Various Technologies trend analysis and their representation.

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EXECUTIVE SUMMARY

- Analyzed various technologies that are currently being used or worked with.
  - Top 10 programming languages that are currently used or worked with.
  - Top 10 databases that are currently used or worked with.
  - Top platforms that are used or worked with.
  - Top 10 Web Frames that are used or worked with.
- Analyzed and visualized various technologies that are most desired for the next year.
  - Top 10 programming languages that are most desired for the next year.
  - Top 10 databases that are currently used or worked with.
  - Top platforms that are most desired for the next year.
  - Top 10 Web Frames that are mostly desired for the next year.
- Demographic analysis of the data.

INTRODUCTION

- **Objective**:
  - To get to know what are the technologies that are going to in demand in the future.
- **Advantages:**
  - To upskill based on the future popular technologies.
  - How the demographics is going to be various technologies
    like programming languages, databases, web frames etc.,
  - Useful for HR and IT firms.

METHODOLOGY

- Data Collection
  - Python get and requests library in jupyter notebook.
- Data Exploration
  - SQL Queries and Python jupyter notebook.
- Data Cleaning
  - Cleaning done using python pandas library in jupyter notebook.
- Data Visualization
  - Basic visualization done using python jupyter notebook.
  - Python matplotlib library.
  - Python seaborn library.
- Dashboarding
  - Software used: IBM Cognos
- Data Presentation
  - Microsoft Power point used for presenting the work.

RESULTS

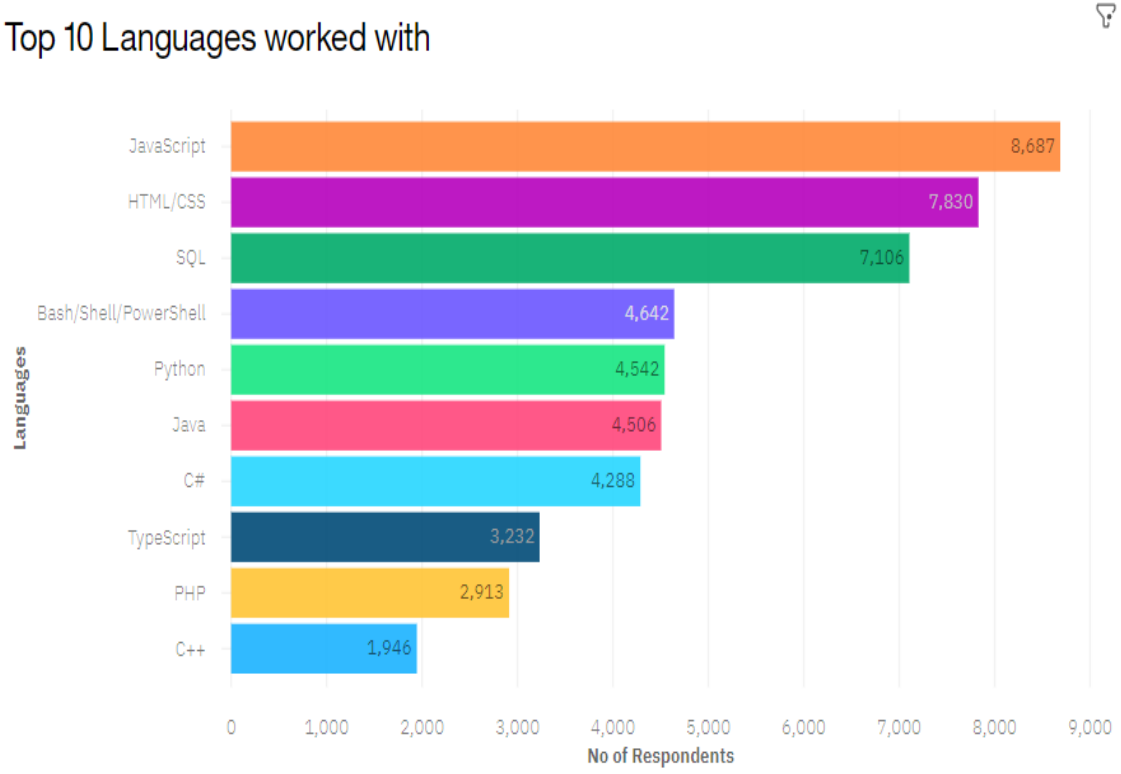
- **From the Current technologies analysis:**
  - It seems that the top 3 programming languages that the respondents are worked or used are JavaScript, HTML/CSS and SQL respectively.
  - From Top 10 databases perspective we can tell that MySQL is leading the race with close 2nd and 3rd going to Microsoft SQL server and Postgre SQL respectively.
  - Top Platforms that are being used are Linux and then comes the Windows.
  - Top Web Frames used are Jquery.js, Angular.Js and React.Js
- **From the Future technologies trend analysis:**
  - It seems that the top 3 programming languages that the respondents are looking for the future to learn or use are JavaScript, HTML/CSS and Python respectively.
  - From Top 10 databases perspective we can tell that Postgre SQL is leading the race with close 2nd and 3rd going to Mango DB and MySQL and Redis respectively.
  - Top Platforms that are being used are Linux and then comes the Docker and AWS.
  - Top Web Frames used are React.Js, Angular.Js and Vue.Js.

