

SIGNIFICANCE OF DEXTERITY AND EXPERIENCE IN STRUCTURED QUERY LANGUAGE

PRIYANKA E THAMBI¹, JISNA JAISON T², LINCYN L³, NIKITA PINHEIRO⁴ and NEENU KURIAKOSE⁵

¹Assistant Professor, Rajagiri College of Social Sciences, Kalamassery.

^{2,4}Assistant Professor, St Paul's College, Kalamassery.

^{3,5}Assistant Professor, St. Albert's College (Autonomous).

Abstract

SQL is a programming language which is used to manipulate and communicate with a database. IBM researchers was developed SQL in 1970. SQL is a user friendly for accessible across in a various platform. SQL developer analyzes and makes decision from an existing data for revolutionize. Many of the organizations was use programming language of SQL to create database and alter new tables' database is a tool for organizing and collecting information, stated by Microsoft. Many of organizations transfer the database and create a database by a database management system. SQL helps the collecting data and control the information. SQL stored the information in the database. The users allow to retrieve the particular data when they need it. SQL uses a IOR or set of command in the database, example SQL insert which is add to data in the database. SQL select is used for the retrieve data from the database table. SQL update which modifiers the exiting record in the database.

Keywords: Language, Standardization, Microsoft, Data, Programming, Researchers, Organization, Database, Management

I. INTRODUCTION

SQL is a programming language to use manipulates and retrieves data and storing from database. SQL is used in a variety of positions to communicate with a database. It is a standard language of developers to use data analysts, data scientists and database engineers [1]. It is a database management system to use perform task such as retrieve data and update data from a database. SQL stands for structured query language. Donald D. Chamberlin and Raymond F. Boyce developed and produced SQL in 1970. It is based on Turple relational calculus in IBM'S quasi-relational database management system to designed retrieve information [3]. SQL works by understanding to manipulate and analyzing data used by programmers. SQL is write to simple quires because it is a versatile language [5]. This is why it is more complex. Relational Database Management System (RDMS) is used for SQL to storing and managing data from database and table [5]. A database is a tool for collecting organizing information about people, products etc. According to a Microsoft SQL programmes is access and manipulate information for business and other organization. Many database starts in a word to help users to create multiple views of the database for various individual [7]. It is a processing of programmes or spreadsheet. SQL helps to users control information and stored the specific data in the database. SQL manipulate database from database tablet for example SQL insert, SQL update which modifies existing database records [6]. In the SQL most important database object is table. Table is the most basic unit for database for consists columns of data and row, it hold each table

record and stored of reference data. Database tables are data assembled of logical representation of data [2]. Tables corresponds to each column like customers address or name for relate to each other. Other tables hold customer address or name about specific purchases and products cedes for customers [10]. AMERICAN NATIONAL STANDERS INSTITUTE was adopted the SQL IN 1986 and in 1987 INTERNATIONAL ORGANIZATION for STANDERIZATION was adopted SQL.

II. OBJECTIVES

- 1) To define the factors of data language
- 2) To explain the major database management system.
- 3) To evaluate the data control language and manipulation language.
- 4) To uses standardization language and provides multiple data views.
- 5) To describe the structure, implement and transaction control language and accessing, maintaining the created database.
- 6) To analyze data of query language
- 7) To portability high-performance and scalability
- 8) To modify the vendor independence

III. METHODOLOGY

We know the above information from Google Scholar, Wikipedia, etc. to know the about SQL is the data modeling representation for. To guideline the good database management, good cursor management, and users. To know the it has a variety function of read, manipulate for users [5]. To know the overview of data integration of SQL it helps the organization for business scenarios of business needs, this is various phases through over the period and to provide accurate and deeper insights into the business process [8]. Their customers optimize the utilization to generate the resource.

