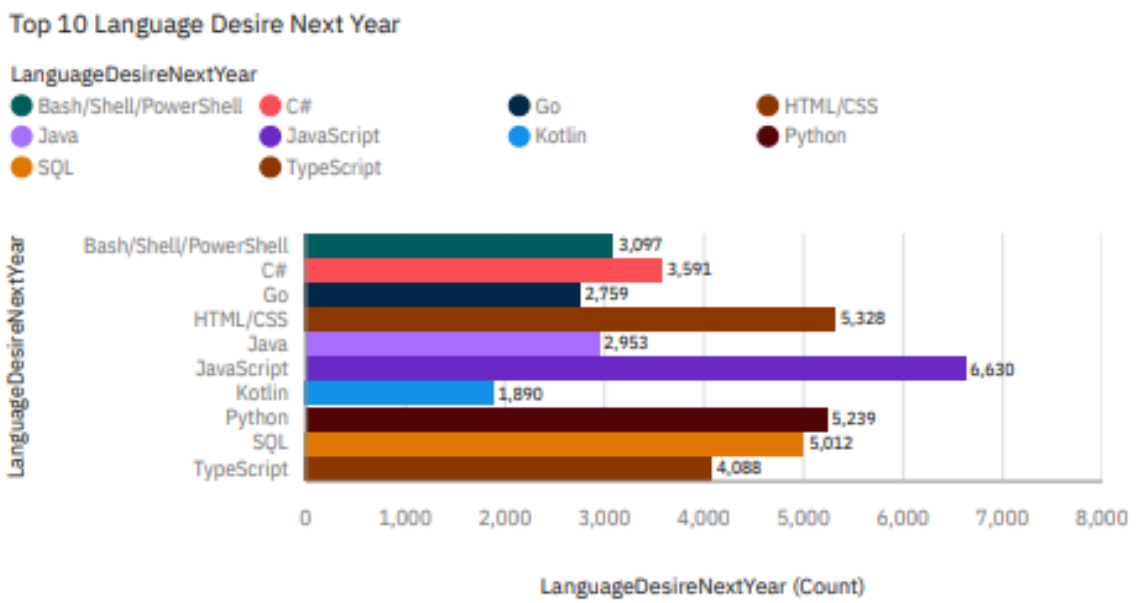
3. **IDEs trends**

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

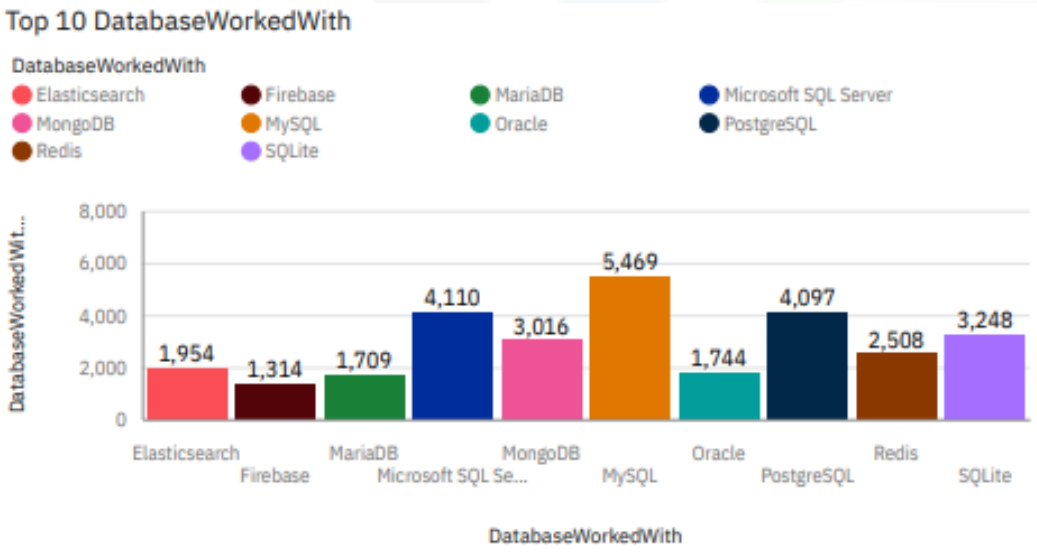
- JavaScript is the top most demanded for current and future programming language.
- Significantly Increasing desire for Python
- The trends of programming language has shifted
- Top 5 language are:
    - JaveScript, Python,HTML,SQL, TypeScript

