



# Technology Usage between Today and Tomorrow

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# OUTLINE

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- Executive Summary
- Introduction
- Methodology
- Results
  - visualization – Charts
  - Dashboard
- Discussion
  - Findings & Implications
- Conclusion
- Appendix

# EXECUTIVE SUMMARY

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- Languages and Databases frequently worked in Current Technology Usage .
- Major Platform and WebFrame used .
- Technology Tools desired to be learned
- Distribution of technology workers by:
  - Age
  - Country
  - Gender
  - Education level

# INTRODUCTION

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- NO one can deny that we live in the Age of Technology revolution
- Thousands of information was given in the data set used in the analysis vary between Quantitative and Qualitative data
- The main objective of the analysis is to find the major trend of the languages and databases widely used today and predict what may dominate tomorrow
- I wish my audience think with me during this presentation if it's better to any worker in Technology to concentrate on few tools and improve skills and experience in them or widen his skills and knowledge by studying other most widely desired tools

# METHODOLOGY

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- The dataset used in this lab comes from the following sources:
  - <https://www.kaggle.com/promptcloud/jobs-on-naukricom> under the under a Public Domain license
  - <https://stackoverflow.blog/2019/04/09/the-2019-stack-overflow-developer-survey-results-are-in/> under a ODbL: Open Database License.
- The major tool in the analysis is python libraries mainly:
  - Requests: to make an API call
  - Pandas : Data exploring, wrangling and exploration
  - Plotly : Data Visualization and correlation (regression plot)
- Dashboard tool: Cognos Dashboard Embedded (CDE) from IBM Cloud.

# RESULTS

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The data collected ,explored ,wrangled, calculated statistically, defined correlation and visualized as shown in the following links:

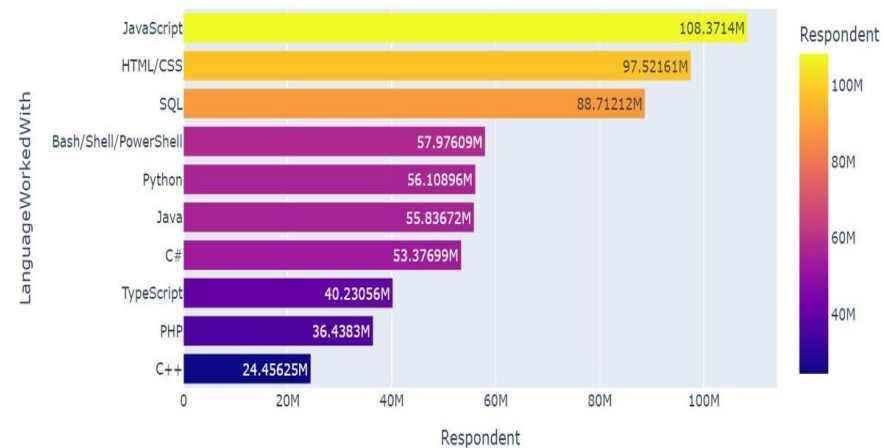
- <https://github.com/Drwaleed2022/Capstone-project>
- <https://dataplatform.cloud.ibm.com/dashboards/73743297-0e7b-4eb8-bc72-864edc905d22/view/4469c3251da82beb4ef0f6e407cd25032931775bb3bbd15188817b4909657697f36b4799c87a4e0c88195661a0e94308ce>