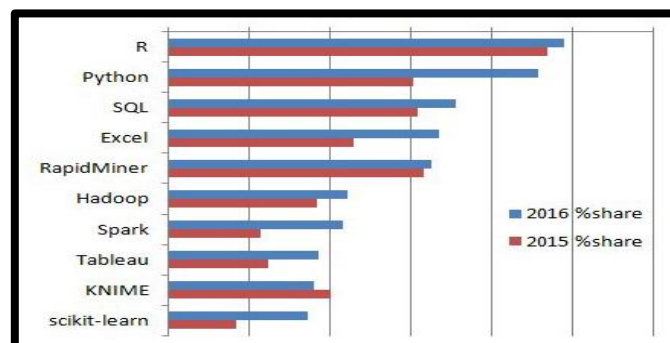


Figure 1: Uses of data languages

(Source: 20)

Figure 1 is based on the growth of the organization on the basis of the data sources. The organization meets their business challenges have been achieving high-level data accuracy for various data integration techniques and tools .SQL has been widely methodology to use data from various sources and clauses.

IV. DATA LANGUAGE

A data definition language is a SQL commands language. DDL can be used for computer language to modify and create the database objects. It is used for define the database schema and modified the create the structure of database [5].DDL is a set of SQL command These commands are normally does not used by a general user who should be accessing the database via an application. DDL does not show up SQL database language as a different language but does changes database schema [1].It is dealing with a description of database schema to modify and established the object of structures.

Lists of DDL commands

- CREATE- This command uses a build of a new table to create the database and has a predefined syntax. For examples tables (employee id, first name, last name etc.), index, views, functions, procedure, store and triggers.
- DROP- It is used to delete objects from database [2].There's no way to recover it.
- ALTER- This is used to alter the drop existing columns, additional column the structure of database.
- COMMENT- This is used to help of data dictionary to add comments.
- RENAME- This is used to an object existing in the database for rename.
- TRUNCATE-This statement is used to remove all records quickly from a table. It is similar to drop.

V. DATABASE MANAGEMENT SYSTEM

Database management system is software to create the database for users [5]. It is stored the data and retrieve the database. Some key features of DBMS is

- a) DATA MODELING- It is modifying the data model and creating the data structures of a database.
- b) CONCURRENCY CONTROL- The multiple users can access data for controlling concurrent mechanism of DBMS.
- c) DATA STORAGE-Data storage is storing data from the database. Data storage provides various methods for queering and searching data.
- d) BACKUP AND RECOVERY- Backup provides mechanism for recovering data.
- e) DATA INTEGRITY AND SECURITY-Data integrity and security constraints

provides tools for data enforcing such as access and data.

DBMS helps the insertion, modification and delete the actual data from database and it also helps the remove the creations and definition from the organized database. It can be used for various purposes for enforcing data, security, monitoring performance,

VI. DATA CONTROL LANGUAGE AND MANIPULATION LANGUAGE

Data control language is a consists of syntax statements to the computer for control concurrent access and security from table data. DCL is a programming language that can be used for information stored from the database. It is a structure of query language and it is stored the information in a database [8].It is used to administrators, to remove and set database. It is a logical group of SQL. For examples MICROSOFT SQL.DCL commands are grant, deny, revoke. Grant is to give permission to the users for creating the table. Deny is to give permission to bans the table. And the last one is revoke is used for update and delete command from the database. DCL commands are allow to users accessing the database [9] .It is exposed the security of multiple users those are working on then database. It is must remember that it's revoked at any time and having access the autorization to another users.

VII. STANDERIZATION LANGUAGE

SQL is the standardization language to stimulate by the organization. It is technically standards by the organizations of the ambit is adopted by American National Standards Institutions in 1986 [11].In 1980's SQL has to be an important language for DBM, stated by IBM for business application the U.S Defense department established the data language system for the conference to develop the standardization of computer programming language. In 1971 conference of data system language was developed the parent organization of COBOL (language) of the data base task group (DBTG) [13].Nowadays, many companies are use relational database to manage track orders, customers manage or any other activities like storage and data. The database management system are relatively unsown for the technical for the technical support, it is derived from the ISO [14].A number of generic data types are use in an application packages and multimedia, which defines an application domains in order. International standards SQL series has two parts-ISO 19075 information technologies which defines the database management language of SQL for the justification of language, and 2nd part is ISO 13249 Information technology which use for application packaged and multimedia for the customers [20].