Implications

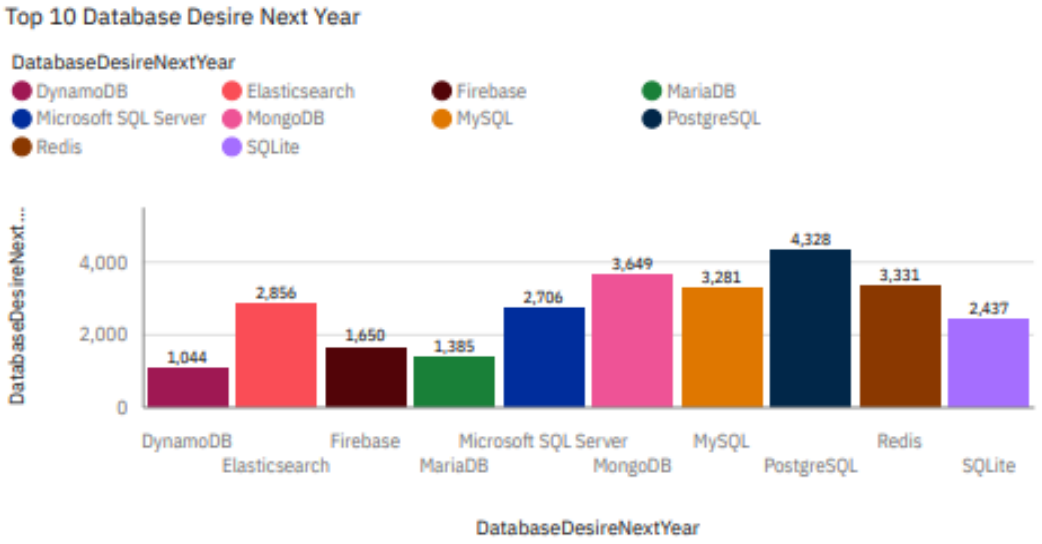
- JavaScript is still most popular and widely used in programming language in IT industry.
- Python has become a new desired and required skills in IT industry.
- JavaScript, Python, HTML/CSS,SQL, TypeScript are the top 5 most desired skills.
- The Desire Skill for programming language has certainly Shifted.

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
- Drastic increase in the desire database skills especially for MongoBD and DynamoBD

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
- Usage of DynamoBD more research may needed.

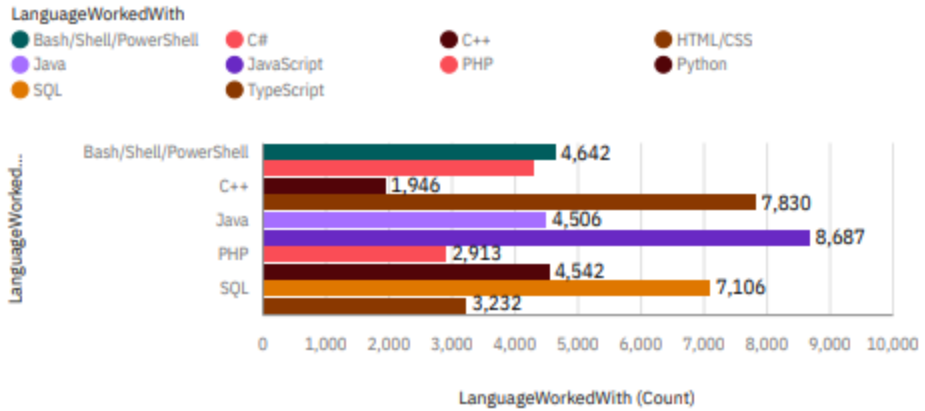
DASHBOARD

https://github.com/wadehrarsh/IBM-Capestone-Project/blob/main/IBM%20Capstone%20Project_%20New%20dashboard.pdf

