IBM – Data Analyst Capstone Presentation

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OUTLINE

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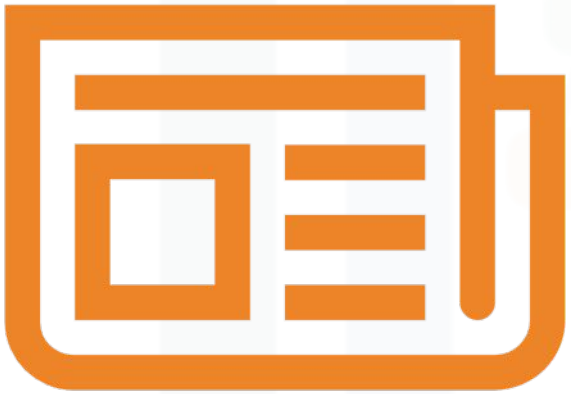
EXECUTIVE SUMMARY

- Collected data from following sources :
  - m5_survey_data_technologies_normalised.csv
  - github-job-postings.xlsx
  - popular-languages.csv
- Analyzed about the Respondents basic demographic information
- Analyzed Current and Future Trends on following Technologies:
  - Popular Programming Languages
  - Popular Databases
  - Popular Platforms
  - Popular Web Development Frameworks
- Created Dashboard to visualize everything.

INTRODUCTION

- Stakeholders : Developers, Freelancing Coders, Project Managers.
- This report gives a brief analysis on the *trends of* current and future programming languages.
- The major concentration is:
  - *Programming Languages & Frameworks* Trends
    - Current
    - Future
  - *Databases & Platforms* Trends
    - Current
    - Future

METHODOLOGY



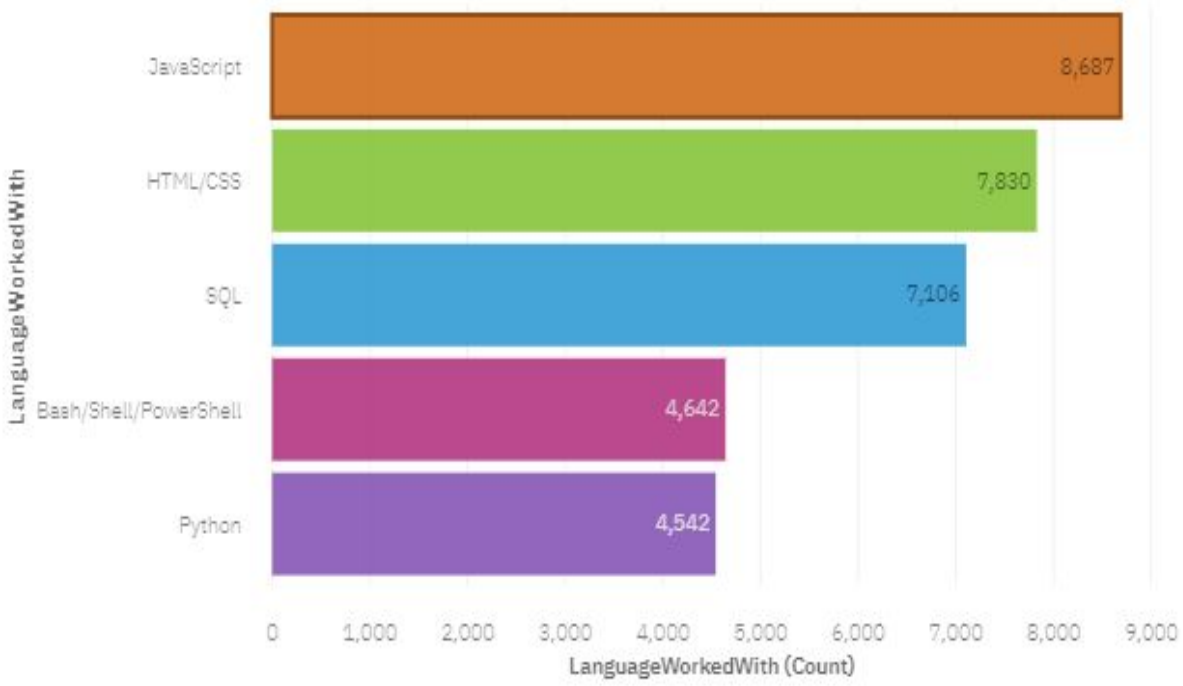
- Github as a repository
- Jupyter Notebook – Python
- Packages such as Pandas, NumPy and Matplotlib.
- Gathered the data from various sources using APIs.
- Cleaned the data by removing duplicates and outliers and imputing NAs.
- Used IBM Cognos to perform Explanatory Data Analysis EDA and created appropriate Dashboards and Visualizations using IBM Cognos Embedded Dashboard CED.