RESULTS(contd..)

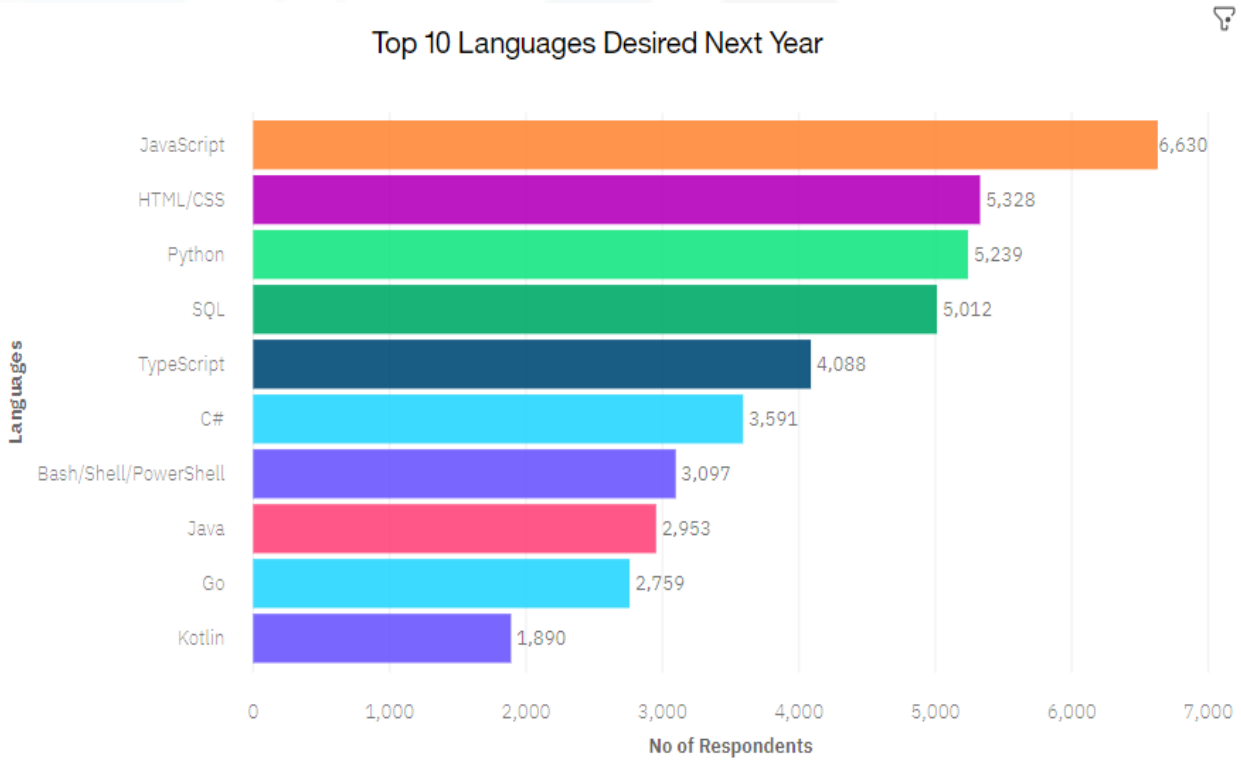
- **From the Demographics point of view:**
  - When the survey was classified based on the gender we came to know that almost 94% of the respondents were Men.
  - From the countries perspective we can say that most of the respondents belong and United States.
  - When the age of the respondents who participated in the survey is observed, maximum of the respondents belong to the age group of 25 to 30 y/o.
  - When we check the education level of the 94% of men who have taken part in the survey, larger part of the group has Bachelor's Degree.