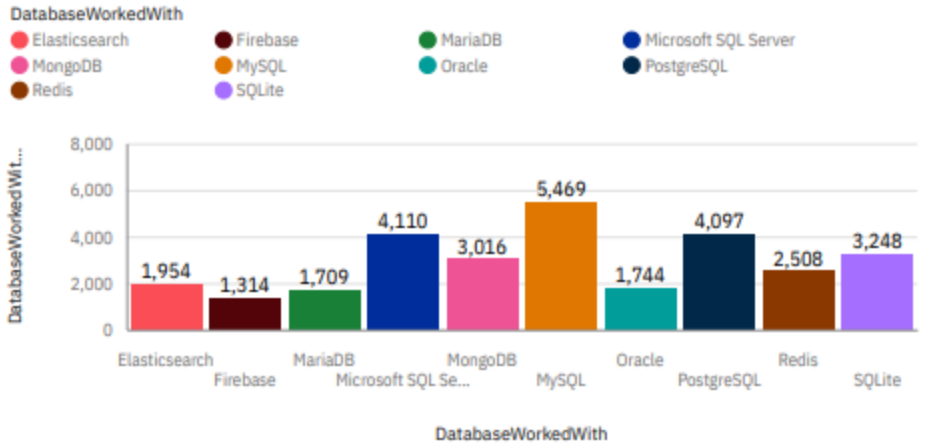
DASHBOARD TAB 1

Current Technology Usage

Top 10 LanguageWorkedWith

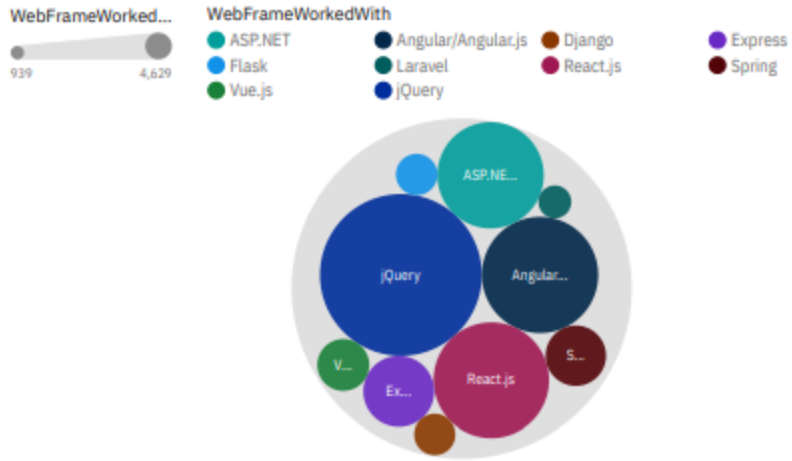


Top 10 DatabaseWorkedWith



PlatformWorkedWith

Top 10 WebFrameWorkedWith

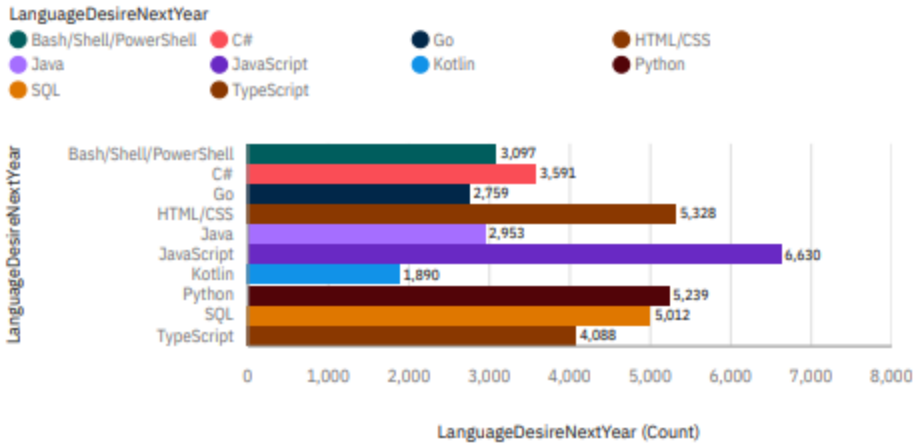


IBM

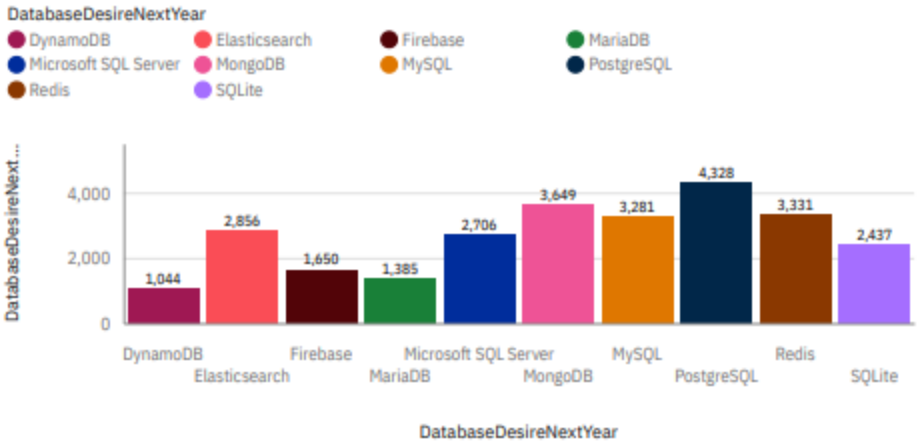