RESULTS

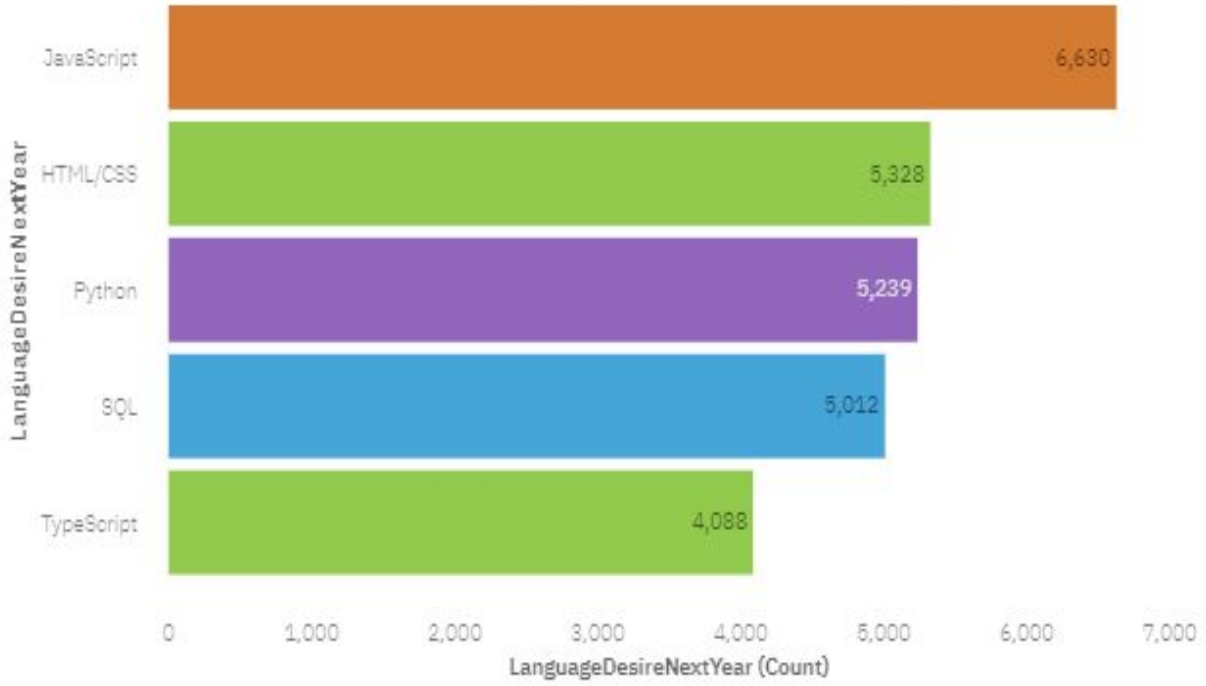
- IBM Cognos Embedded Dashboard CED with 3 Tabs:
  - Tab 1 - Current Technology Usage :
    - **Top Language Worked With**
    - **Top Database Worked With**
    - **Platform Worked With**
    - **Top Web Frame Worked With**
  - Tab 2 - Future Technology Trend:
    - **Top Language Desired Next Year**
    - **Top Database Desired Next Year**
    - **Platform Desired Next Year**
    - **Top Web Desired Next Year**
  - Tab 3 - Demographics:
    - **Respondent classified by Gender**
    - **Respondent Count for Countries**
    - **Respondent Count by Age**
    - **Respondent Count by Gender, classified by Formal Education Level**

PROGRAMMING LANGUAGE TRENDS

Current Year :-



Next Year :-



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings :-

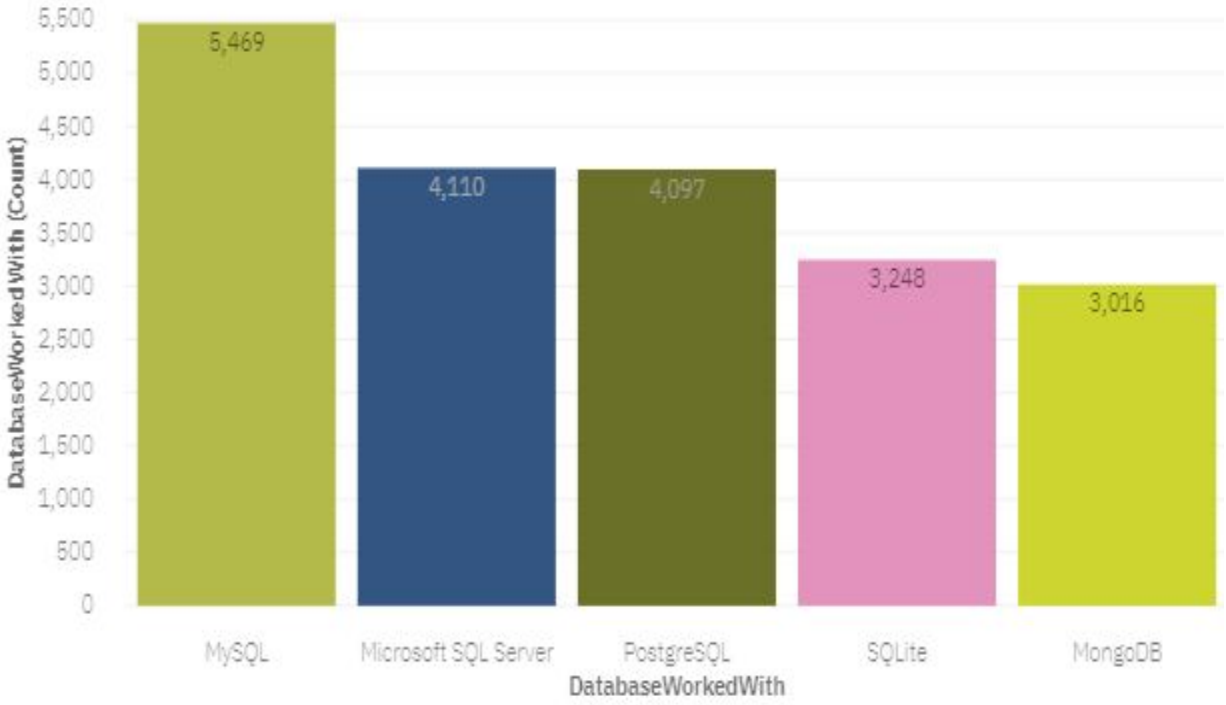
- Currently JavaScript tops the trend followed by HTML/CSS
- Even Next year JavaScript and HTML/CSS retains their same positions.
- In future Python takes position 3, defeating SQL and Typescript.