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



IBM Developer

SKILLS NETWORK

PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

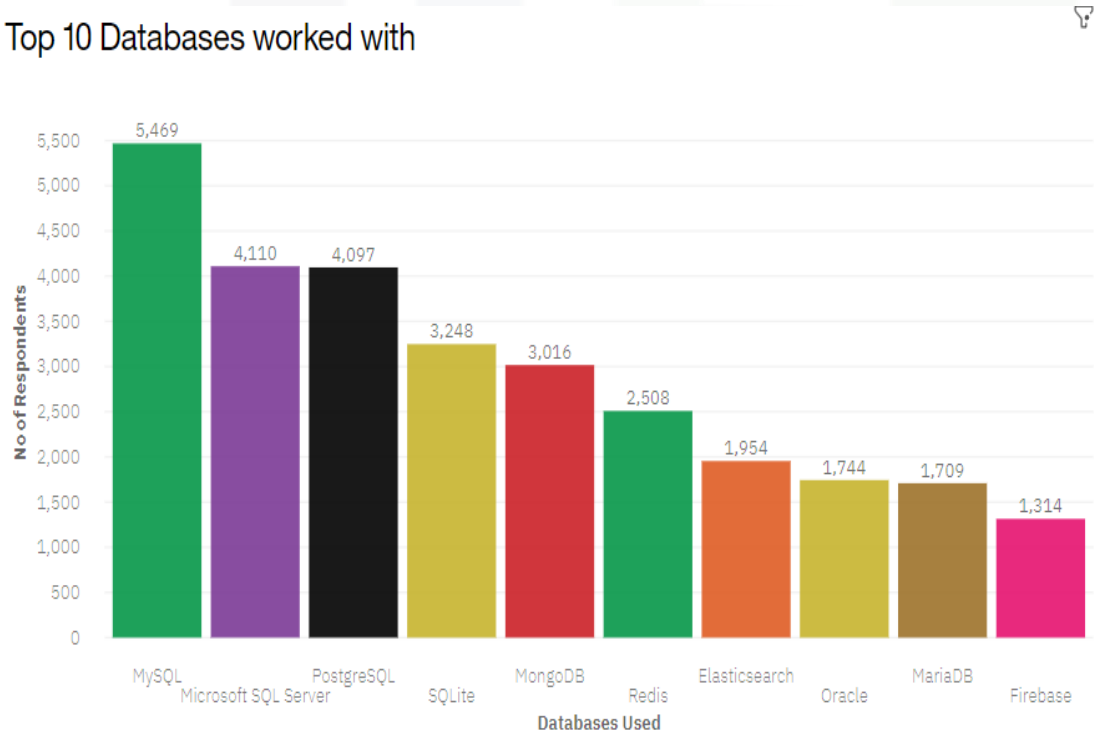
- JavaScript, HTML/CSS and SQL are top 3 for the current year
- Since Python has abundant libraries and also with ease of learning it has made its place in top 3 for the next year.
- We can see that PowerShell, c++ and php slowly moving out of the top 10 list.

Implications

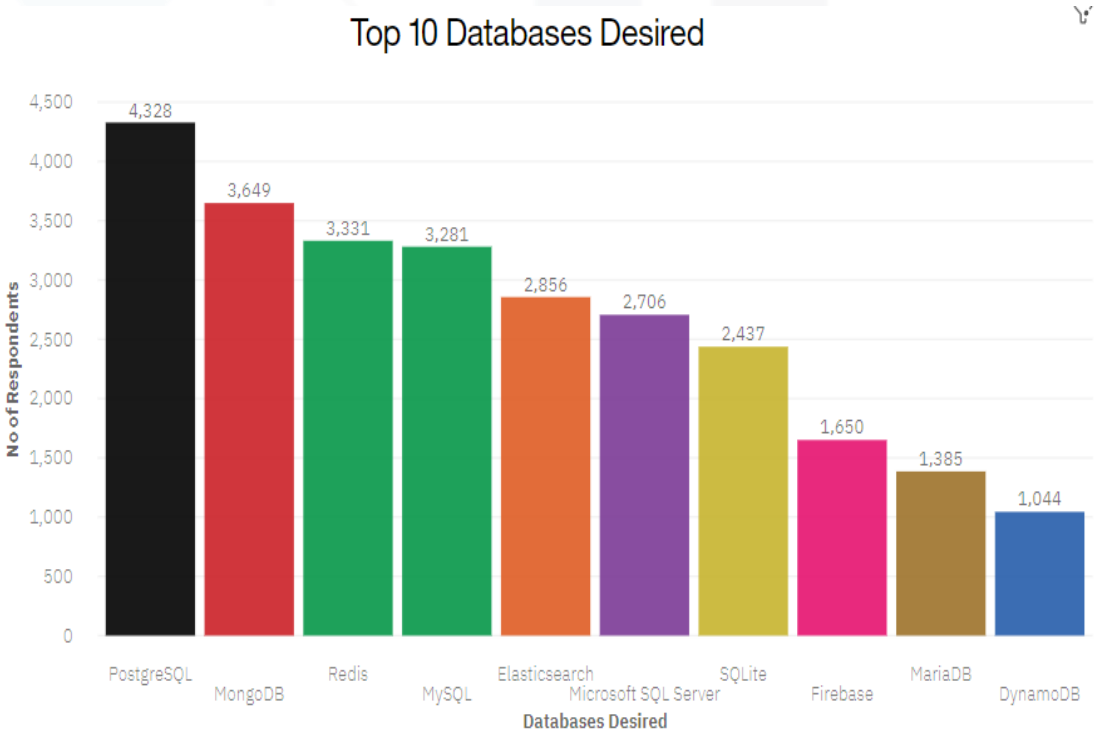
- Importance for JavaScript has not changed.
- Since AI and ML require python and hence its increasing popularity,
- SQL also still needed by the companies for big data applications

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL is the most widely used database technology
- Microsoft SQL server and Postgre SQL are close second and third
- Oracle lost its place in the top for the coming year.

