# IT Industry Trends: Emerging Skills and Innovations

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IBM Developer

SKILLS NETWORK

# OUTLINE
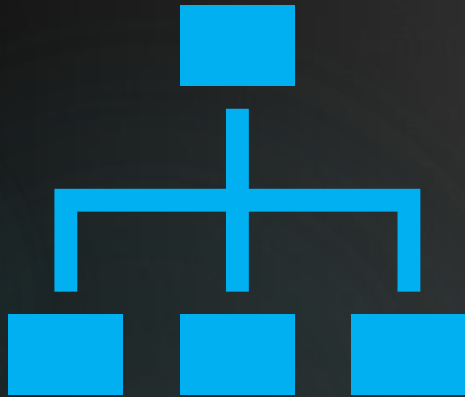
▶ Executive Summary

▶ Introduction

▶ Methodology

▶ Results

  ▶ Visualization – Charts

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▶ Discussion

  ▶ Findings & Implications

▶ Conclusion

▶ Appendix

# EXECUTIVE SUMMARY

▶ This presentation presents a report on the analysis of skills and technologies in the IT industry.

▶ The main purpose of the analysis is to identify trends in the IT industry:

  - *Programming languages*
  - *Databases*
  - *Software platforms*
  - *Web frames*

# INTRODUCTION

- The main purpose of this analysis is to keep up with the variable tools used in the IT industry.

- The need is to find and hire future workers and train current workers in these tools to keep their skills relevant.

- The required data is collected from many sources like :

  *- Job announcement*
  *- Poll*
  *- Educational portals*

# METHODOLOGY

▶ The necessary data for analysis are collected from

   *- GitHub jobs*

   *- IBM website*

   *- Stack Overflow*

▶ Information on the number of software job postings was obtained by accessing the GitHub Job API.

▶ Information on the annual salary of specialists who work with certain software tools was obtained by web scraping the IBM website.

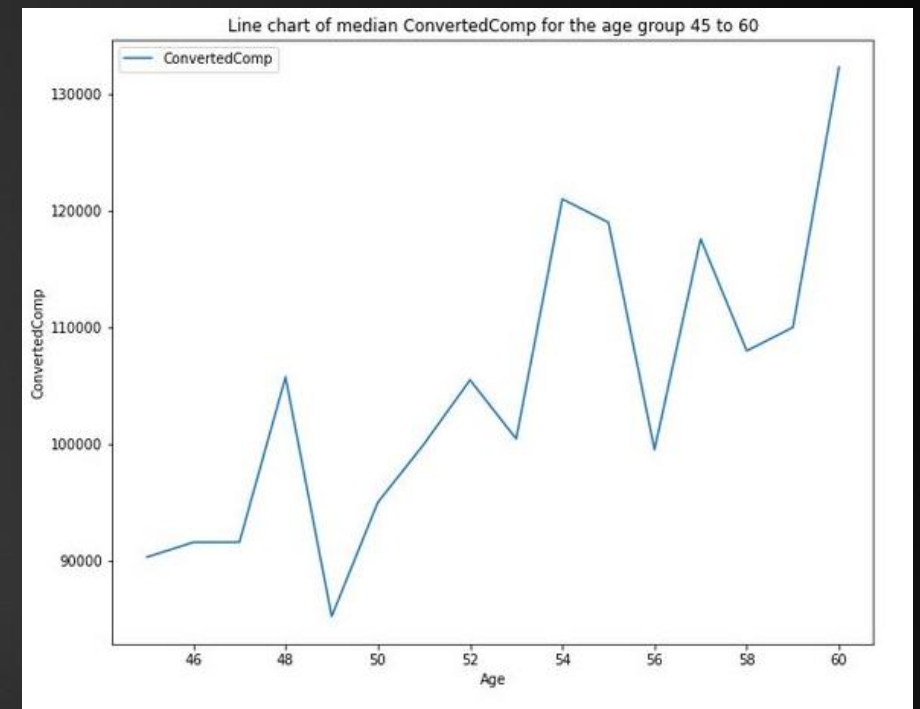▶ The required dataset for this analysis comes from a survey provided by Stack Overflow.