Implications :-

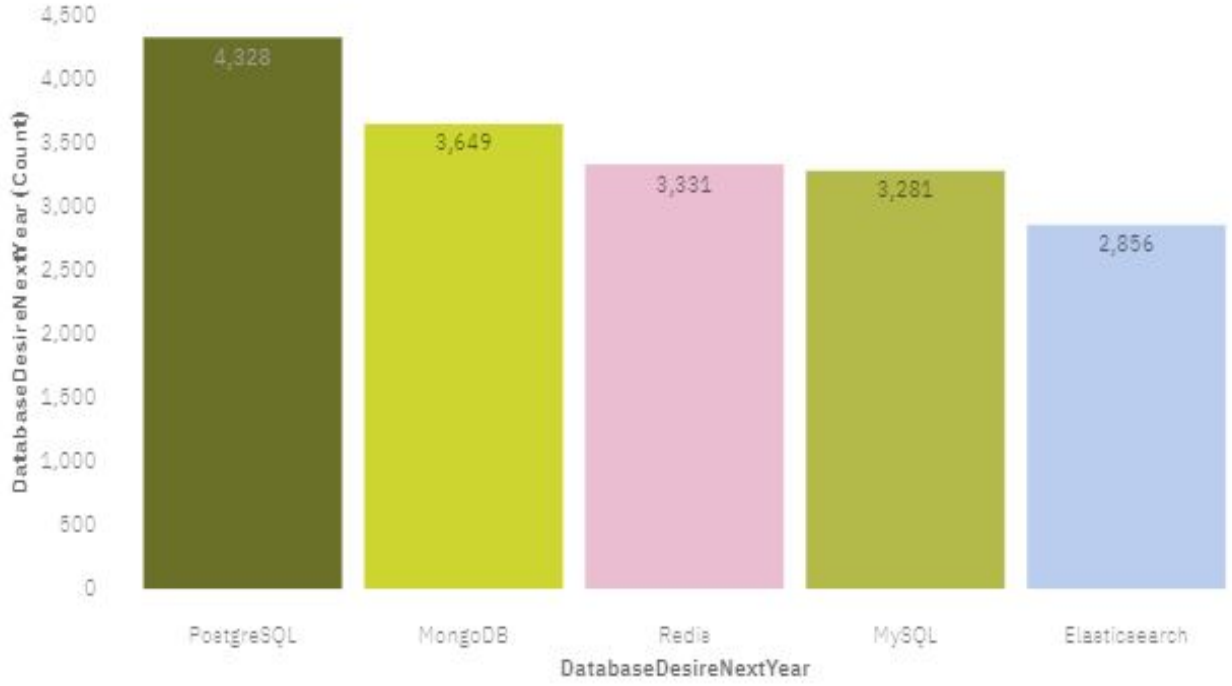
- The want for web-development is constantly in top position.
- Popularity of Python has increased over a year.
- Its important that developers are really strong in JavaScript as its causing positive revolution in developer's market.

DATABASE TRENDS

Current Year



Next Year



DATABSE TRENDS - FINDINGS & IMPLICATIONS

Findings :-

- Currently MySQL tops the trend followed by MS-SQL Server
- Even Next PostgreSQL leads all Databases, removing MS-SQL from top 5 .
- In future MongoDB takes position 2, followed by new entry Redis.