Implications

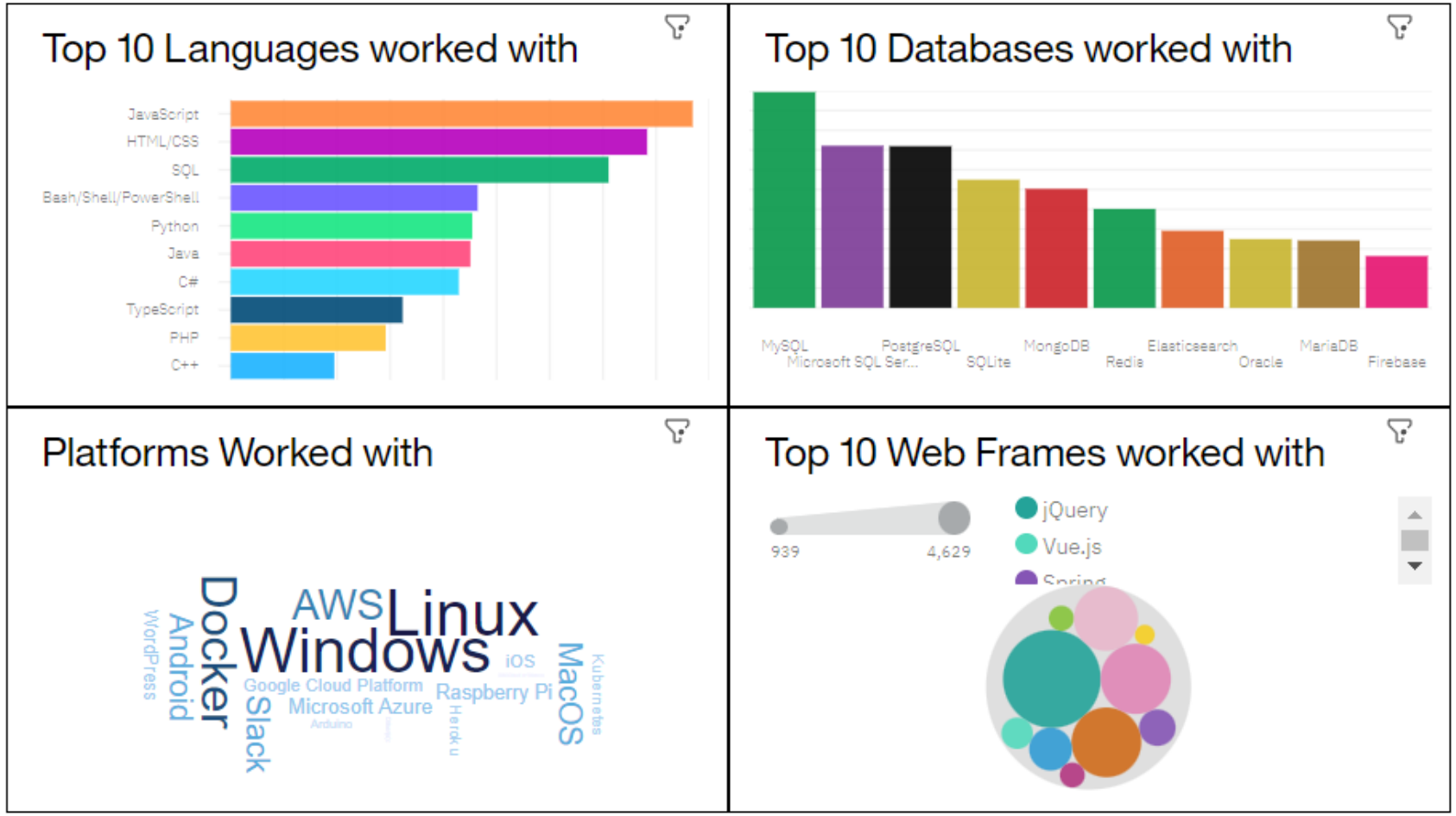
- NoSQL type database like MangoDB is gaining importance in the industry.
- Redis Database also gained more importance compared to the previous year since it supports various types of abstract data types.
- Open Source databases are still in demand.

DASHBOARD

https://eu-de.dataplatform.cloud.ibm.com/dashboards/7e400a5a-56b0-4a27-83f9-4cccaa92bca4/view/797be37a249662fe44fef2e407ca7a017a34230fb4bb855682d67b4909332097a8684291c8791a59d317076bf1e8460bc0