# RESULTS

**After data wrangling, the following observations were made:**
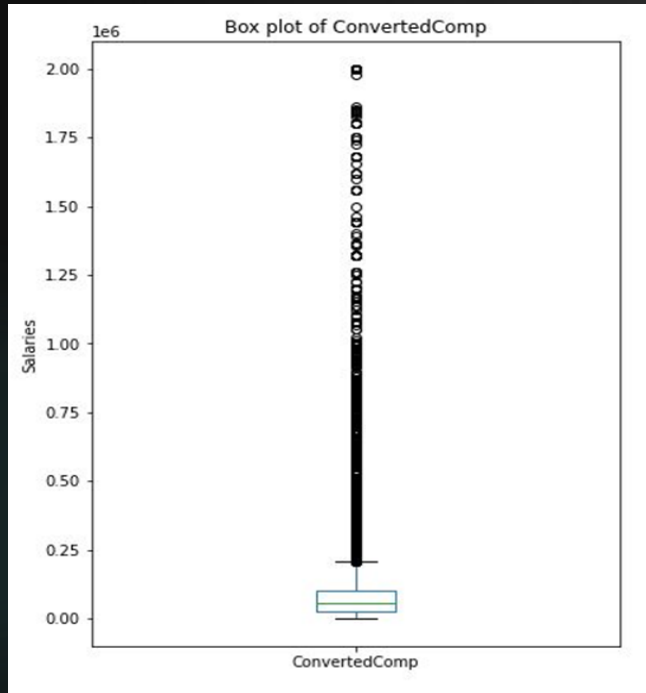


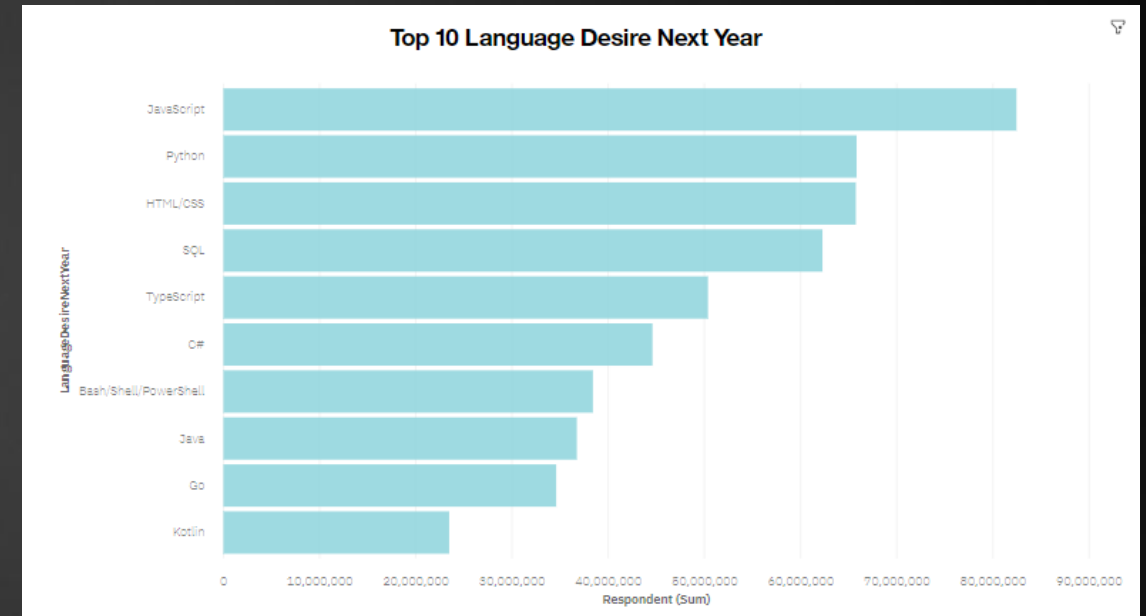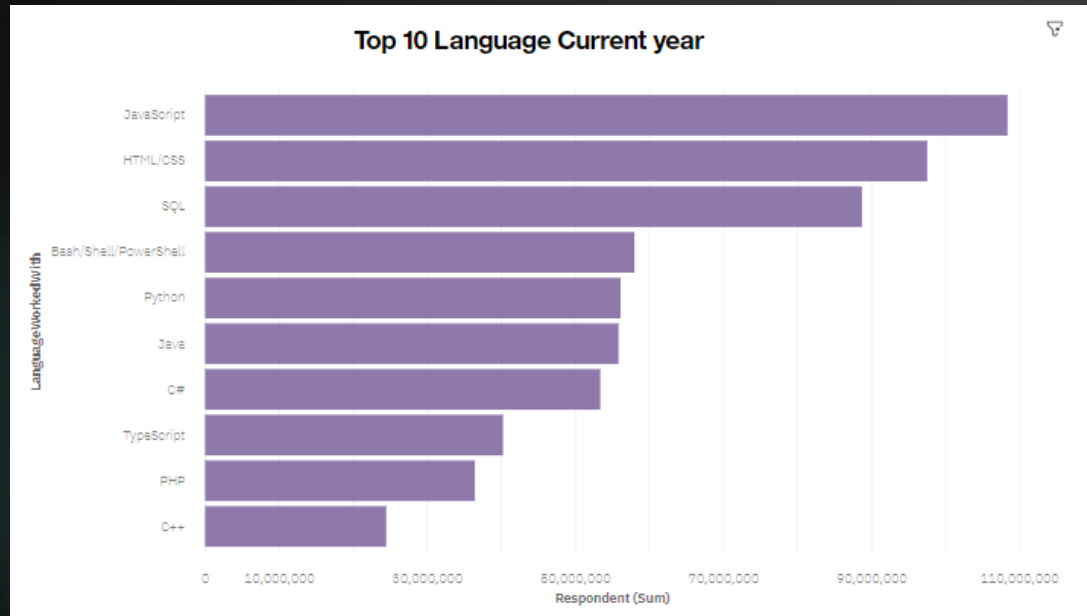The majority of respondents earned salaries in the $250,000 range
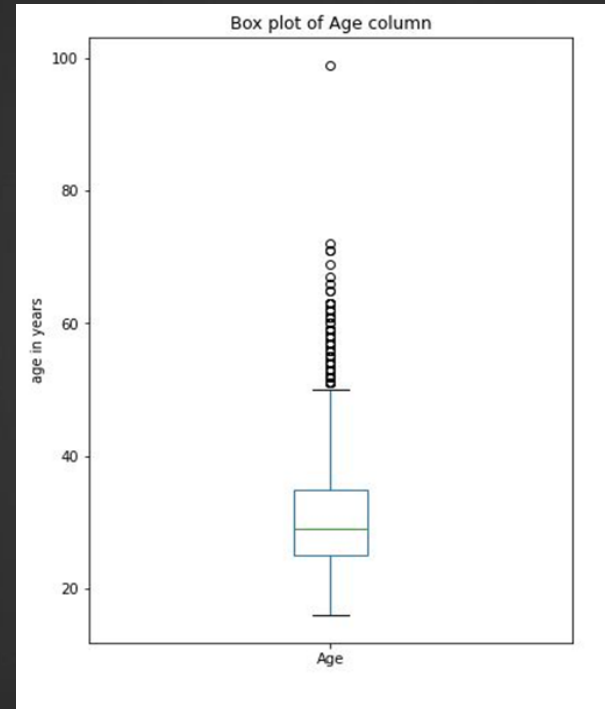


