



# Presentation

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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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- Analyze the current situation on the market
  - Focus of the changing technologies and demographics, remaining competitive
- Identify future technologies – skill requirements
  - Overview of various data sources
  - Identifying insights and trends
    - Top programming languages
    - Top database skills in demand
    - Popular IDEs

# INTRODUCTION

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- The market is experiencing significant growth driven by:
  - growing demand for digital solutions
  - technologies across industries
- The market is undergoing a transformation due to:
  - Innovations in IT infrastructure
  - Cloud computing
  - Cybersecurity are driving market growth
- Restraining factors:
  - Skills Shortage to Hinder Growth of the market

Source: <https://www.businessresearchinsights.com/market-reports/information-technology-it-market-108885>

# METHODOLOGY

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- Data Collection using API's, Web scraping
- Data Wrangling
- Exploratory Data Analysis
  - Distribution
  - Outliers
  - Correlation
- Data visualization
  - Dashboards

# RESULTS

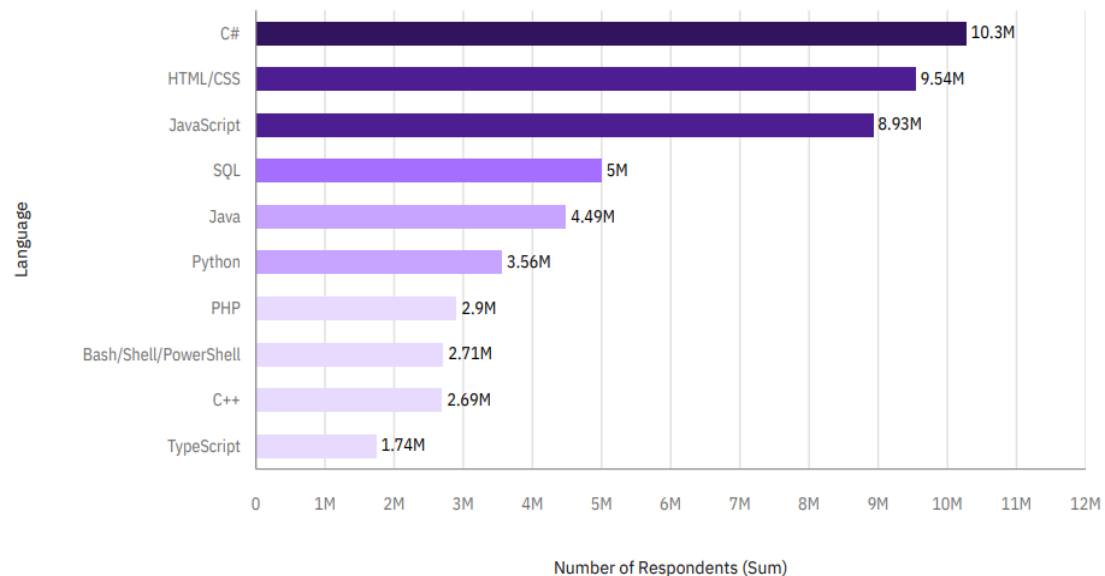
- The current educational level is as follow:
  - From 11286 surveyed persons in IT only 78% have MA/MS or BA/BS or other doctoral degree
  - The Top20 countries on the market are shown at the table →
- The most popular programming languages that are used from educational persons are:
  - JavaScript
  - HTML/CSS
  - SQL

Country name	Bachelor's degree (BA, BS, B.Eng., etc.)	Master's degree (MA, MS, M.Eng., MBA, etc.)	Other doctoral degree (Ph.D, Ed.D., etc.)	Grand Total
United States	1905	531	65	2501
India	635	221	2	858
United Kingdom	400	197	40	637
Germany	212	220	31	463
Canada	241	65	8	314
France	53	233	13	299
Australia	183	36	5	224
Brazil	182	36	1	219
Netherlands	107	73	3	183
Spain	89	78	9	176
Poland	78	72	1	151
Russian Federation	55	83	6	144
Italy	48	56	7	111
Sweden	46	50	3	99
Switzerland	51	39	7	97
Ukraine	33	55	1	89
Pakistan	66	20		86
Turkey	63	16	3	82
Romania	49	27	1	77
Norway	41	31	3	75