DASHBOARD TAB 2

Future Technology Trend

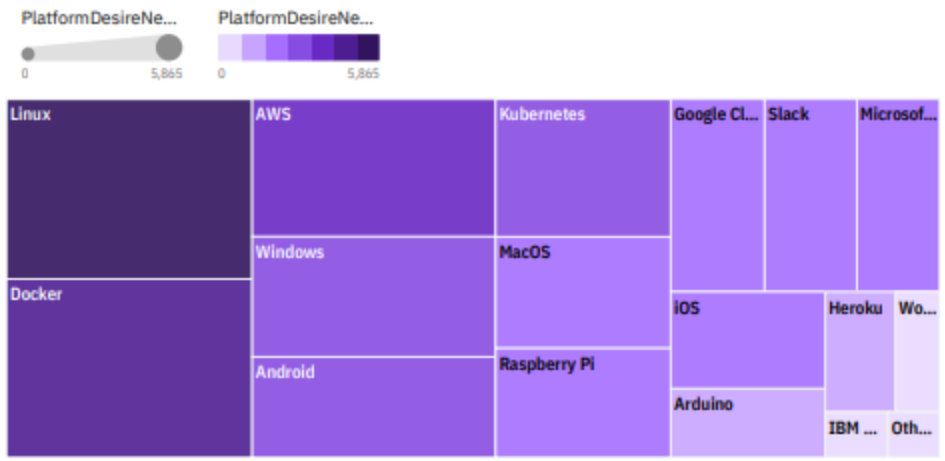
Top 10 Language Desire Next Year



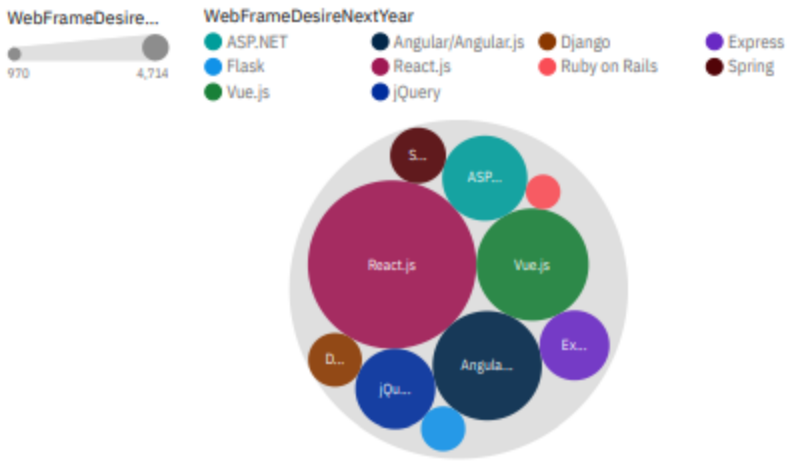
Top 10 Database Desire Next Year



Platform Desire Next Year



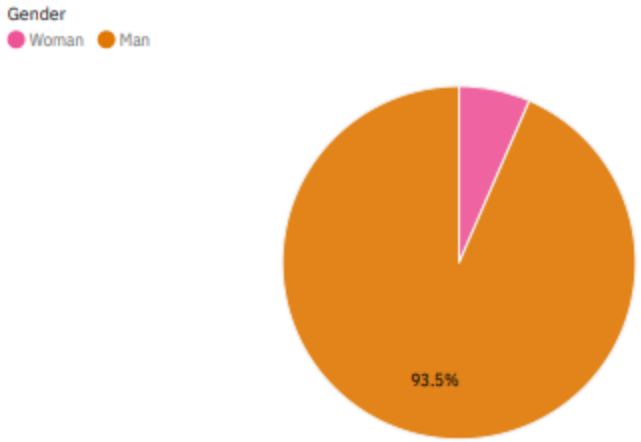
Top 10 WebFrame Desire Next Year.