The majority of respondents are aged between 20 and 45



The positive correlation between the salary and the age of the respondent is explained by the fact that the older the respondent, the more experienced he/she is, and therefore receives a higher salary

# PROGRAMMING LANGUAGE TRENDS

# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

## Findings

- Java and HTML/CSS remain the most requested programming languages.

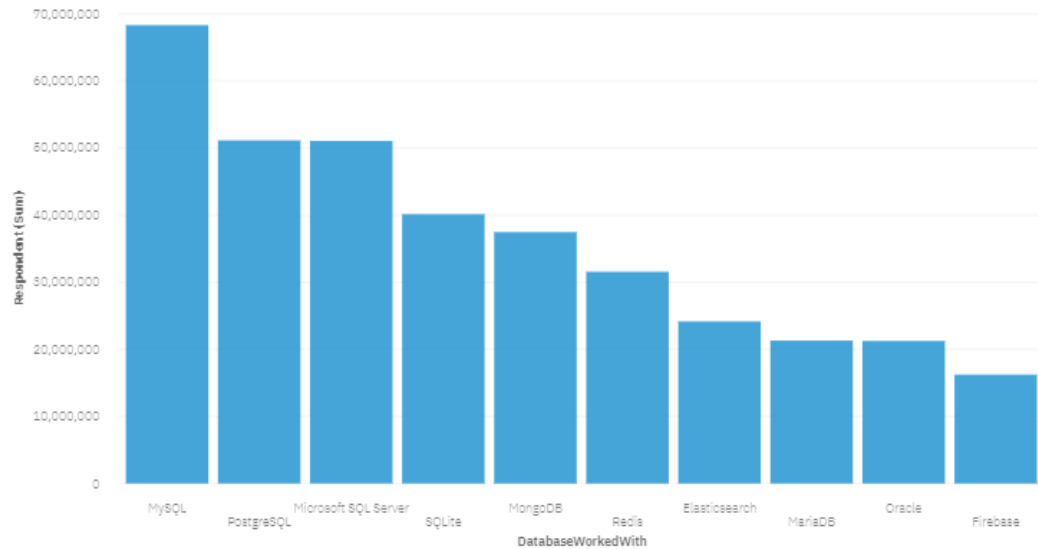- Python and Type Script become more attractive to professionals