# PROGRAMMING LANGUAGE TRENDS

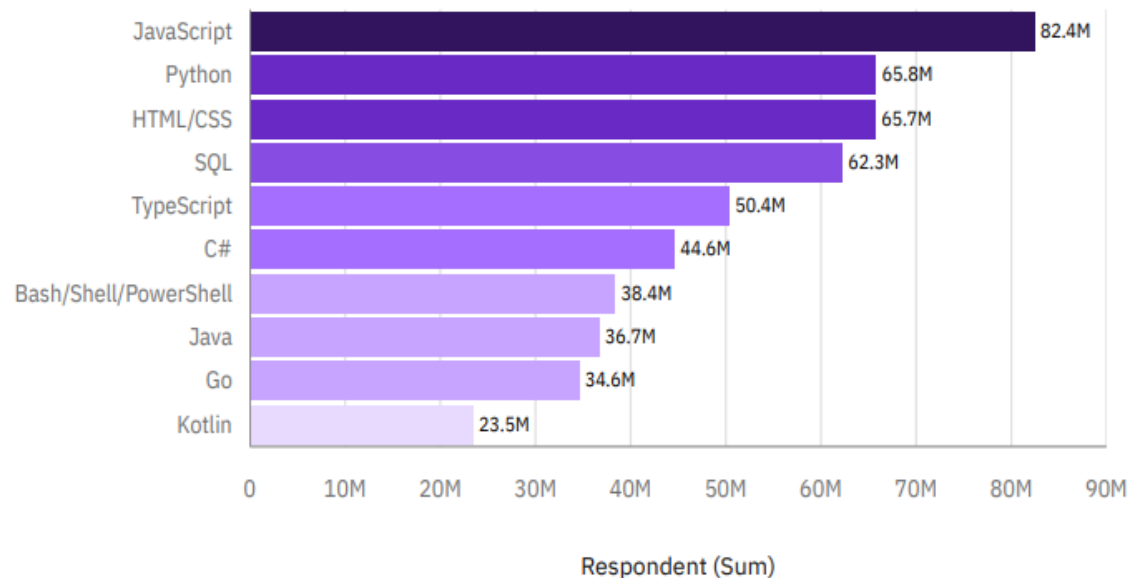
## Current Year

Top10 Programming Languages



## Next Year

Top10 desired Languages



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- C# gives the first place to the significantly more elementary languages HTML/CSS and JavaScript
- Also Python goes from 6 to 2<sup>nd</sup> place

## Implications

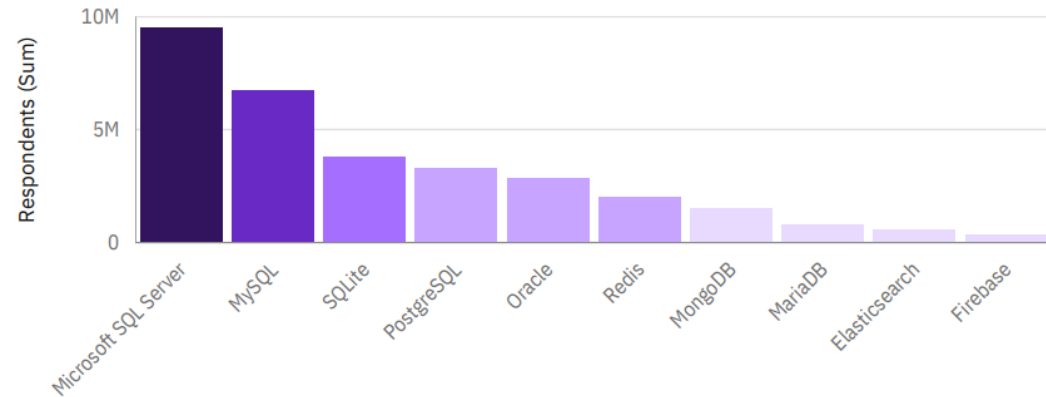
- C++ as well PHP disappeared from the Top10 desired programming languages
- Impressive position of Go and Kotlin.