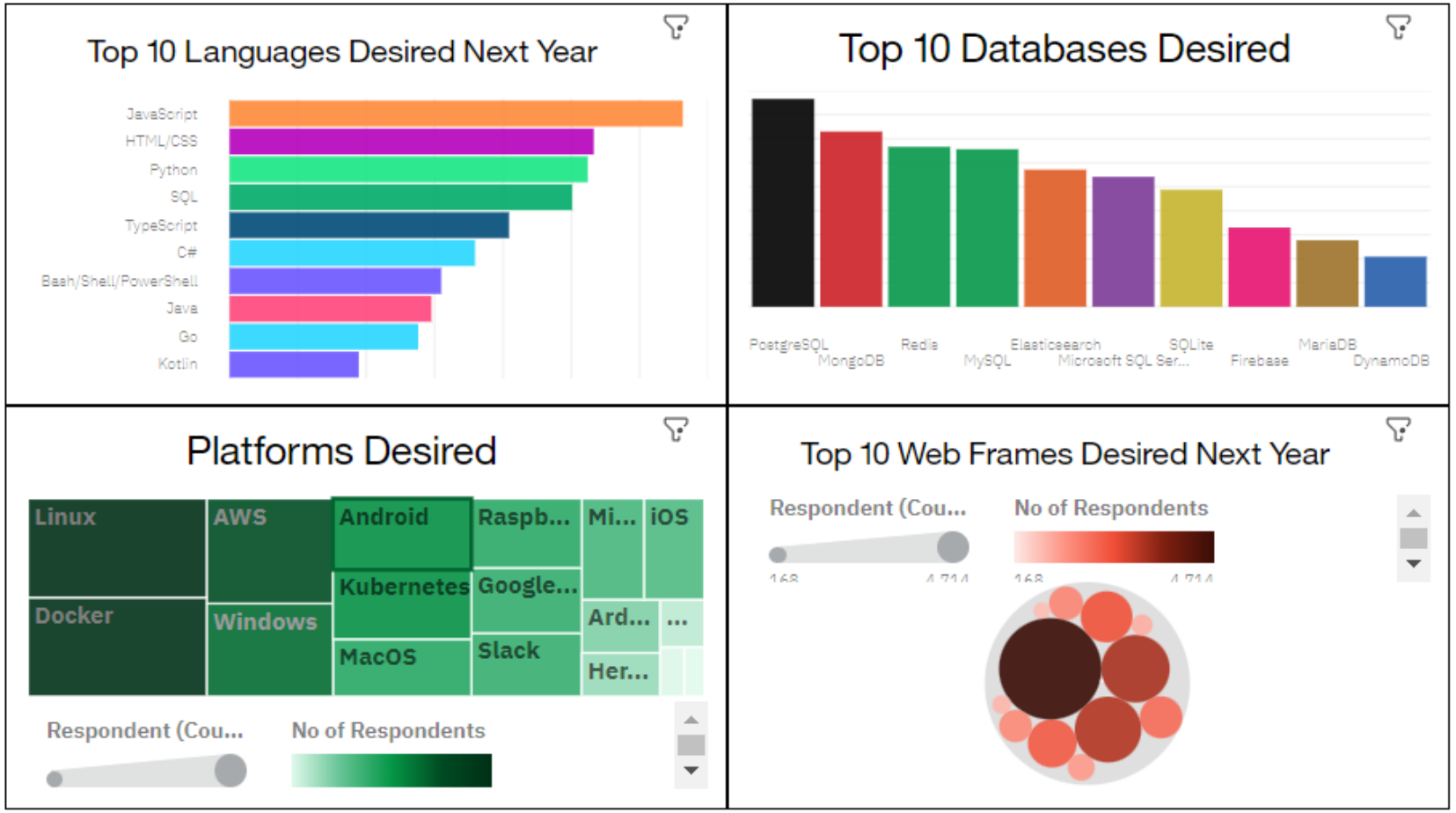
DASHBOARD TAB 1

Current Technology Usage | Future Technology Trend | Demographics



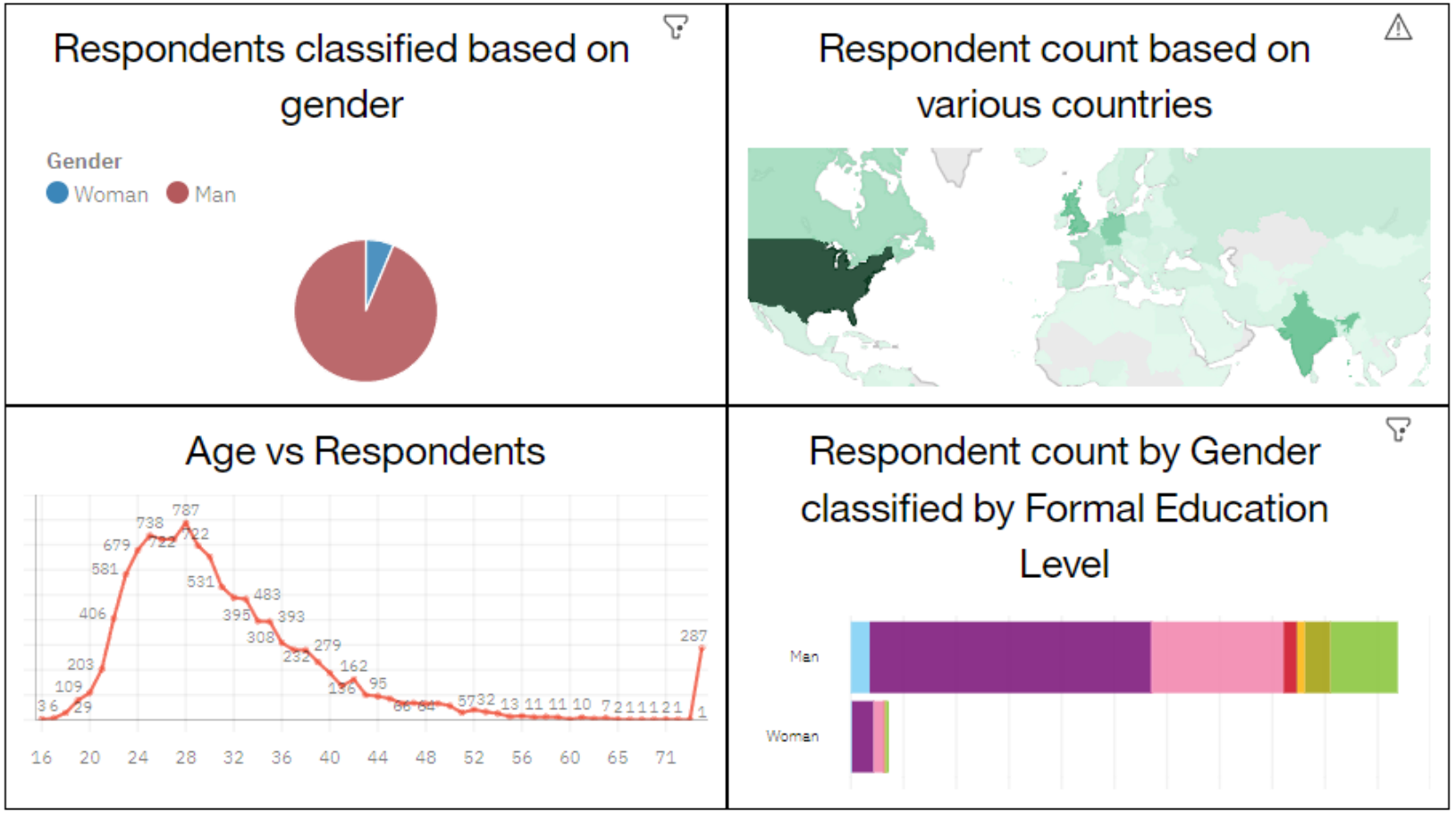
DASHBOARD TAB 2

Current Technology Usage | Future Technology Trend | Demographics



DASHBOARD TAB 3

Current Technology Usage | Future Technology Trend | Demographics



DISCUSSION

- Trends in various technologies keep on changing year after year.
- Upskilling according to the fast changing trends is very much needed to match the industry standard.
- There is not much respondents belonging to other countries other than US, India, Canada etc.,
- Difference between the ratio between Men and Women respondents is huge.

OVERALL FINDINGS & IMPLICATIONS

Findings

- Technology trends are changing every year.