## Implications

- Hiring and training Java and HTML professionals will keep being a top priority

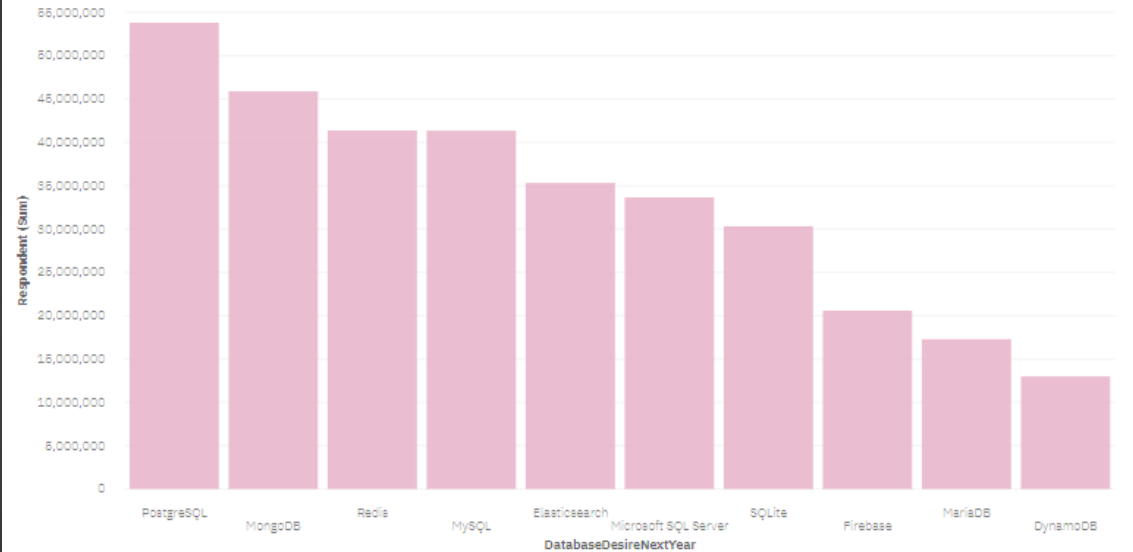- Hiring and training Python professionals will help to companies keep up with market trends

# DATABASE TRENDS

# DATABASE TRENDS – FINDINGS & IMPLICATIONS

## Findings

- MySQL is the most popular database.
- PostgreSQL and MongoDB become more attractive to professionals.

## Implications

- Hiring and training employees in MySQL will keep being a top priority since most employees already work with MySQL.
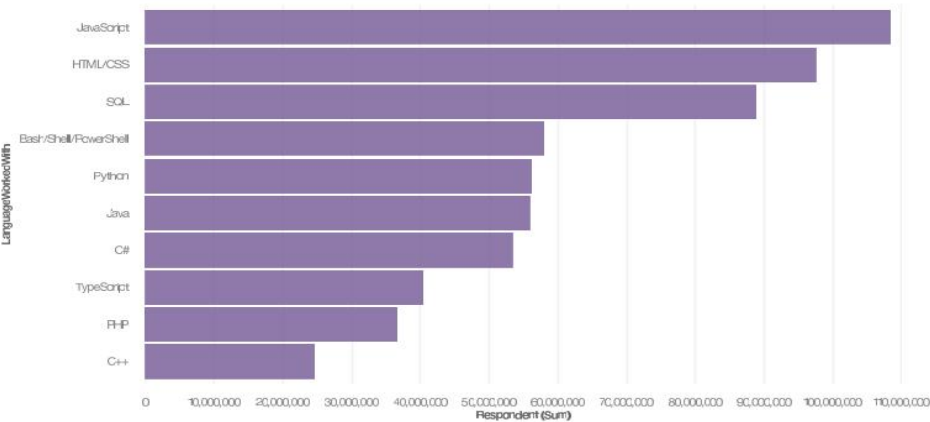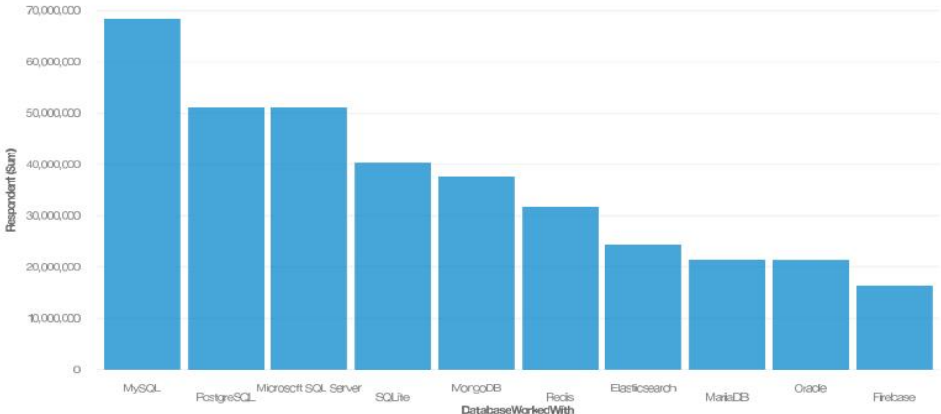- Hiring and training employees in PostgreSQL and MongoDB must be a new priority.