# DATABASE TRENDS

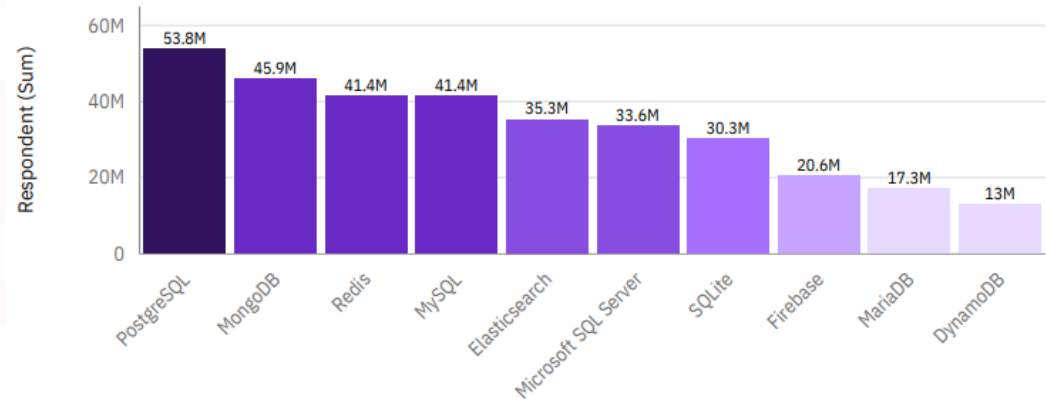
## Current Year

Top 10 Databases



## Next Year

Top10 desired Databases



Databases

Databases

# DATABASE TRENDS-FINDINGS&IMPLICATIONS

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## Findings

- Full advantage of SQL family
  - Microsoft SQL server
  - MySQL
  - SQLite
  - PostgreSQL

## Implications

- Exceptional growth of MongoDB, due to:
  - Flexible document schemas
  - Widely supported and code-native data access
  - Market requirements

# DASHBOARD

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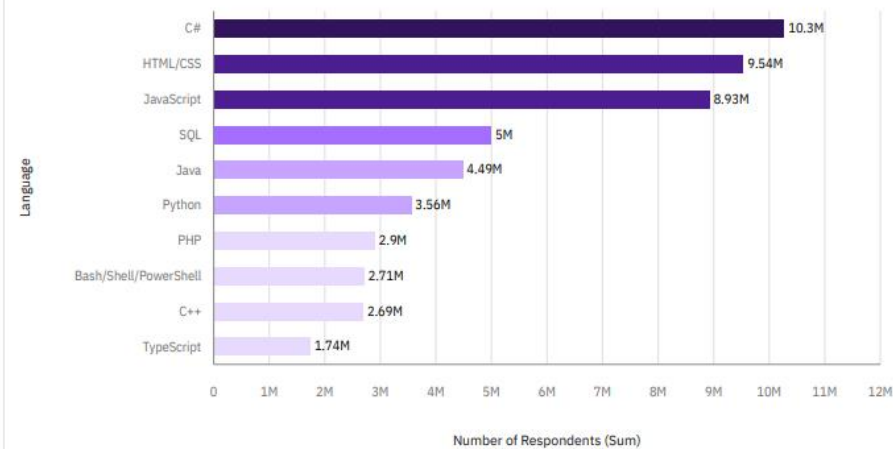
[Ivanka-tech/testrepo \(github.com\)](https://github.com/Ivanka-tech/testrepo)