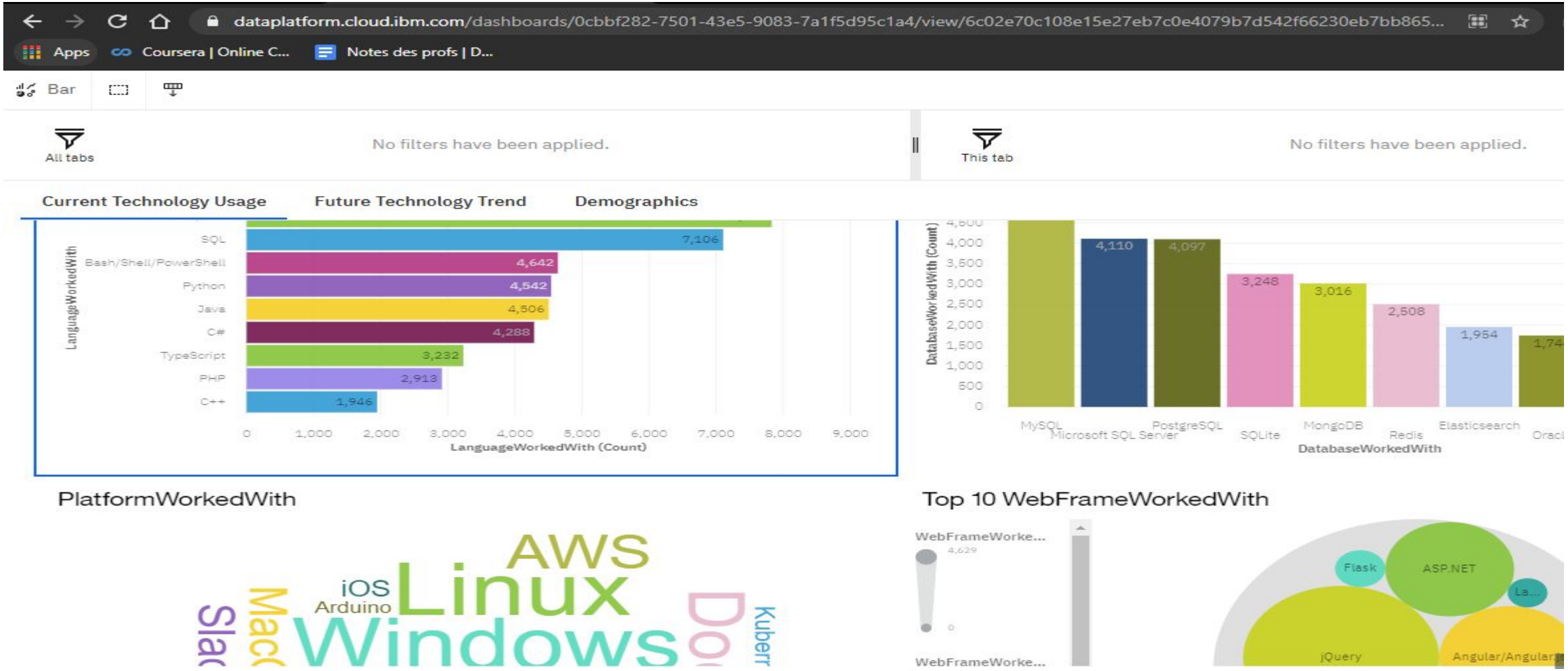
Implications :-

- Popularity of PostgreSQL, MongoDB has increased over a year. Its important that RDBMS experts are really strong in them.
- Popularity of PostgreSQL next year is almost same that of past year, yet it moved from 3rd to 1st position.

DASHBOARD

https://dataplatform.cloud.ibm.com/dashboards/0cbbf282-7501-43e5-9083-7a1f5d95c1a4/view/6c02e70c108e15e27eb7c0e4079b7d542f66230eb7bb8655d3847b490f602397a9384296c826490cda185131f2ec4650ce