# DASHBOARD
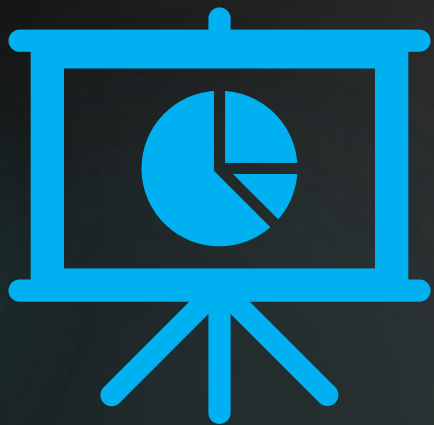
IBM Cloud Pak for Data

# DASHBOARD TAB 1
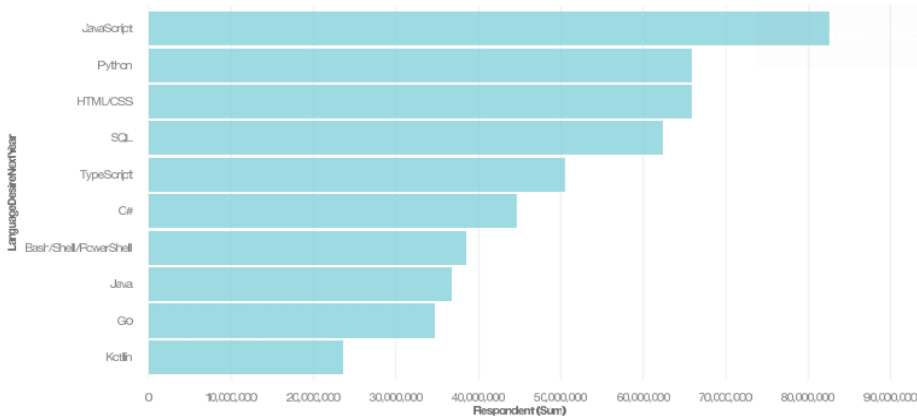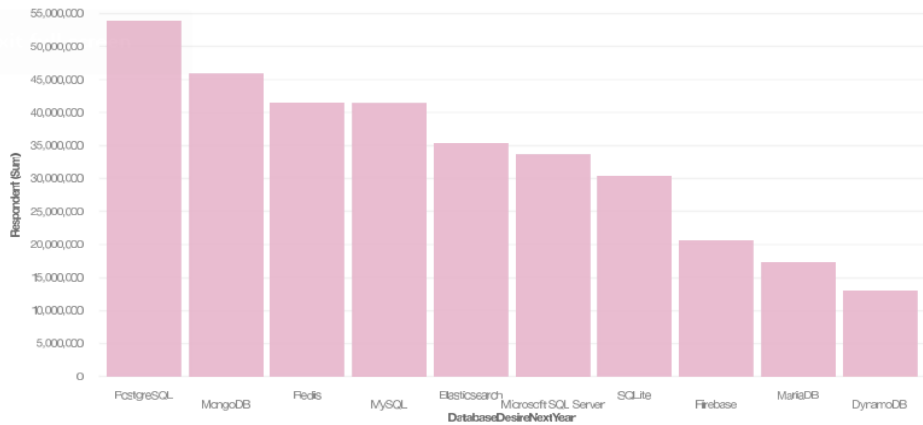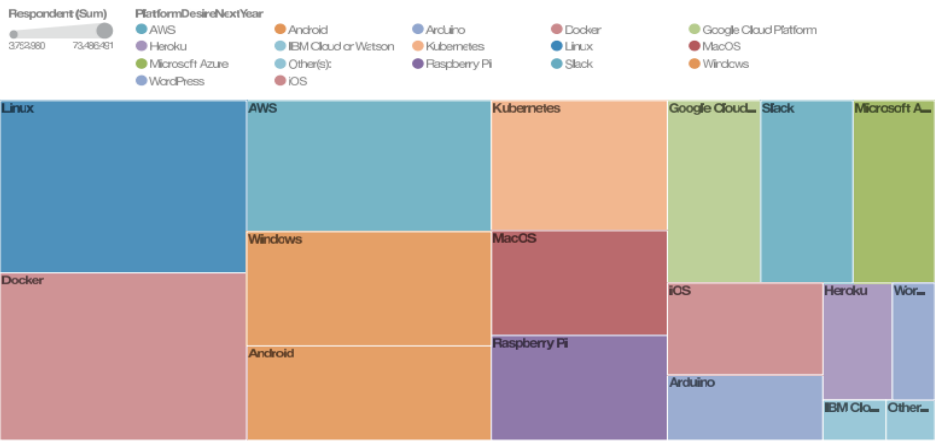
# DASHBOARD TAB 2