# DASHBOARD TAB 1

## Current Technology Usage

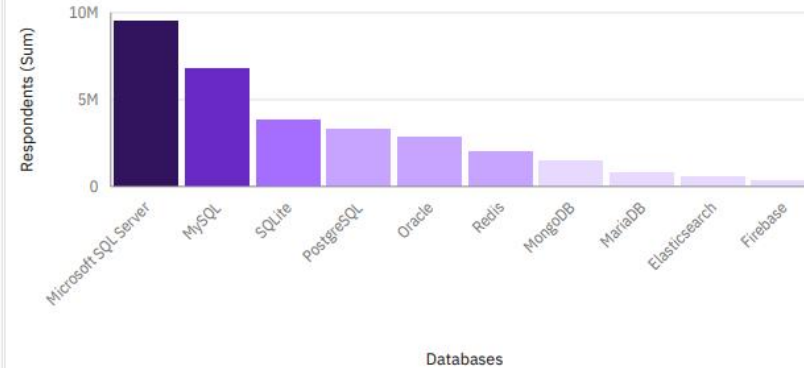
### Top10 Programming Languages

1



### Top 10 Databases

2



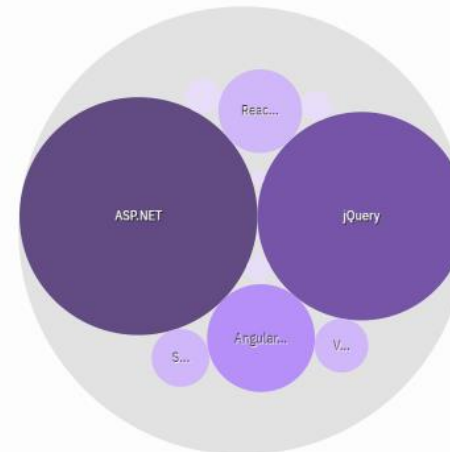
### Platforms Interacted

4



### Top10 Web Frames

3

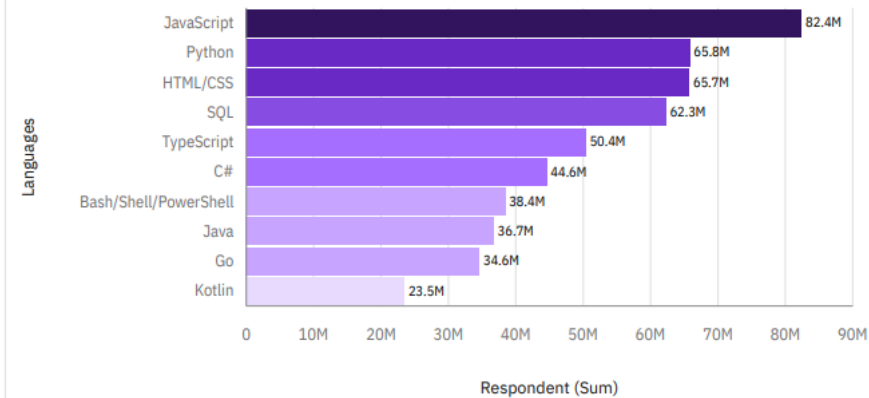


# DASHBOARD TAB 2

## Future Technology Trend

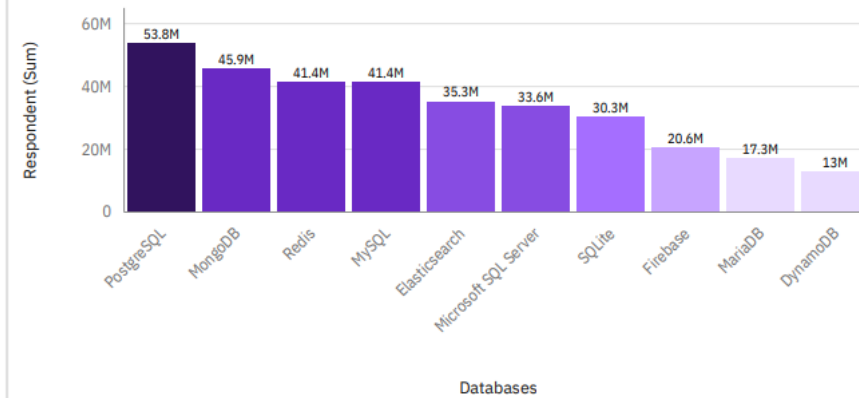
Top10 desired Languages

1



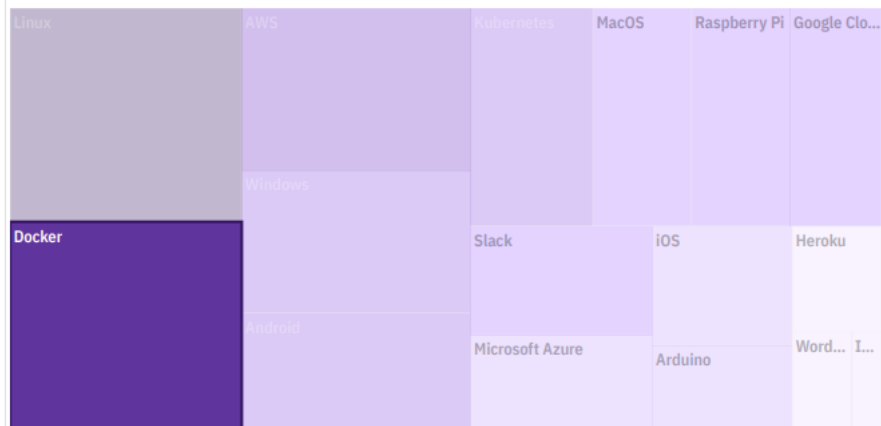
Top10 desired Databases

2



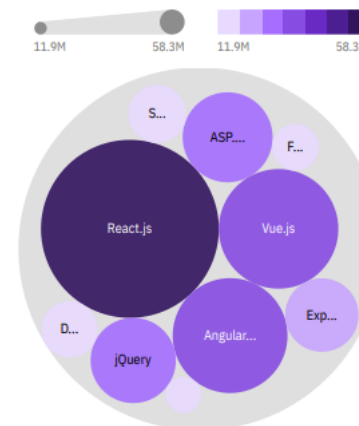
Platform Next Year

3



Top10 Web Frame next year

4

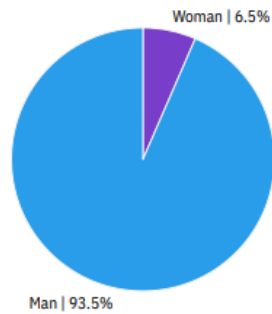


# DASHBOARD TAB 3

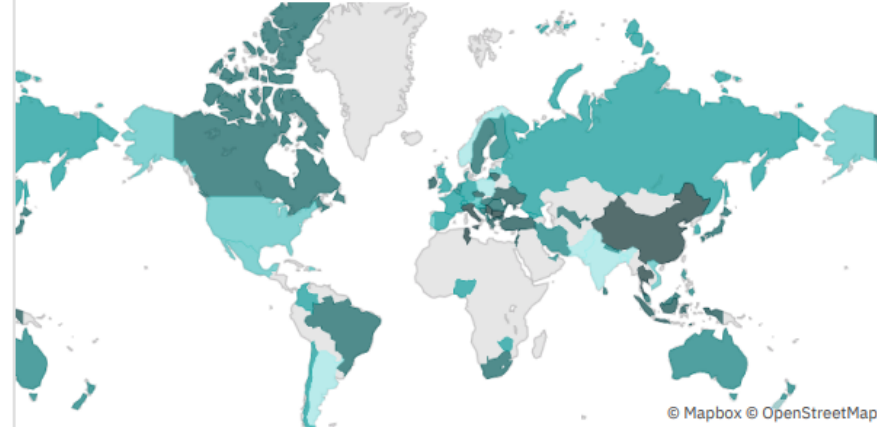