- Platforms like Docker and AWS are getting popular and being used more.
- NoSQL databases are being used more because of the flexibility it offers.
- Huge difference between Men and Women respondents percentages.
- Also the more number of respondents are belonging to the age group of 25 to 30.

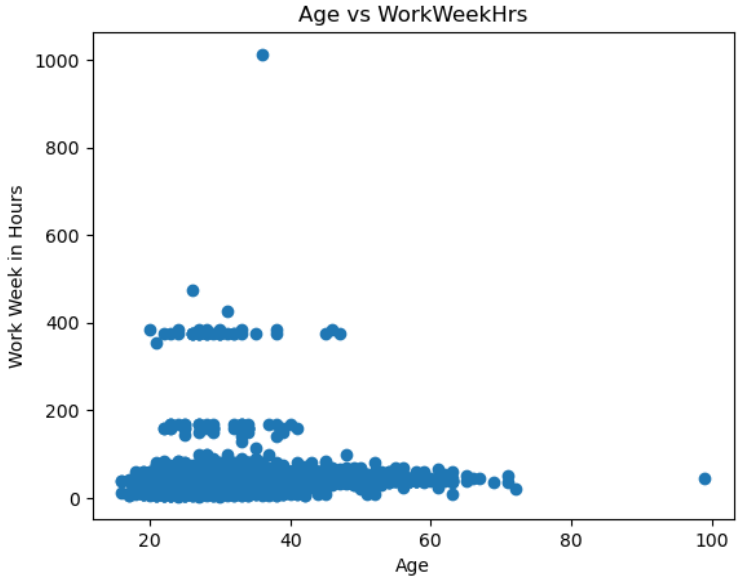
Implications

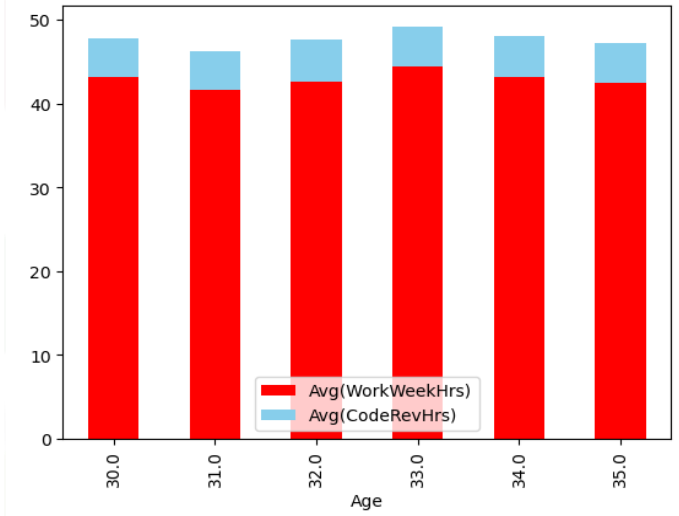
- Upskilling is necessary to be in line with the fast changing technology trends.
- Companies should also be in a lookout for these trends and adjust to the changes to get maximum output or productivity.
- Women also should participate more in the survey and put forth their opinions.
- Concentration of techies are very less in most of the countries as seen in the country based respondent count map visualization.