VIII. STRUCTURE OF SQL

SQL comprise data definition language(DDL)and data manipulation language(DML).DDL statements are create, alter drop .DML statements are select insert update and delete [18].SQL'S original name was SEQUEL which means Structured English Query Language. It is basically attempt set a programming language .It perform various operations to manage relational data [16].The data with operators some commonly use for those below comments-

SQL select-The select command can be use in a table to get some data and operators. Example selects the title, author name from catalogue [17].

SQL create-The command is used for to create a SQL table for new address. It is creating a new database with new directory. Database objects are stored in a files table.

SQL delete-this command is used for removed rowed from a table .example employee's last record [12].

SQL insert-This command is used to add record of the database. It is used employees new record.

SQL update-This command is used for a specific table to make record rows.

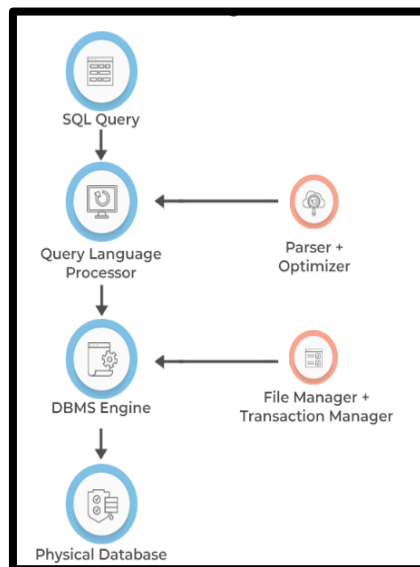


Figure 2: Data query language

(Source: 12)

IX. DATA QUERY LANGUAGE

Data query language (DQL) is data stored in a relational database language for instruction of retrieving data. This language software is use the command Select for filter [11].This command is used to create an employee phone number list from the employee's table. Example- Selecting the First name of the employee that is Last name, Phone number from employees table. Select declaration with where benchmark. Sometimes, researchers might focus on the particular portion of a publisher table. Such as only publisher that are in LONDON, then would to use the Select declaration with the Where criteria. Where city= LONDON. Data query language is used to manage the various operations from the data which is relational database, and standardize programming language. In 1970 administrators database is cannot use for a regular basis of SQL. Also use of data analysts and data integration scripts writing by the developers [13]. Data analyst is to settle and run analytical queries. Commands are takes for the other

operation and SQL Queries. This command is written as aggregated into the programmes for statement, which is modified data from the database table. SQL query can change the column in SQL server database.

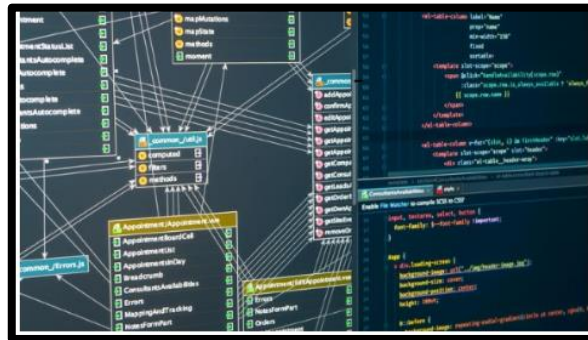


Figure 3: Structure of QL

(Source: 18)

X. HIGH PERFORMANCE AND SCALABILITY OF SQL

- 1) Present-day SQL-Lateral joins, window function, recursive common table expression this features are trained by the teacher. That will help the better address complex to write data access requirement [19].
- 2) Practice example-All SQL code is the GitHub, which inspired by the real life scenarios. It has a exclusive access to the repository source and useful from the future updates.
- 3) Multiple database support-Oracles are designed for the SQL training. This is the high performance SQL server, example myself and PostgreSQL.

