



Evolving skills in the IT Industry

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OUTLINE



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EXECUTIVE SUMMARY



- Graphed and analyzed programming language trends for the current and next year
- Examined database trends for the current and next year
- Analyzed the popularity of web frameworks for the current and next year
- Investigated the most popular platforms for the current and next year
- Conducted respondent count analysis based on gender, age, location, and education level
- Emphasized the dynamic and competitive nature of the IT industry
- Highlighted the need for constant skill refinement in programming and databases
- Outlined the project's focus on analyzing trends in current technology usage, future technology trends, and demographics in the IT industry
- Identified the primary objectives of the project, including the identification of top programming languages and database skills in demand
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INTRODUCTION



- What are the evolving trends and skill requirements in the Industry in future?
- What are the top programming language in demand?
- What are the top database skills in demand?
- What are the popular IDEs?
- Data Collecting from various sources and identifying trends for this year report on emerging skills. And the sources include Job Postings, Training Portals, and Surveys.

METHODOLOGY



- Collecting Data:
- Datasets were uploaded into IBM Cognos Dashboard. Two Datasets has been used.
- Survey Data technologies was used to analyze the current technology trend and future technology trend.
- Demographic data was used for demographic data.
- Exploring Data:
- Finding Duplicates and Removing Duplicates.
- Normalizing Data
- Handling Outliers
- Correlation
- Visualizing the Data:
- Graphs and charts were created using IBM Cognos Dashboard tools
- Analysis was performed through observation of the data in IBM Cognos Dashboard

RESULTS

The Results shown as follows are the analysis comparing the graphs between the current technology usage and Future technology usage.

Results as follows:

1. Programming Language trends

2. DataBase trends

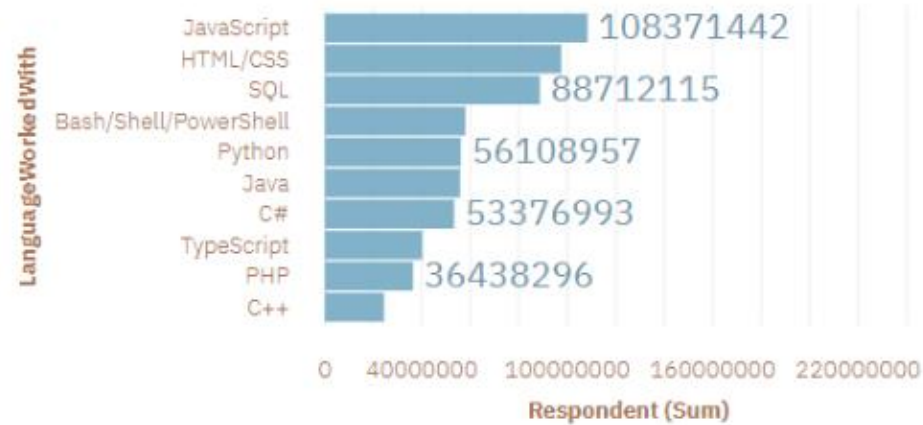
3. IDEs trends

PROGRAMMING LANGUAGE TRENDS

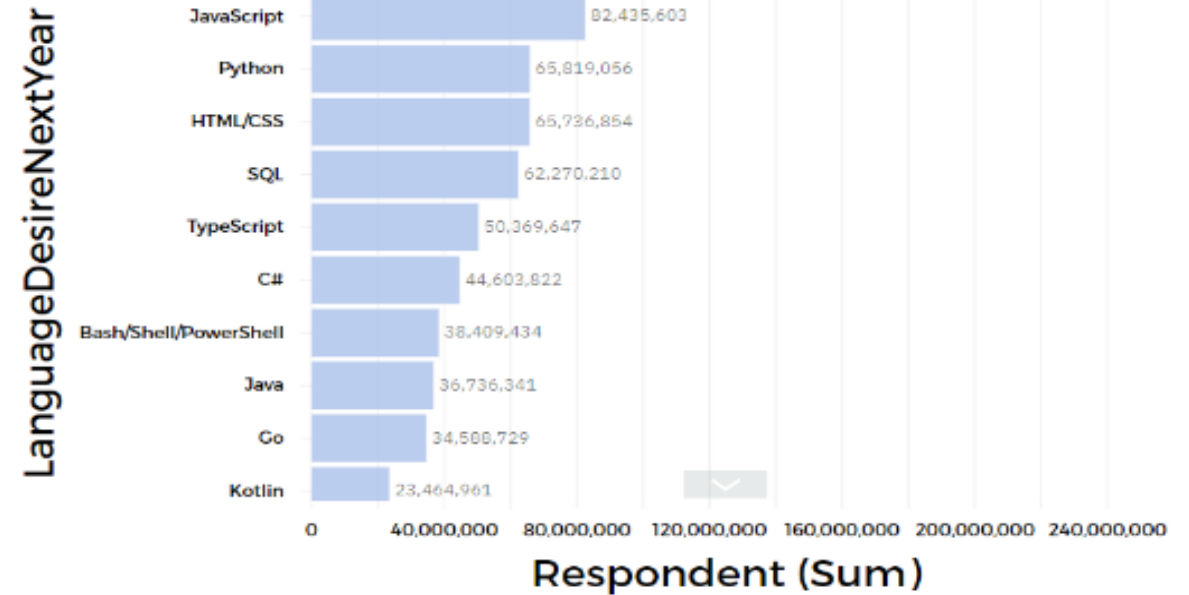
Current Year

Next Year

Top 10 Language Worked With



Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

- **Findings**

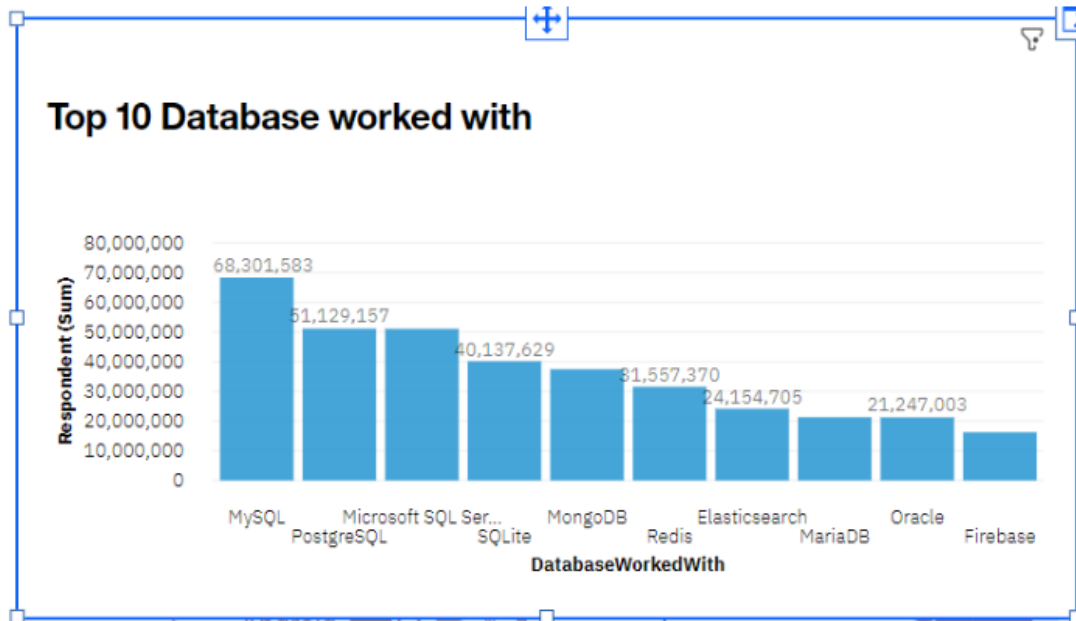
- JavaScript is the top most demanded for current and future programming language.
- Significantly Increasing desire for Python
- The trends of programming language has shifted
- Top 5 language are:
- Java Script, Python, HTML, SQL and TypeScript

- **Implications**

- JavaScript is still most popular and widely used in programming language in IT industry.
- Python has become a new desired and required skills in IT industry.
- JavaScript, Python, HTML/CSS,SQL, TypeScript are the top 5 most desired skills.
- The Desire Skill for programming language has certainly Shifted.