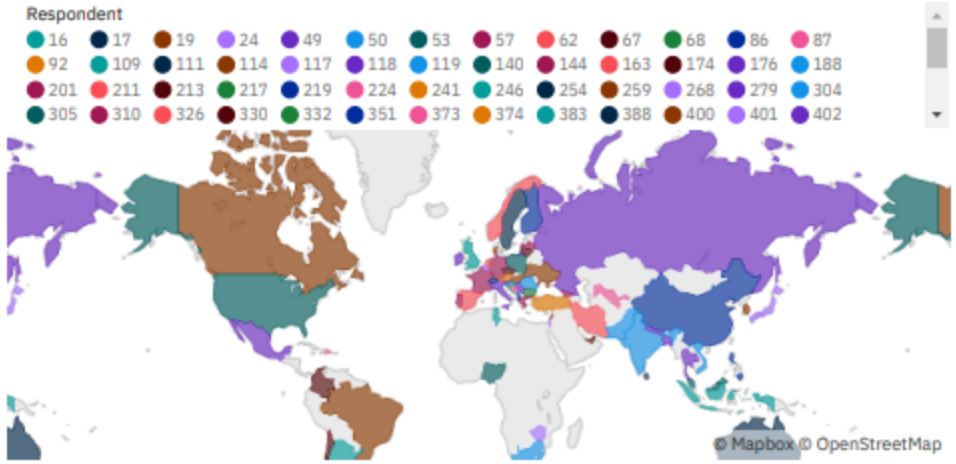
DASHBOARD TAB 3

Demographics

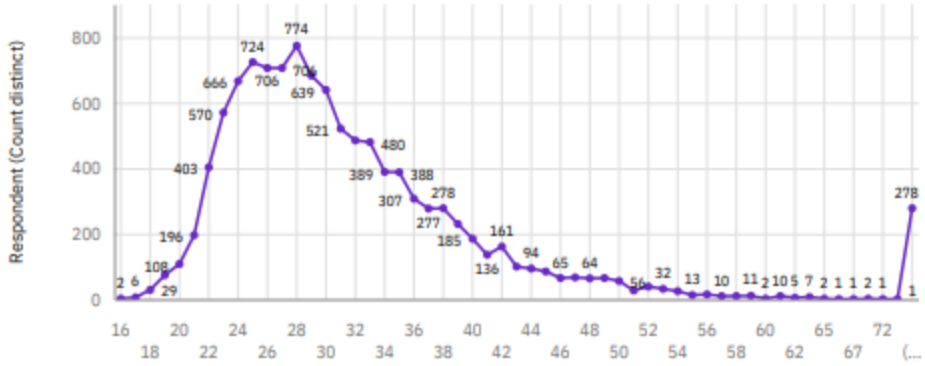
Respondent classified by Gender



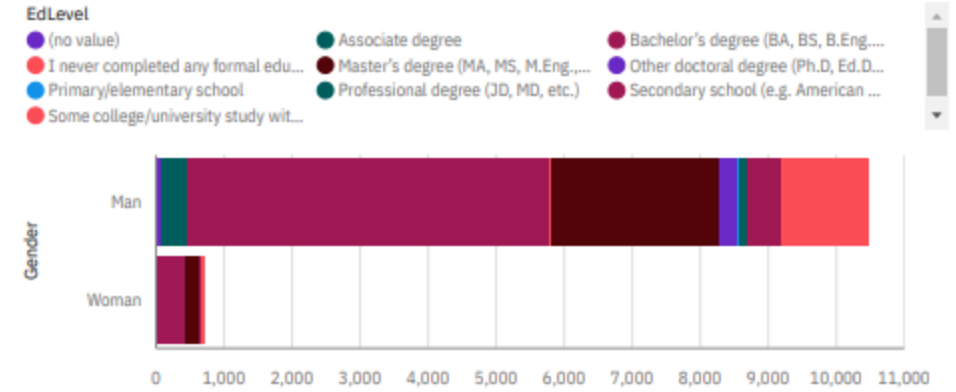
Respondent Count for Countries



Respondent Count by Age



Respondent by Gender colored by EdLevel



DISCUSSION

- For future skills requirements and recommendations:

1. What are the Skill must have? Or DESIRE to be in the industry?
2. 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
3. Top Database Skills:
   - PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch are becoming more sought after as compared to current most popular databases that people worked with.
4. Popular IDEs:
   - React.js,Angular/Angular.js,Vue.js , jquery and ASP.net are the popular IDEs.

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
- The trends shows a drastic changes in Desire for nextyear programming languages, Database and IDEs

Implications

- Future Skills Requirements implements:
- 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
- There are a few Databases that are also increasingly desire such like DynamoBd
- The numbers of Skills requirements to be able to be competitive in the IT industry has been changing in the vast development and redefine of current techonoly.