# PROGRAMMING LANGUAGE TRENDS

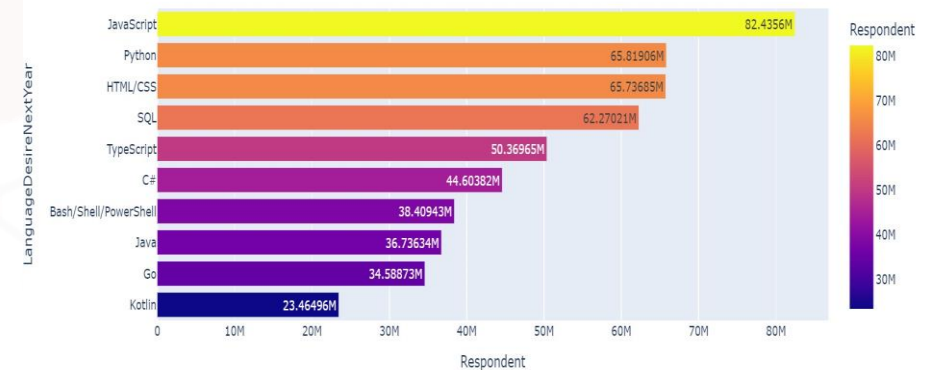
Current Year

Next Year

Top 10 Languages Worked in Current Technology Usage



Top 10 Languages desired next year



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- As you see Python rank jump from Number 5 as working language to rank 2 in desirable language to be learned

## Implications

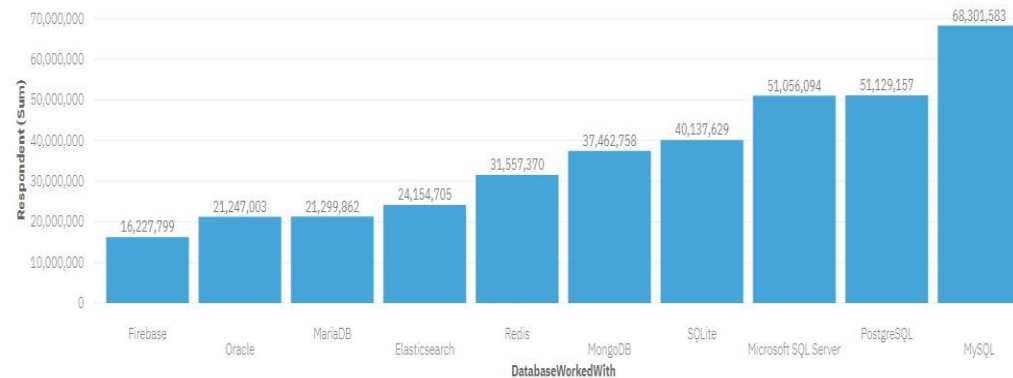
- Python is fast growing technology language and good technology worker should learn Python



# DATABASE TRENDS

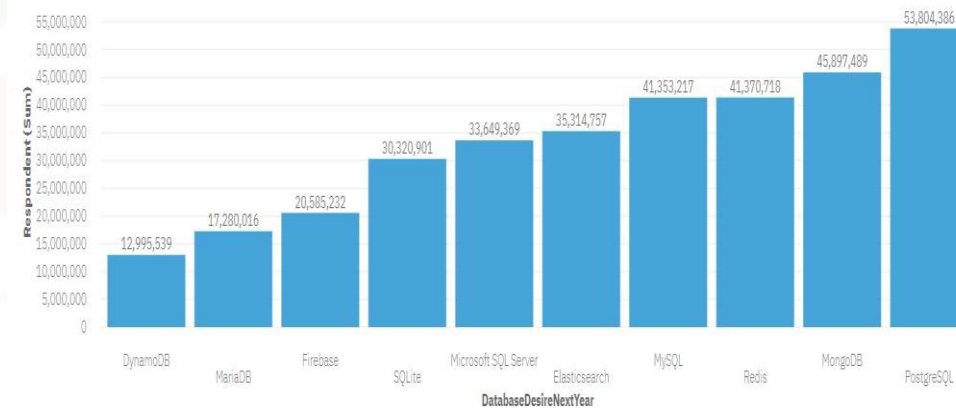
## Current Year

Top 10 Database Worked in Current Technology Usage



## Next Year

Top 10 Database Desired Next Year



# DATABASE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- PostgreSQL jumps to the first rank as most desired DB to be learned
- MySQL backs off to rank 4 as most desired DB to be learned

## Implications

- PostgreSQL should be among the valued tasks that should be learned by technology workers
- The owner company of MySQL should improve it to guarantee its leadership

# DASHBOARD

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<https://dataplatfom.cloud.ibm.com/dashboards/73743297-0e7b-4eb8-bc72-864edc905d22/view/4469c3251da82beb4ef0f6e407cd25032931775bb3bbd15188817b4909657697f36b4799c87a4e0c88195661a0e94308ce>