SQL server covers the fixing production and detecting the problems of troubleshooting and monitoring .High performance SQL is the minimizing outages application [20].

How to practice the best SQL server performance queries are tip1 add the missing index file, tip2 using the avoid multiple data or files.tip3 filter the data, tip4 checked the unused indexes, tip5 avoid too many joins of file.

XI. PROBLEM STATEMENT

In this topic I faced the many problems to search this research. I could not found any journal of SQL. Now days SQL create many problems of human traffic of stadium, find quite students average salary consecutive numbers, short distance in a plain [15].The SQL problem statement faced on a particularly questions of coding-decoding and database related questions. Supporting data schema should comprise a clear and detailed problem of sample test [20].The problem of constrain with at least one sample test case of an explanation. In the organization, SQL faced five biggest problems such as combined of two tables, customer order that had never

order, second highest salary, temperature rising, and duplicate emails.



Figure 4: SQL skills

(Source 15)

XII. CONCLUSION

SQL is the programming language which designed for modifying, accessing, and extracting information from the database management system. In a relational database work with a administrative task performance, writing application and generating reports. In the database we must know the how to interact to create a reporting tool, data structured. Data structure can understand how to confront use store information about the organization. In the database, proposing modification is use with the tables. Sal schema statements is used to create database objects such as constrains, indexes, table. This statement is use to create stored the data in the database for create, manipulate.

References

1. Mistake, H., & Yutaka, W. (2022, December). Making Software Based on Human-Driven Design Case Study: SQL for non-experts. In 2022 IEEE 15th International Symposium on Embedded Multicourse/Many-core Systems-on-Chip (MCSoc) (pp. 264-270). IEEE. Retrieved from: https://www.researchgate.net/profile/Fatih-Gurcan/publication/338791600_Expertise_Roles_and_Skills_Required_by_the_Software_Development_Industry/links/5e2aa1afa6fdcc70a1466acf/Expertise-Roles-and-Skills-Required-by-the-Software-Development-Industry.pdf[Retrieved on: 21/03/2023]
2. Vadlamani, S. L., & Baysal, O. (2020, September). Studying software developer expertise and contributions in Stack Overflow and GitHub. In 2020 IEEE International Conference on Software Maintenance and Evolution (ICSME) (pp. 312-323). IEEE. Retrieved from: http://www.olgabaysal.com/pdf/Vadlamani_ICSME2020.pdf [Retrieved on: 21/03/2023]