## Demographics

Gender by Gender

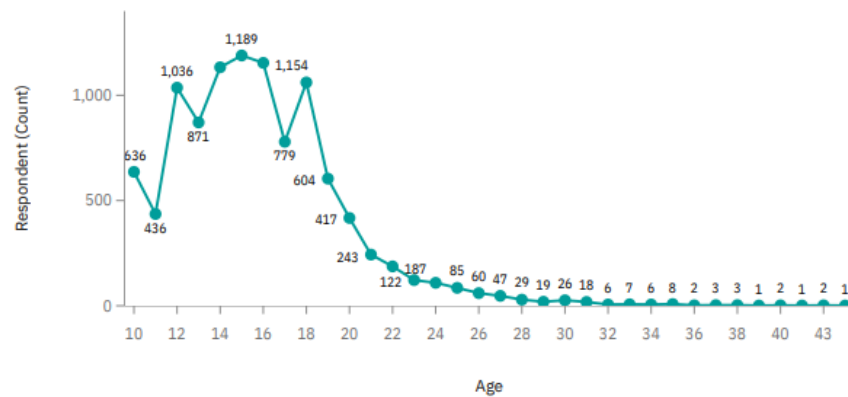
Gender  
Woman Man



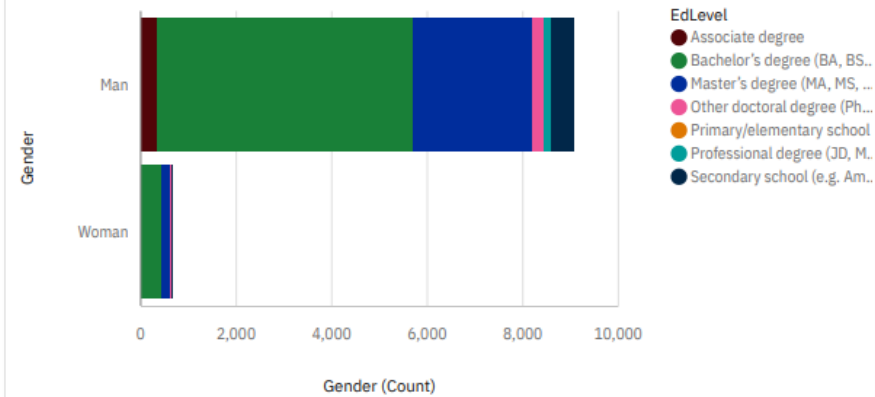
1 Respondent for Country regions



Respondent count by Age



3 Education level by Gender



# DISCUSSION

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- The biggest players on the market are USA and India
- Very poor performance by women – must be stimulated, home office work would be advantage for every woman
- Focusing on non-relational databases – MondoDB

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Very low participation rate of women
- The complicated programming languages are replaced by easier
- Most use were relational databases