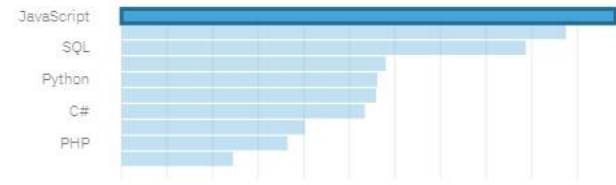
# DASHBOARD TAB 1

Current Technology Usage

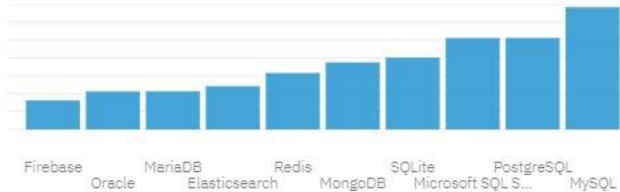
Future Technology Trend

Demographics

Top 10 Languages Worked in Current Technology Usage



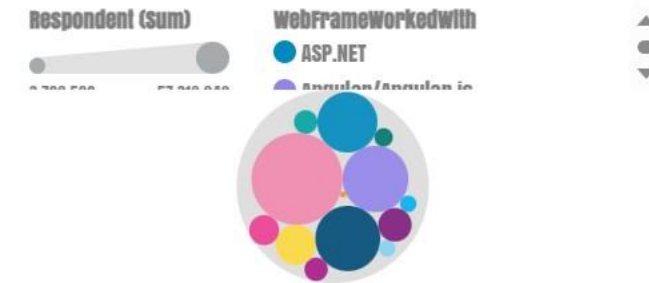
Top 10 Database Worked in Current Technology Usage