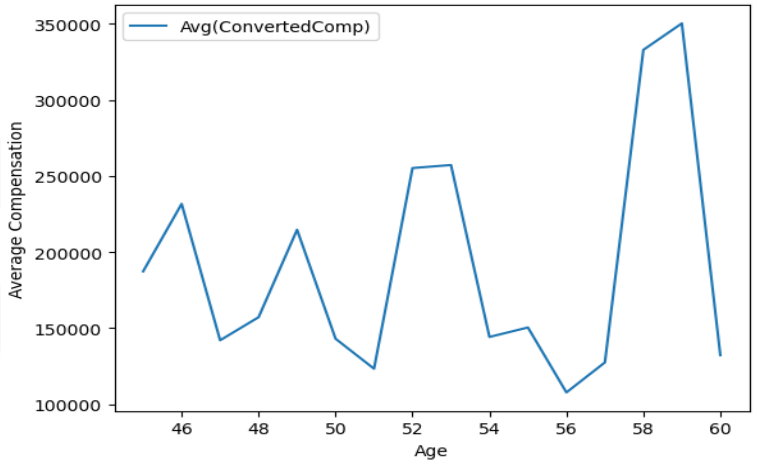
CONCLUSION

- Constant Upskilling is necessary to be in line with fast changing technology trends
- Companies also should adapt to these changes in trends which yields them better output.
- Technologies should move to lot of other developing countries or the respondents from other countries also should participate in the survey and provide their inputs.
- Age group concentration as well gender concentration should improve in the coming years.

APPENDIX


Age vs WorkWeekHrs
Work Week in Hours
Age
0
200
400
600
800
1000
20
40
60
80
100


Avg(WorkWeekHrs)
Avg(CodeRevHrs)
Age
0
10
20
30
40
50
30.0
31.0
32.0
33.0
34.0
35.0