# DASHBOARD TAB 3
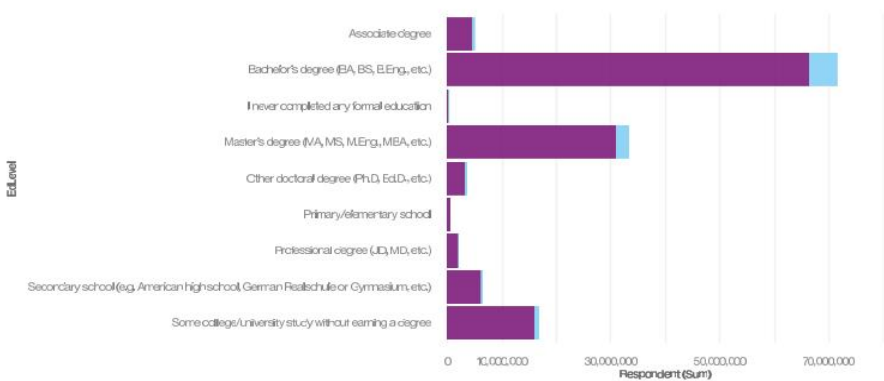
# DISCUSSION

► The main purpose of this analysis is the identifying new technological trends in the IT industry.

► Trends are analyzed and visualized.

► The majority of respondents earn over $250,000 and are between the ages of 20 and 45, an observation that confirms the relevance of our analysis.

► It is also important to note that the majority of respondents are men and come from the US.

# OVERALL FINDINGS & IMPLICATIONS

Findings:

▶ Java script, HTML/CSS and MySQL keep being the most requested tools.

▶ Python, type script, PostgreSQL and MongoDB want to learn More and more professionals

▶ Linux, Windows, and Docker are the most common software platforms

▶ React, AngularJS are the most commonly used web frameworks

Implications:

▶ Hiring and training Java, HTML, and MySQL specialists keep being the top priority

▶ Hiring and training Python, PostgreSQL, and MongoDB professionals can help a company stay ahead of market trends

▶ Professionals who are used to working with Linux and Windows are preferred, as well as having a good command of React and JQuery

# CONCLUSION

This analysis shows that the following tools are most in demand:

- Programming languages:
  - *JavaScript*
  - *HTML/CSS*
  - *Python*

- Databases:
  - *PostgreSQL*
  - *MongoDB*
  - *MySQL*

- Software Platforms:
  - *Windows*
  - *Linux*
  - *Docker*

- Web Frameworks
  - *JQuery*
  - *React*
  - *AngularJS*

# JOB POSTINGS



## NUMBER OF JOB POSTING

| Language | Number |
|---|---|
| MongoDB | 4 |
| MySQL Server | 5 |
| Oracle | 6 |
| C# | 14 |
| SQL Server | 16 |
| PostgreSQL | 17 |
| C++ | 24 |
| Scala | 47 |
| Python | 51 |
| JavaScript | 65 |
| Java | 92 |
| java | 92 |
| C | 184 |