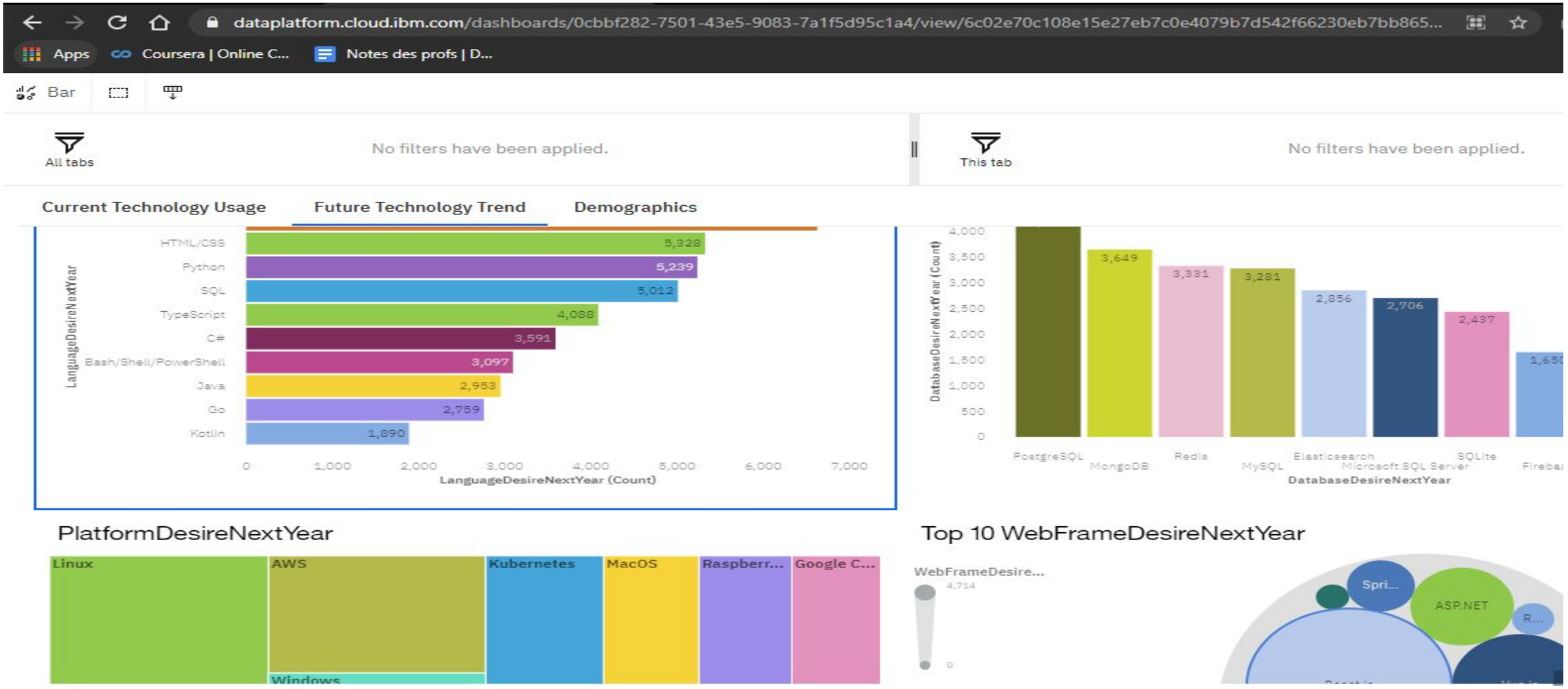
DASHBOARD TAB 1



IBM Developer

SKILLS NETWORK

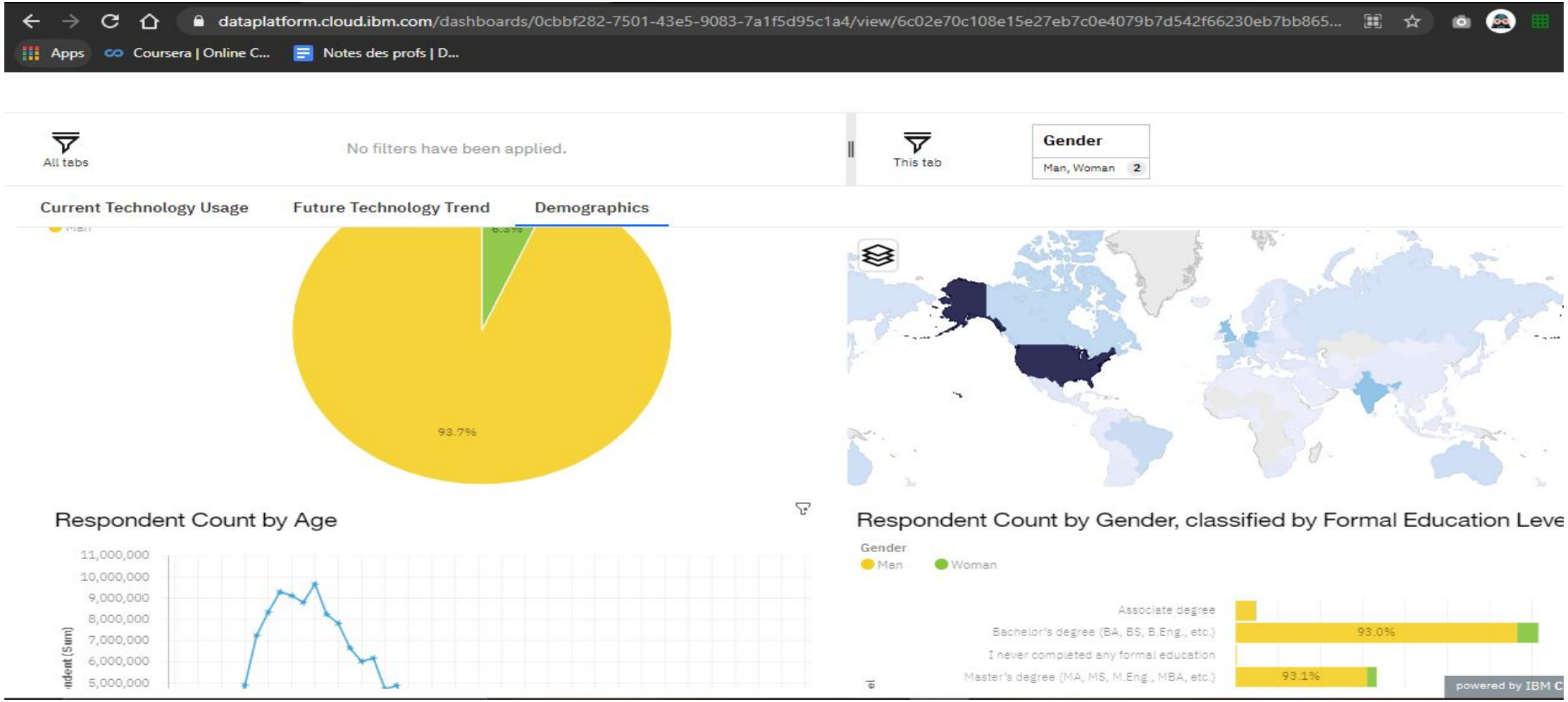
DASHBOARD TAB 2



IBM Developer

SKILLS NETWORK

DASHBOARD TAB 3



DISCUSSION

Implications :-

- Technology :
  - Platforms Desired Trend of this year and next year are almost the same.
  - Its better to learn React.Js and Vue.Js as JQuery losses its popularity next year.
- Demographics:
  - Majority of the Respondents are young adults between 24-30 and are Men, with at least a Bachelor's Degree[Majority] belonging to US, UK and India.

OVERALL FINDINGS & IMPLICATIONS

Findings :-

- Majority of the Respondents are young adults between 24-30 and are Men, with at least a Bachelor's Degree[Majority] belonging to US, UK and India.