Avg(ConvertedComp)
Average Compensation
Age
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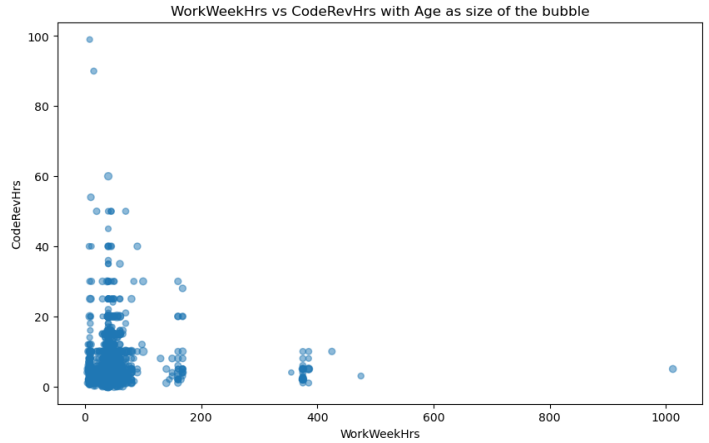
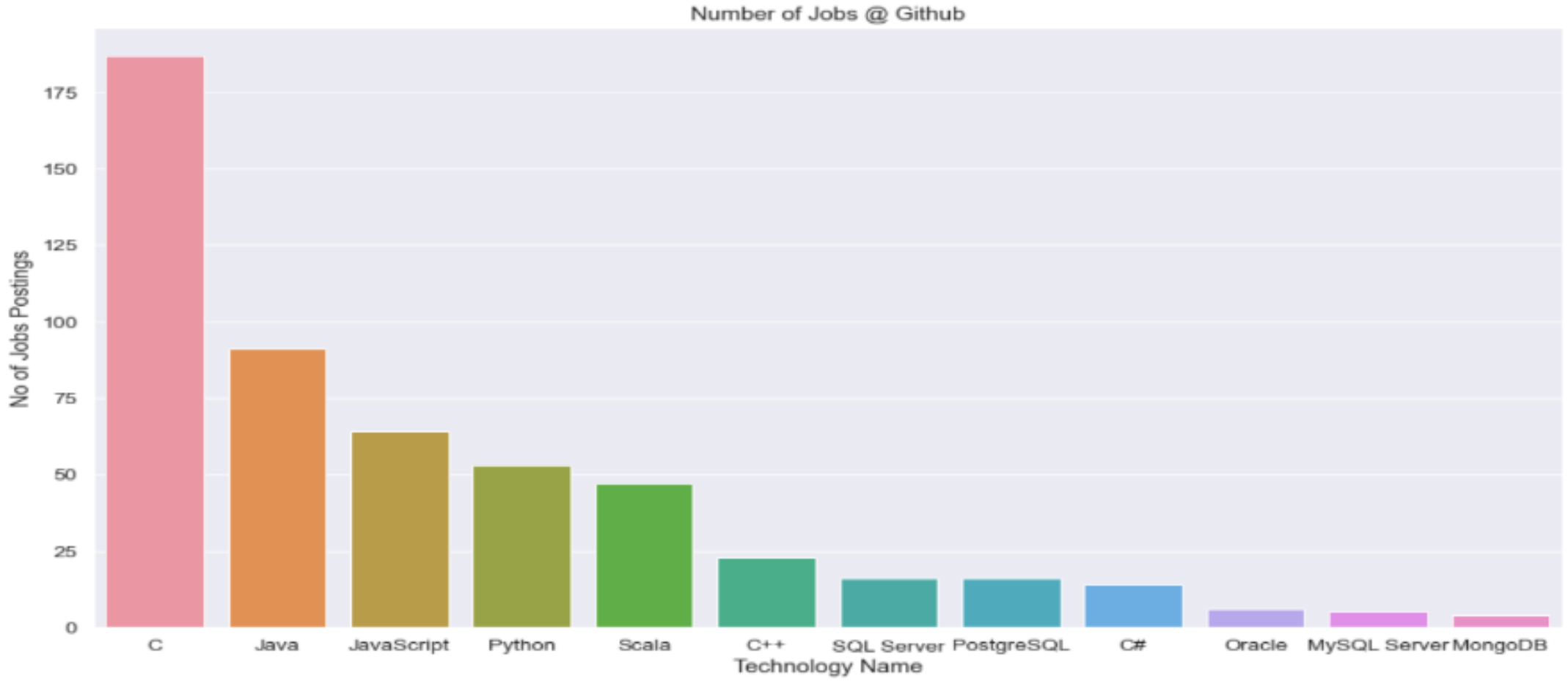
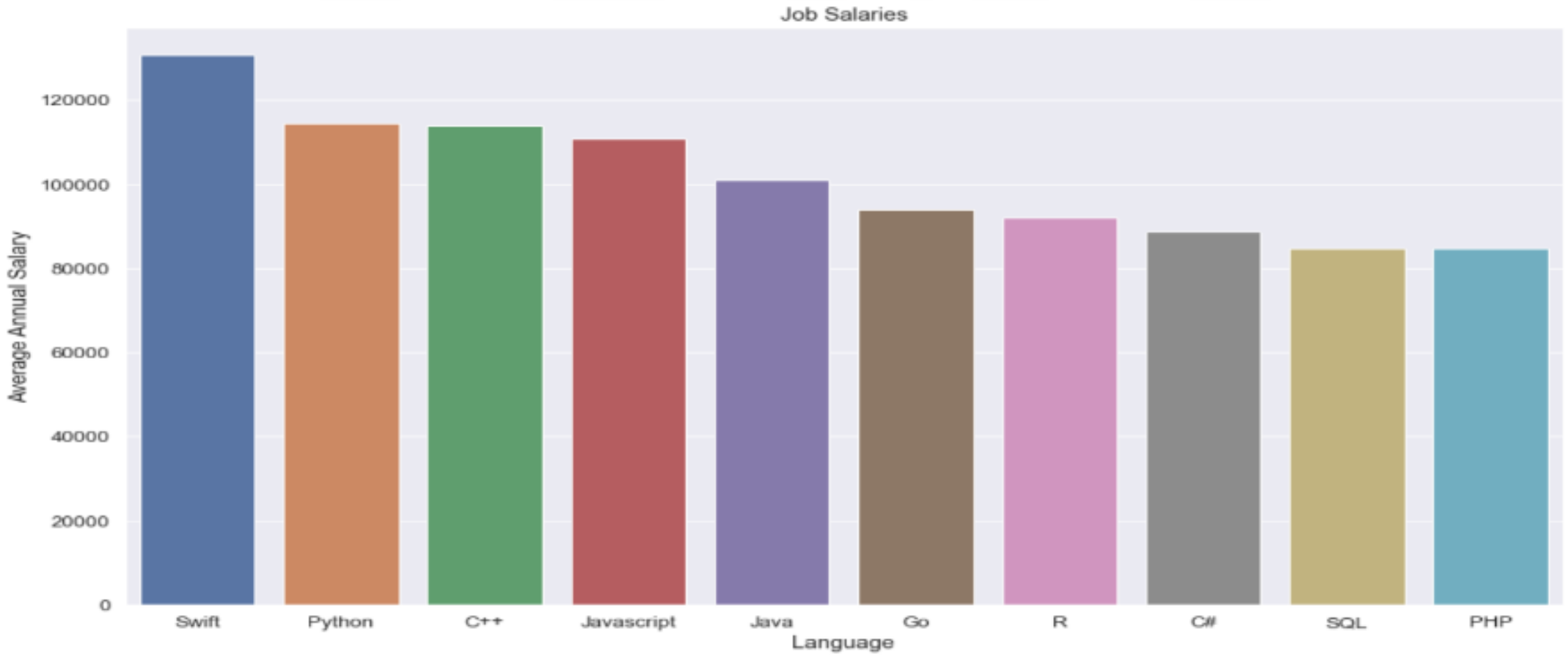
150000
200000
250000
300000
350000
46
48
50
52
54
56
58
60


WorkWeekHrs vs CodeRevHrs with Age as size of the bubble
CodeRevHrs
WorkWeekHrs
0
20
40
60
80
100
0
200
400
600
800
1000

JOB POSTINGS



POPULAR LANGUAGES