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

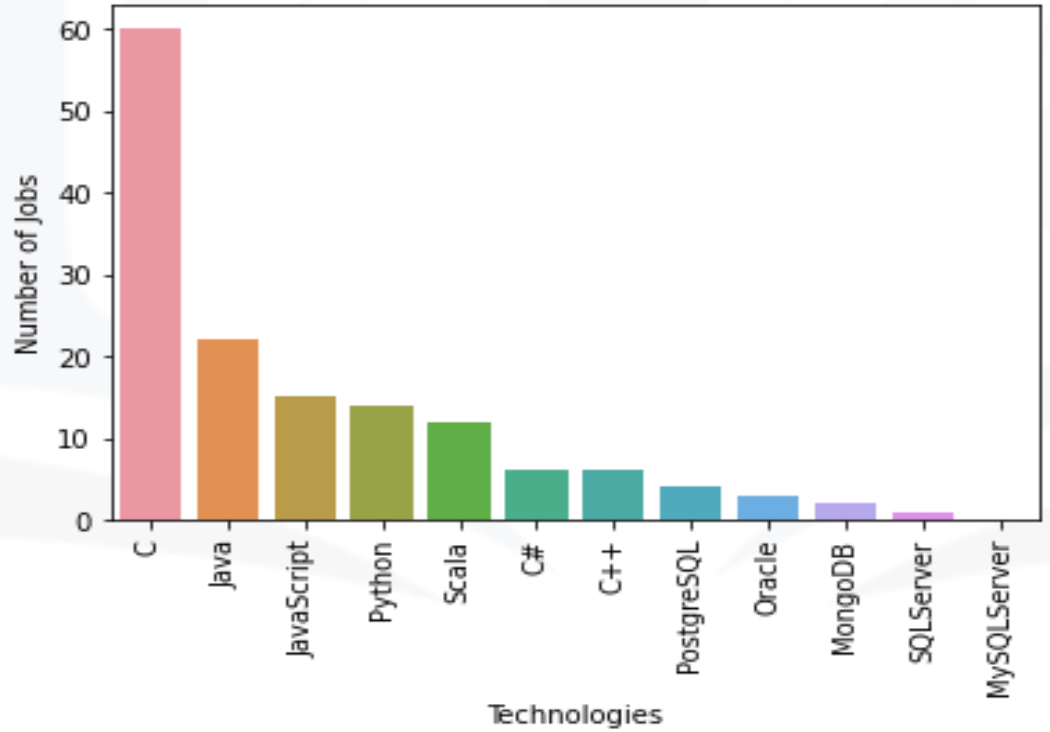
APPENDIX

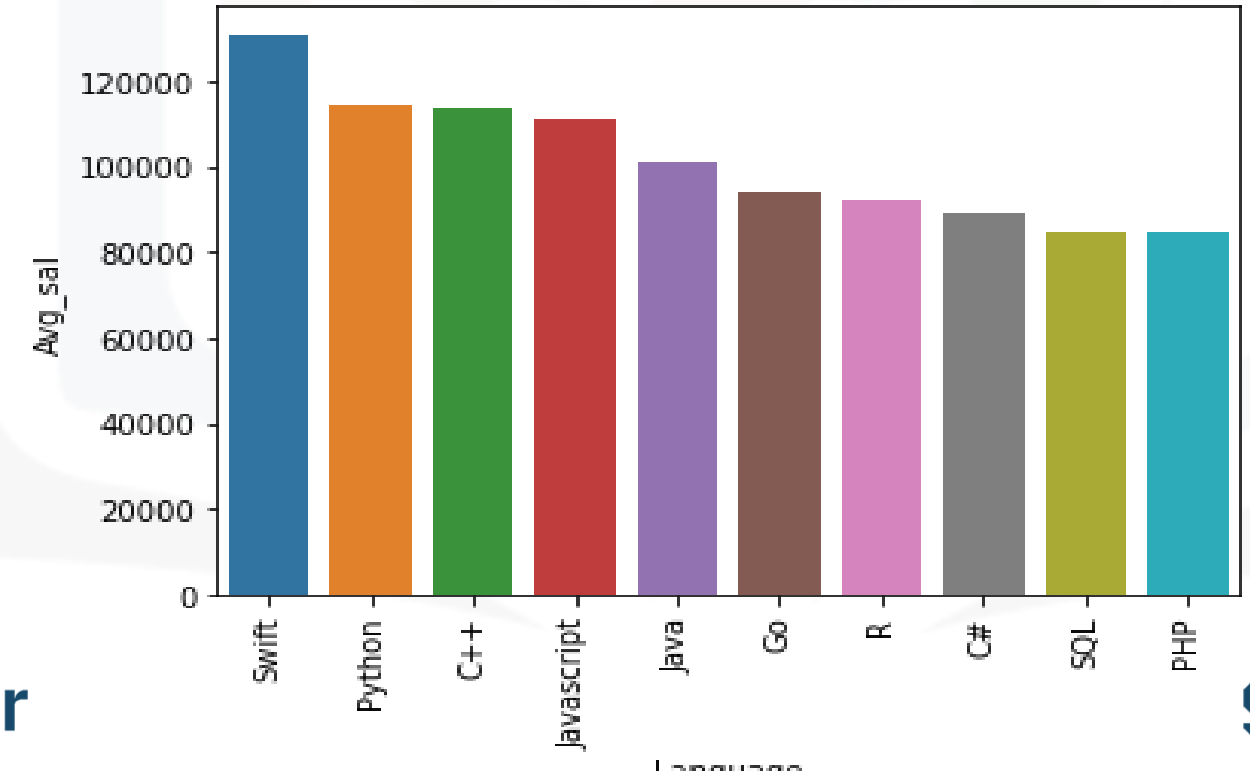
- file named *popular-languages.csv*

Language	Average Annual Salary
Python	$114,383
Java	$101,013
R	$92,037
Javascript	$110,981
Swift	$130,801
C++	$113,865
C#	$88,726
PHP	$84,727
SQL	$84,793
Go	$94,082

JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named “job-postings.xlsx”. Present that data using a bar chart here. Order the bar chart in the descending order of the 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.