3. Kaplunovich, A. (2021, December). COVID-19 Multi-Modal Data Analysis with Alexa Voice and Conversational AI Applications: Voice First System Tracking Novel Coronavirus. In 2021 IEEE International Conference on Big Data (Big Data) (pp. 4514-4517). IEEE. . Retrieved from: <https://arxiv.org/pdf/2103.11386> [Retrieved on: 21/03/2023]
4. Kassab, M., Destefanis, G., DeFranco, J., & Pranav, P. (2021, May). Blockchain-Engineers Wanted: an Empirical Analysis on Required Skills, Education and Experience. In 2021 IEEE/ACM 4th International Workshop on Emerging Trends in Software Engineering for Blockchain (WETSEB) (pp. 49-55). IEEE. Retrieved from: https://www.researchgate.net/profile/Giuseppe-Destefanis-2/publication/350042661_Blockchain-Engineers_Wanted_an_Empirical_Analysis_on_Required_Skills_Education_and_Experience/links/60bdf76a458515218f9afc54/Blockchain-Engineers-Wanted-an-Empirical-Analysis-on-Required-Skills-Education-and-Experience.pdf [Retrieved on: 21/03/2023]
5. Crick, T., Davenport, J. H., Irons, A., & Prickett, T. (2019, October). A UK case study on cybersecurity education and accreditation. In 2019 IEEE Frontiers in Education Conference (FIE) (pp. 1-9). IEEE. Retrieved from: <https://arxiv.org/pdf/1906.09584> [Retrieved on: 21/03/2023]
6. Middleman, D., & Fletcher, G. (2021, October). SQLVis: Visual query representations for supporting SQL learners. In 2021 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC) (pp. 1-9). IEEE. . Retrieved from: https://pure.tue.nl/ws/portalfiles/portal/191839095/VLHCC_author_version.pdf [Retrieved on: 21/03/2023]
7. Gurcan, F., & Cagiltay, N. E. (2019). Big data software engineering: Analysis of knowledge domains and skill sets using LDA-based topic modeling. IEEE access, 7, 82541-82552. Retrieved from: <https://ieeexplore.ieee.org/iel7/6287639/8600701/08742548.pdf> [Retrieved on: 21/03/2023]
8. Bhat, M., Tinnes, C., Shumaiev, K., Biesdorf, A., Hohenstein, U., & Matthes, F. (2019, March). Adex: A tool for automatic curation of design decision knowledge for architectural decision recommendations. In 2019 IEEE International Conference on Software Architecture Companion (ICSA-C) (pp. 158-161). IEEE. Retrieved from: https://www.matthes.in.tum.de/file/8nffpsowehjt/Sebis-Public-Website/-/ADeX-A-Tool-for-Automatic-Curation-of-Design-Decision-Knowledge-for-Architectural-Decision-Recommendations/190218_ICSA_ADeX-Architectural-Knowledge-Management-Tool.pdf [Retrieved on: 21/03/2023]
9. Chandra, S., Varde, A. S., & Wang, J. (2019, October). A Hive and SQL case study in cloud data analytics. In 2019 IEEE 10th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON) (pp. 0112-0118). IEEE. Retrieved from: <https://scholar.archive.org/work/acwsg6iyxnb5lmbmfhm3weynyq/access/wayback/https://ieeexplore.ieee.org/ielx7/9368308/9368309/09368433.pdf> [Retrieved on: 21/03/2023]
10. Rangnau, T., Buijtenen, R. V., Fransen, F., & Turkmen, F. (2020, October). Continuous security testing: A case study on integrating dynamic security testing tools in ci/cd pipelines. In 2020 IEEE 24th International Enterprise Distributed Object Computing Conference (EDOC) (pp. 145-154). IEEE. Retrieved from: <https://research.rug.nl/files/147588238/09233212.pdf> [Retrieved on: 21/03/2023]
11. Razzes, A., Hurl, A., Shaba, S., Maqsood, M., & Ahmad, H. F. (2013, March). Critical analysis on web application firewall solutions. In 2013 IEEE Eleventh International Symposium on Autonomous Decentralized Systems (ISADS) (pp. 1-6). IEEE. Retrieved from: [IEEE.https://www.academia.edu/download/40768044/Razzaq_et_al._-2013_-_Critical_analysis_on_web_application_firewall_solutions.pdf](https://www.academia.edu/download/40768044/Razzaq_et_al._-2013_-_Critical_analysis_on_web_application_firewall_solutions.pdf) [Retrieved on: 22/03/2023]
12. Adel, N., Latham, A., & Crockett, K. A. (2016, July). Towards socially intelligent automated tutors: Predicting learning style dimensions from conversational dialogue. In 2016 Intl IEEE Conferences on