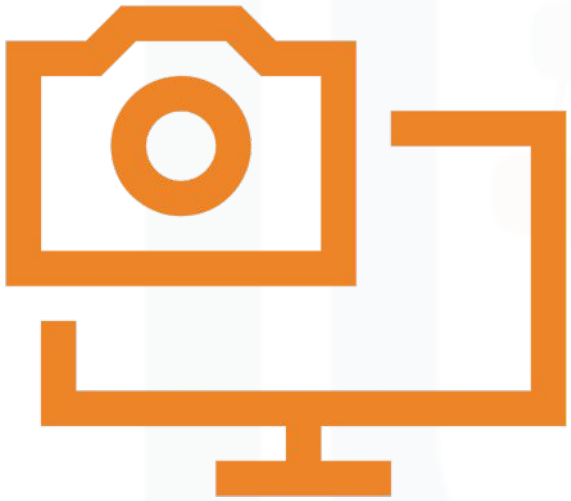
Implications :-

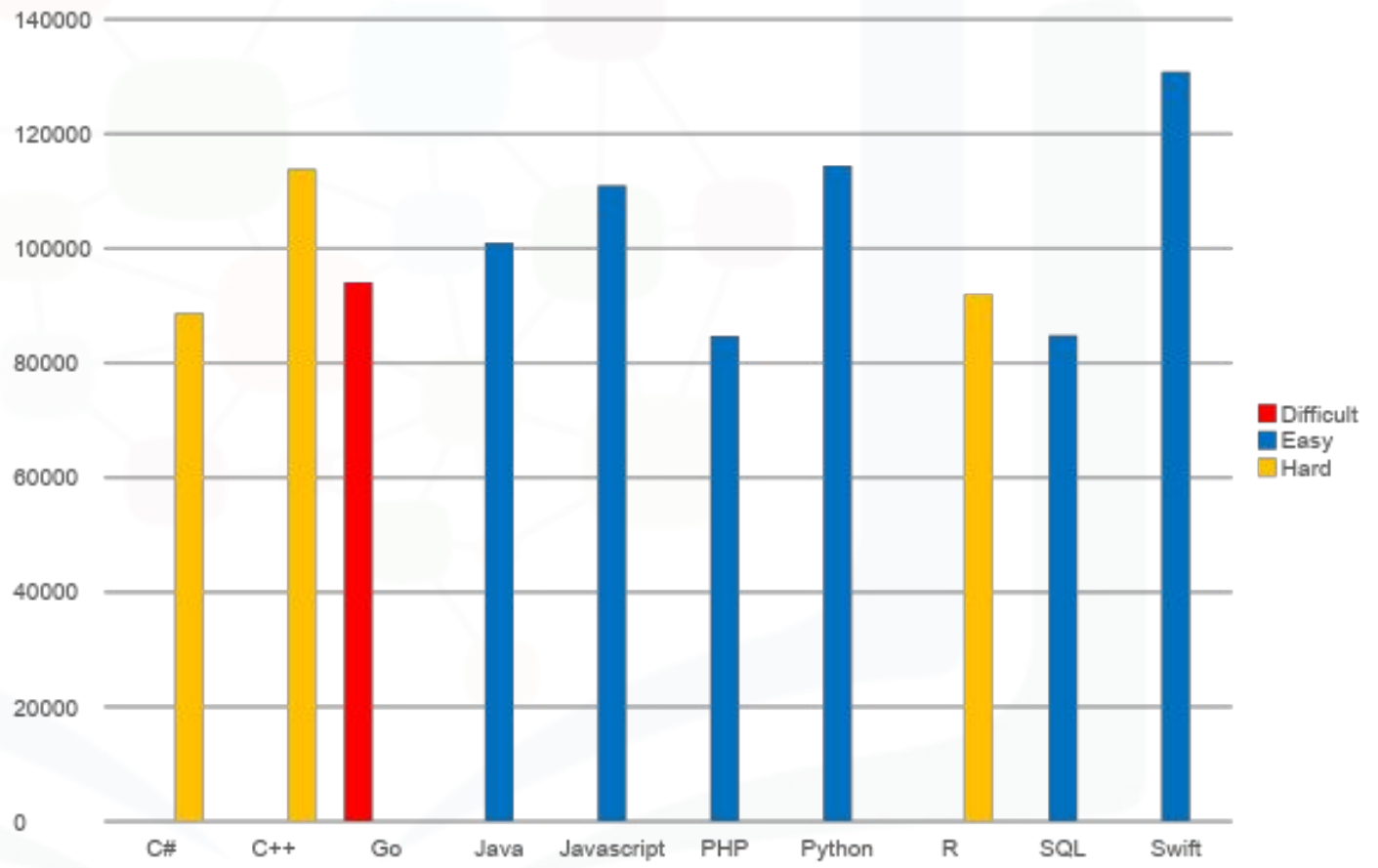
- Its better that developers learn JavaScript with HTML/CSS and Python strongly.
- Its advisable that RDBMS experts learn PostgreSQL and MongoDB strongly.
- Its suggested to learn React.Js and Vue.Js as JQuery losses its popularity next year.