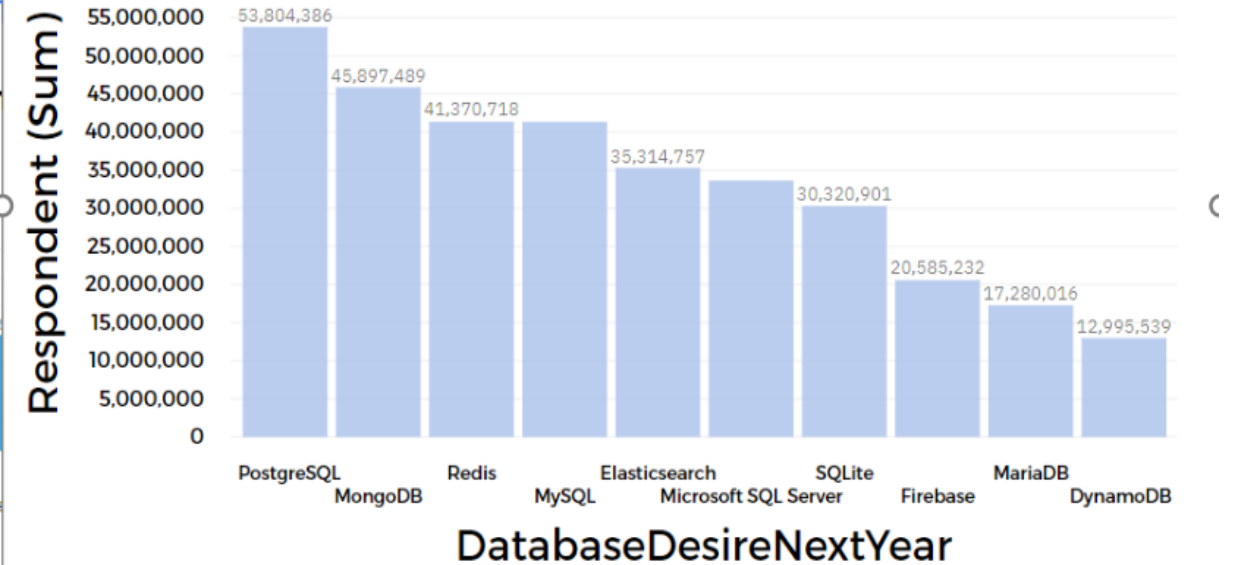
DATABASE TRENDS

Current Year



Next Year

Top 10 Database Desire Next Year.



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL, MongoDB, Redis have become the most desired Database.
- MongoDB, Redis, Elasticsearch are becoming increasingly popular for desired Databases roughly 10,000 increased.
- Oracle Database has become less popular and less desired
- Drastic increase in the desire database skills especially for MongoDB and DynamoDB.
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Implications

- PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch are the desired and most used Database.
- MongoDB, Redis, Elasticsearch have new and better functionalities or services.
- Usage of Dynamo DB more research may be needed.