- Ubiquitous Intelligence & Computing, Advanced and Trusted Computing, Scalable Computing and Communications, Cloud and Big Data Computing, Internet of People, and Smart World Congress (UIC/ATC/Shalom/CBDCom/Ion/SmartWorld) (pp. 315-320). IEEE. Retrieved from:<https://e-space.mmu.ac.uk/617168/1/IEEE%20paper%20v2.1.pdf> [Retrieved on: 22/03/2023]
13. Chen, L. (2018, April). Microservices: architecting for continuous delivery and DevOps. In 2018 IEEE International conference on software architecture (ICSA) (pp. 39-397). IEEE. Chen, L. (2018, April). Microservices: architecting for continuous delivery and DevOps. In 2018 IEEE International conference on software architecture (ICSA) (pp. 39-397). IEEE. Retrieved from:https://www.researchgate.net/profile/Lianping-Chen/publication/323944215_Microservices_Architecting_for_Continuous_Delivery_and_DevOps/links/5af3ac2f4585157136c92238/Microservices-Architecting-for-Continuous-Delivery-and-DevOps.pdf [Retrieved on: 22/03/2023]
 14. Chen, H. M., Kazman, R., Haziyeve, S., & Hrytsay, O. (2015, May). Big data system development: An embedded case study with a global outsourcing firm. In 2015 IEEE/ACM 1st International Workshop on Big Data Software Engineering (pp. 44-50). IEEE. Retrieved from:<https://pdfs.semanticscholar.org/b4d3/882dab588340be0ddd2072494d60f8accb9d.pdf> [Retrieved on: 22/03/2023]
 15. Ansari, S., Kohavi, R., Mason, L., & Zheng, Z. (2001, November). Integrating e-commerce and data mining: Architecture and challenges. In Proceedings 2001 IEEE International Conference on Data Mining (pp. 27-34). IEEE. . Retrieved from:<https://pdfs.semanticscholar.org/b4d3/882dab588340be0ddd2072494d60f8accb9d.pdf> [Retrieved on: 22/03/2023]
 16. Ansari, S., Kohavi, R., Mason, L., & Zheng, Z. (2001, November). Integrating e-commerce and data mining: Architecture and challenges. In Proceedings 2001 IEEE International Conference on Data Mining (pp. 27-34). IEEE. . Retrieved from:<https://arxiv.org/pdf/cs/0007026><https://arxiv.org/pdf/cs/0007026> [Retrieved on: 22/03/2023]
 17. Gurcan, F., & Cagiltay, N. E. (2019). Big data software engineering: Analysis of knowledge domains and skill sets using LDA-based topic modeling. IEEE access, 7, 82541-82552. . Retrieved from:<http://homepages.uc.edu/~niunn/papers/QuaRAP18.pdf> [Retrieved on: 22/03/2023]
 18. Bhat, M., Tinnes, C., Shumaiev, K., Biesdorf, A., Hohenstein, U., & Matthes, F. (2019, March). Adex: A tool for automatic curation of design decision knowledge for architectural decision recommendations. In 2019 IEEE International Conference on Software Architecture Companion (ICSA-C) (pp. 158-161). IEEE. . Retrieved from:https://www.matthes.in.tum.de/file/8nffpsowehjt/Sebis-Public-Website/-/ADeX-A-Tool-for-Automatic-Curation-of-Design-Decision-Knowledge-for-Architectural-Decision-Recommendations/190218_ICSA_ADeX-Architectural-Knowledge-Management-Tool.pdf [Retrieved on: 22/03/2023]
 19. Saltz, J. S., Yilmazel, S., & Yilmazel, O. (2016, December). Not all software engineers can become good data engineers. In 2016 IEEE International Conference on Big Data (Big Data) (pp. 2896-2901). IEEE. Retrieved from:http://www.midp-info.org/uploads/1/0/6/5/10650753/s12209_2137.pdf [Retrieved on: 22/03/2023]
 20. Imam, A. A., Basri, S., Ahmad, R., Aziz, N., & González-Aparicio, M. T. (2017, November). New cardinality notations and styles for modelling NoSQL document-store databases. In TENCON 2017-2017 IEEE Region 10 Conference (pp. 2765-2770). IEEE. Retrieved from:<https://digibuo.uniovi.es/dspace/bitstream/handle/10651/47241/New%20cardinality.pdf> [Retrieved on: 22/03/2023].