CONCLUSION

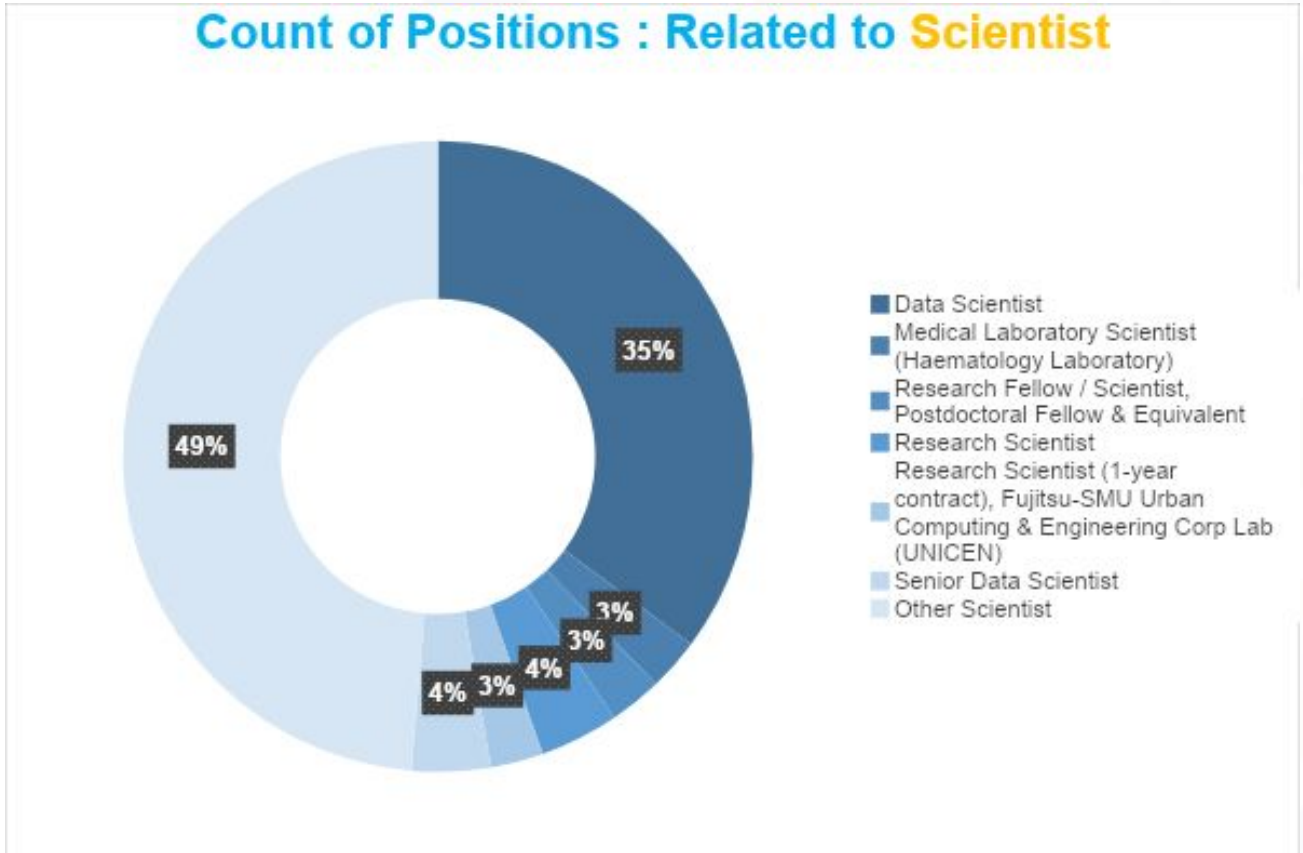
- Majority of the developers wish to learn JavaScript.
- Python's growing popularity is remarkable.
- Trend of RDBMS is shifting towards PostgreSQL.
- React.Js and Vue.Js Frameworks have a great scope next year.
- Women should be encouraged to come out as successful programmers.

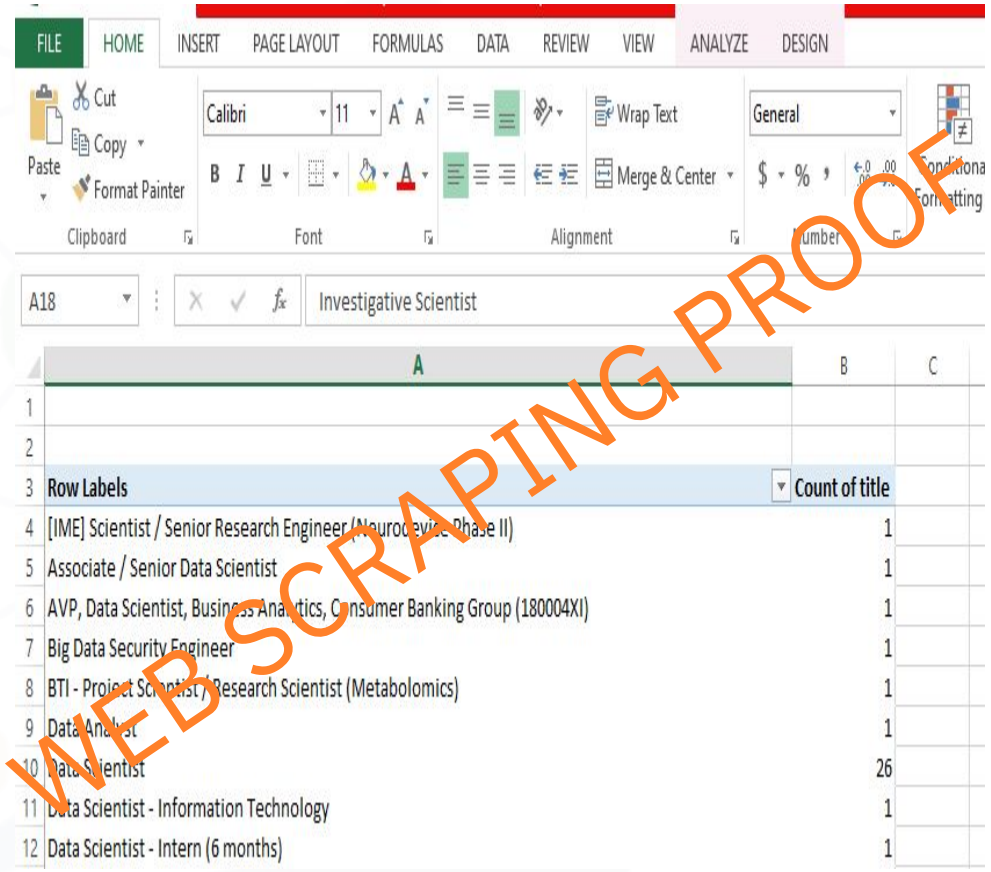
APPENDIX : *Salary Vs Language Vs Difficulty*