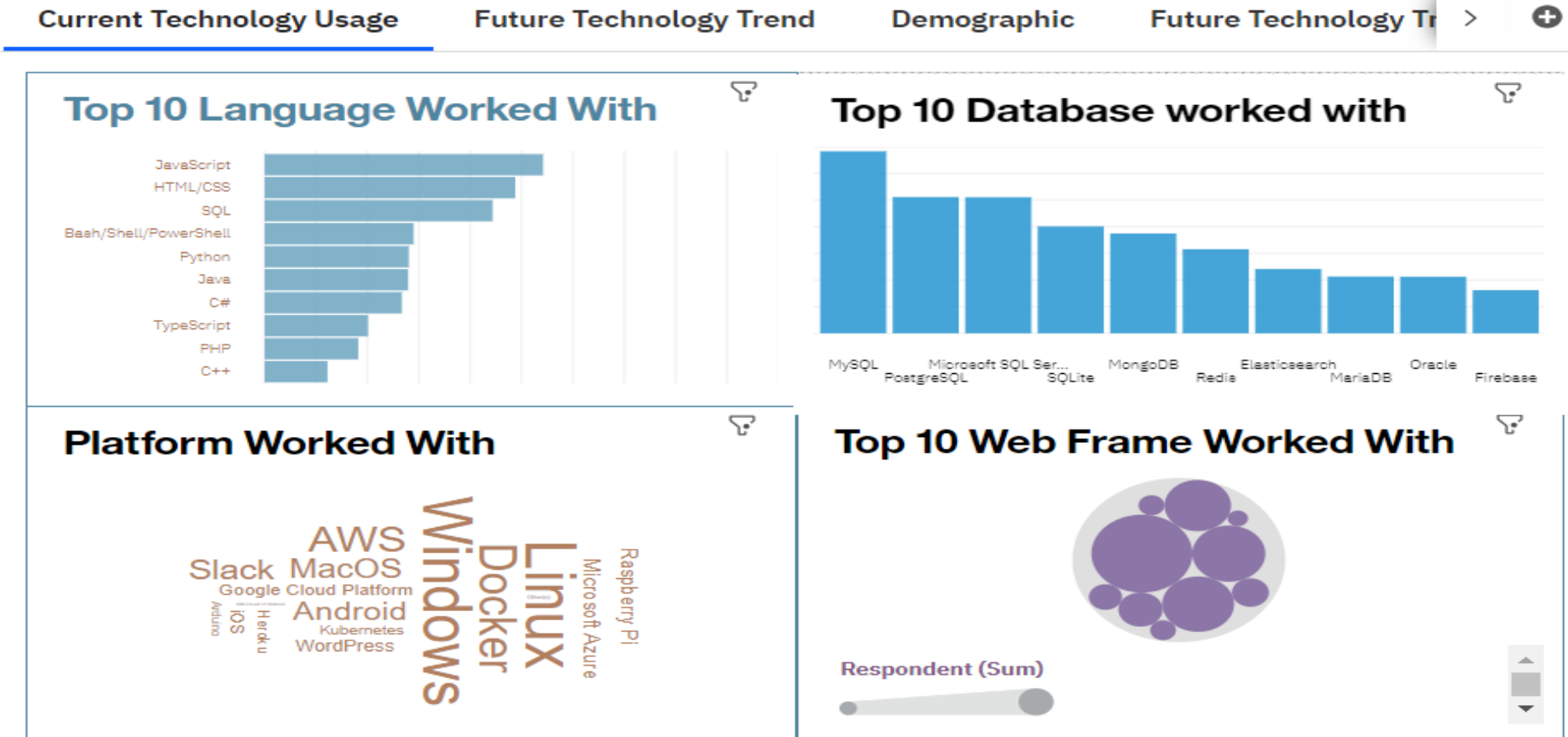
DASHBOARD



<The permanent link of the read-only view of the Cognos dashboard goes here.>

<https://datapatform.cloud.ibm.com/dashboards/771cefb2-e627-4769-b867-f0ac24f95455/view/4f1fca3705ec36cf12bccce407ca2a507c322108e6bbd101828c7b4959367797a86f1693c87c1a5ddb175135a0bd470dc8>

DASHBOARD TAB 1



DASHBOARD TAB 2

Current Technology Usage

Future Technology Trend

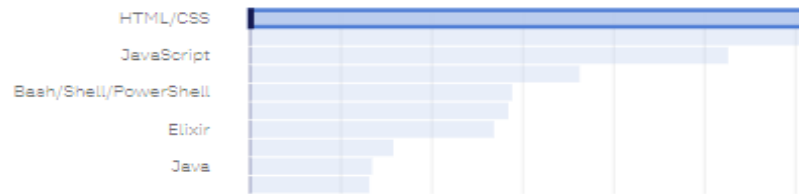
Demographic

Future Technology Tr

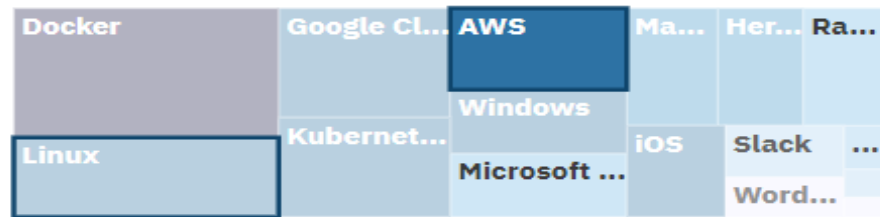


Top 10 Language Desire Next Year

- Respondent (Sum)
- DatabaseDesireNextYear (Cou...



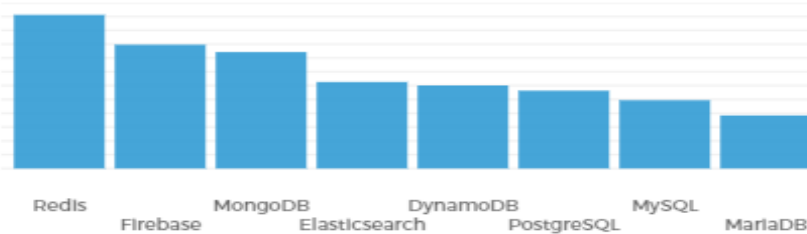
Platform Desire Next Year



Respondent (Sum)

DatabaseDesireN...

Top 10 Database Desire Next Year



Top 10 WebFrameDesireNextYear



Respondent (Sum)