Platform Worked With



Top 10 Web Frame Worked With



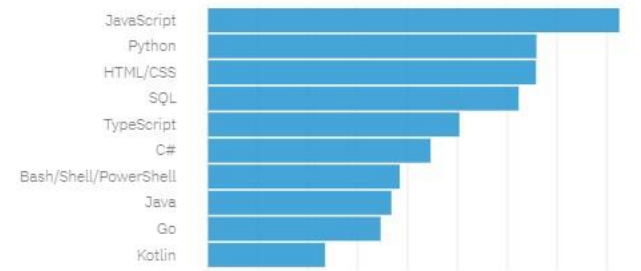
# DASHBOARD TAB 2

Current Technology Usage

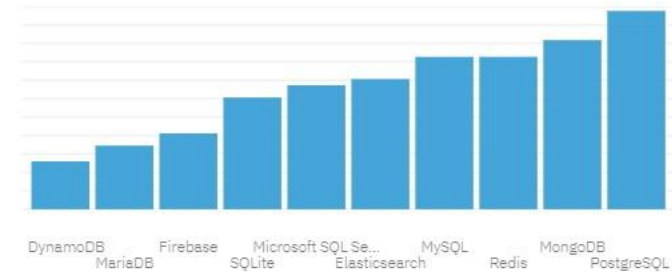
Future Technology Trend

Demographics

### Top 10 languages desired Next Year



### Top 10 Database Desired Next Year



### Platform Desired Next Year



### Top 10 WebFrame Desired Next Year



# DASHBOARD TAB 3

Current Technology Usage

Future Technology Trend

Demographics

### Respondent classified by Gender

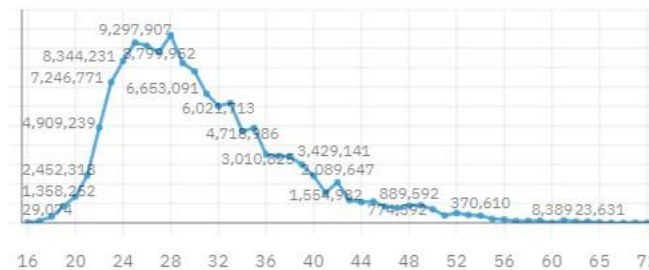
Gender  
● Woman ● Man



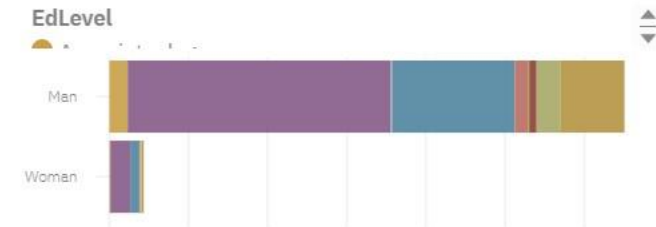
### Respondents per Country



### Respondents per Age



### Respondent Count by Gender, Education



# DISCUSSION

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- Now it's your turn to answer my question that I asked in the introduction:
  - Learning multiple languages to remain competitive in the job market is a must, or would one language always reign supreme?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Python becomes fast growing technology language with good ranking in both high desired and good income
- Although Technology workers speeded mainly in North America, Europe and Eastern Asia but online learning tools and freelancing could help other area to develop
- Although Technology workers are mainly male, high highly education level and small age but still female, low education level and old age play a role in the field

## Implications

- Good technology worker should include Python in his portfolio
- whatever your Location you could improve your technology tools and knowledge through online web learning and this will reflect on your income
- whatever your Gender, Education level and Age you still have chance to join the train of technology careers



# CONCLUSION

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- Good technology worker needs to learn multiple languages to remain competitive in the job market.
- Python should be included in the portfolio of any worker in technology.
- Whatever your Location, Gender, Education level and Age you still have a chance to join the train of technology careers by improving yourself by learning online and working as a freelancer.

# APPENDIX



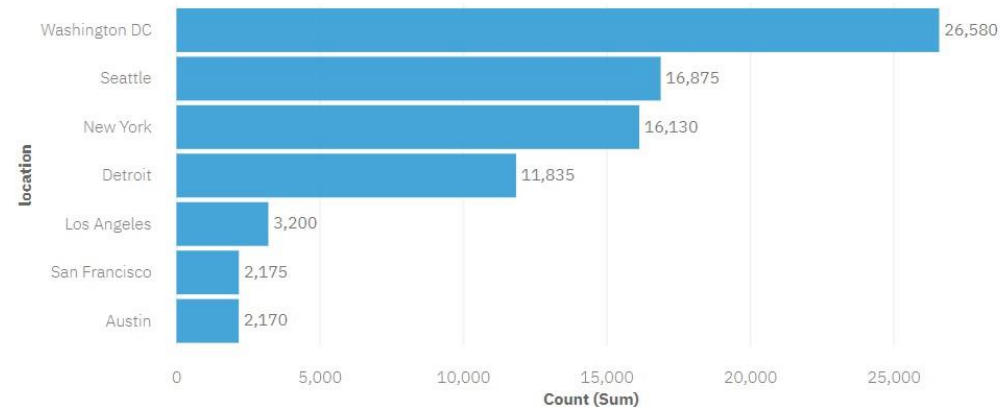
```
df1=df.groupby(['LanguageWorkedWith'])['Respondent'].sum().reset_index()
df1.sort_values(by='Respondent', ascending=True, inplace=True)
df1.tail(10)
df1_top10= df1.tail(10)
df1_top10.to_csv('C:/Users/PCM/Downloads/Top10_Languages_Worked.csv')
df1_top10
```

✓ 0.1s

|    | LanguageWorkedWith    | Respondent  |
|----|-----------------------|-------------|
| 4  | C++                   | 24456246.0  |
| 17 | PHP                   | 36438296.0  |
| 25 | TypeScript            | 40230558.0  |
| 3  | C#                    | 53376993.0  |
| 12 | Java                  | 55836723.0  |
| 18 | Python                | 56108957.0  |
| 1  | Bash/Shell/PowerShell | 57976092.0  |
| 22 | SQL                   | 88712115.0  |
| 11 | HTML/CSS              | 97521608.0  |
| 13 | JavaScript            | 108371442.0 |

# JOB POSTINGS

Job posting per Location



# POPULAR LANGUAGES