GITHUB JOB POSTINGS

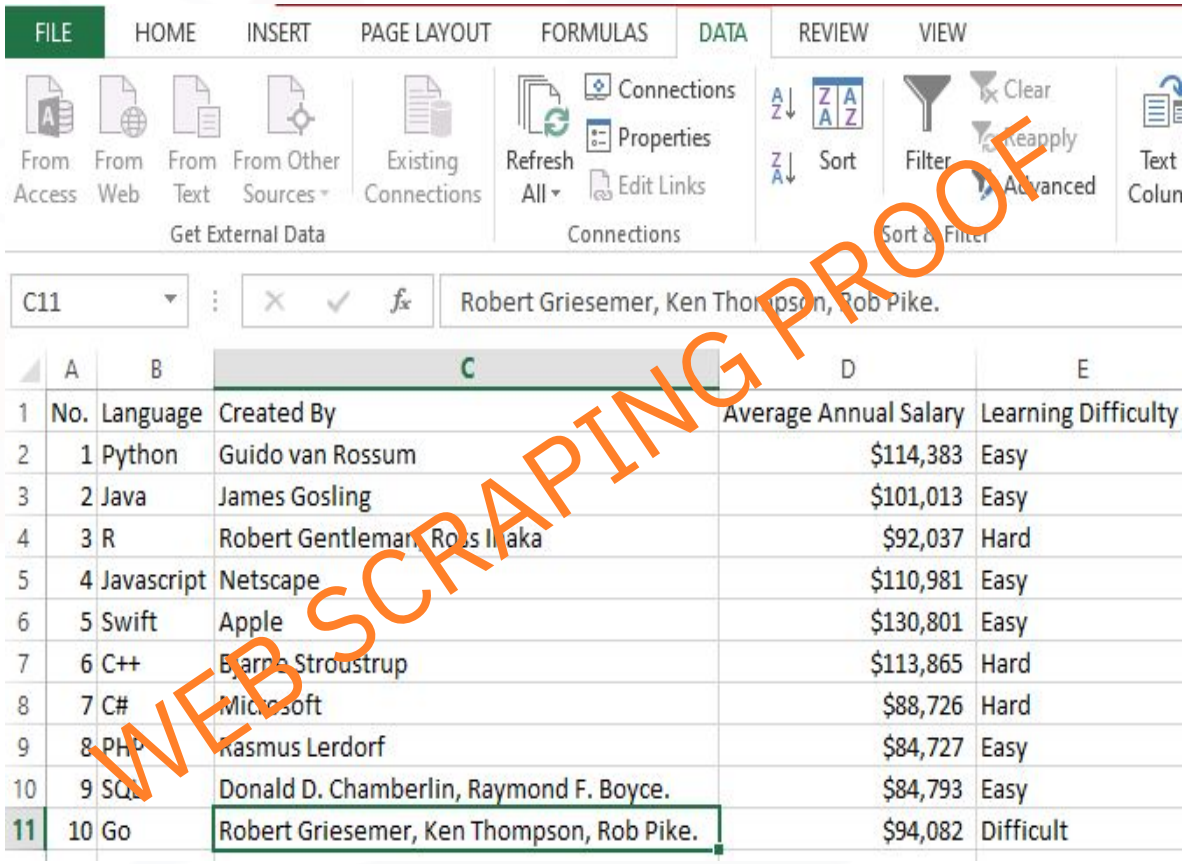




WEB SCRAPING PROOF

Doughnut Charts suits good than Bar Chart

POPULAR LANGUAGES



	A	B	C	D	E
1	No.	Language	Created By	Average Annual Salary	Learning Difficulty
2	1	Python	Guido van Rossum	$114,383	Easy
3	2	Java	James Gosling	$101,013	Easy
4	3	R	Robert Gentleman, Ross Ihaka	$92,037	Hard
5	4	Javascript	Netscape	$110,981	Easy
6	5	Swift	Apple	$130,801	Easy
7	6	C++	Bjarne Stroustrup	$113,865	Hard
8	7	C#	Microsoft	$88,726	Hard
9	8	PHP	Rasmus Lerdorf	$84,727	Easy
10	9	SQL	Donald D. Chamberlin, Raymond F. Boyce.	$84,793	Easy
11	10	Go	Robert Griesemer, Ken Thompson, Rob Pike.	$94,082	Difficult

WEB SCRAPING PROOF

THANK YOU