DASHBOARD TAB 3

Current Technology Usage

Future Technology Trend

Demographic

Future Technology Tr



Respondent classified by Gender



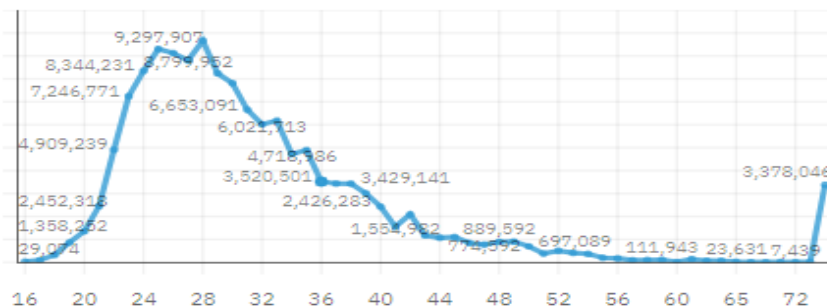
Gender

Woman Man

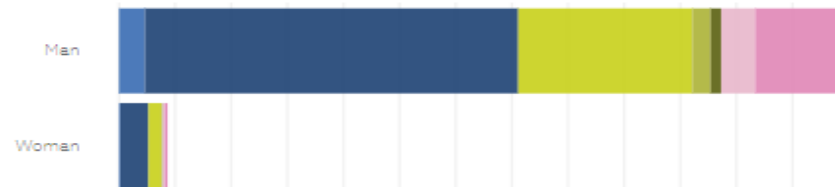
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Java Scripts, Python, HTML/CSS, SQL, TypeScript are the new desire programming language
- PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch are the new desired Database
- React.js, Angular/Angular.js,Vue.js , jquery and ASP.net are the popular IDEs
- The trends shows a drastic changes in Desire for next year programming languages, Database and IDEs

Implications

- Future Skills Requirements implements:
- Programming Language: JavaScripts, Python, HTML/CSS,SQL, TypeScript
- Database: PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch
- IDEs: React.js, Angular/Angular.js,Vue.js , jquery and ASP.net
- There are a few Databases that are also increasingly desire such like DynamoBd.
- The numbers of Skills requirements to be able to be competitive in the IT industry has been changing in the vast development and redefine of current technology.
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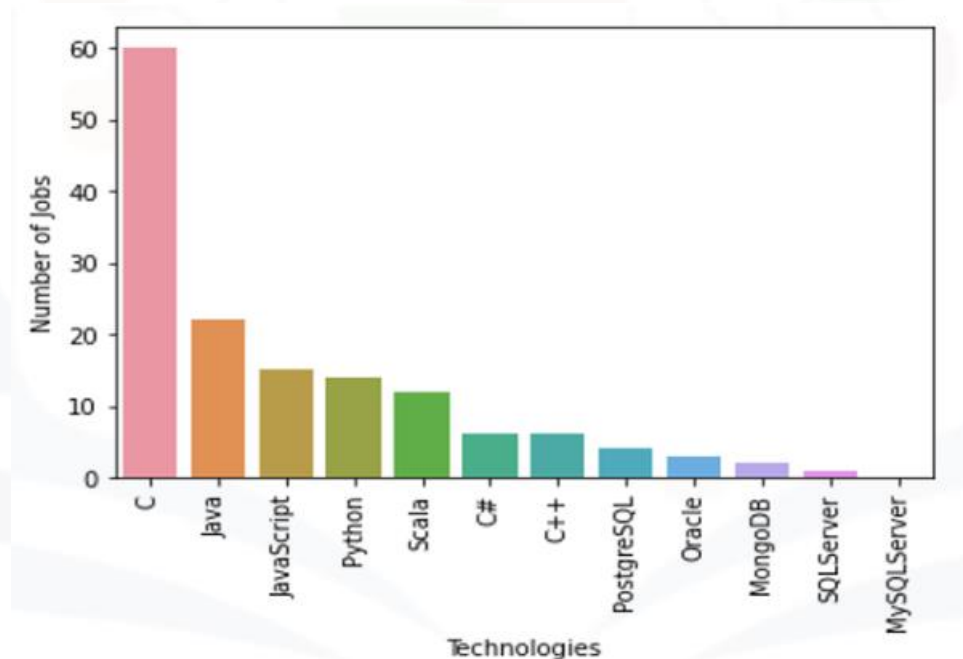
CONCLUSION



- The Open source data collected from Stack Flow can be recreated and analyze to avoid any data biased.
- The technologies that worked with in current year has shown a shift in trend, in order to remain competitive changes in skills requirements are needed.
- The significant changes and desires are shown in programming languages and the databases. Hence the new requirements:
- Programming Language:
 - JavaScripts, Python, HTML/CSS, SQL, TypeScript
- Database:
 - PostgreSQL, MongoDB, Redis, MySQL, Elasticsearch
- IDEs:
 - React.js, Angular/Angular.js, Vue.js, jquery and ASP.net

JOB POSTINGS

In Module 1 you have collected the job posting data using Job API in a file named “job-postings.xlsx”. Present that data using a bar chart here. Order the bar chart in the descending order of the number of job postings.



POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named “popular-languages.csv”. Present that data using a bar chart here. Order the bar chart in the descending order of salary.