## Implications

- Delays by execution of the IT projects
- Lower quality due to timing



# CONCLUSION

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- Increasing the share of women in the IT sector
- Supporting the younger generation in learning and acquiring quality knowledge in HTLM/CSS and JavaScript
- Quick adaptation to new technologies coming to market(training program and so on)

# APPENDIX

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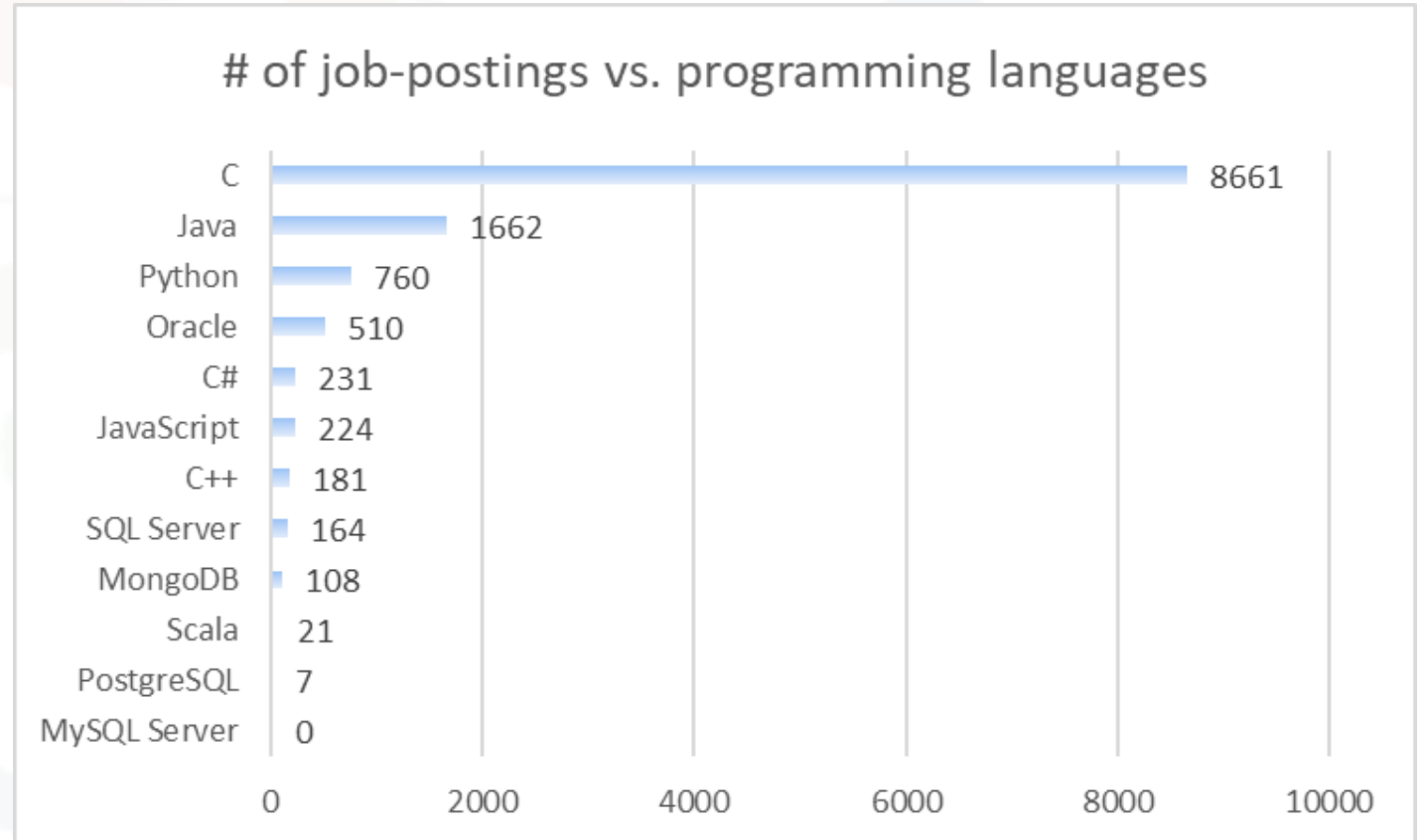


- Further you can see:
  - Number of job-posting in USA
  - The most popular programming languages vs. average annual salary

# JOB POSTINGS

The presented data was collected from the job posting data using Job API.

In USA the most job-postings are for the programming language C.



# POPULAR LANGUAGES

The presented data was collected using web scraping.

The best paid are Swift programmers, followed by Python and C++.

