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SQL (STRUCTURED QUERY LANGUAGE) CAPABILITIES OF THE STATISTICAL DATABASE LANGUAGE

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INTRODUCTION

The world in experience higher of education important from the goals one is this students professional develop their to know skills formation and received knowledge , skill , qualification and competencies to life practical apply technologies app done

As you know, teaching tools - training process organize reach main from the elements one is considered The main task of the teacher to students own the subject interesting by doing show and that's it with together students to science has been interests from increase consists of In this place of teaching modern technical and software of means to use right will come . Modern multimedia from technologies use of the teacher pedagogical skills , technological opportunities more expands .

Modern information and communication technologies possibilities very wide system to him known has been computer , multimedia tools , computer networks , such as the Internet from concepts except series new concepts are also included . To these information systems , information systems management , information transmission systems , data warehouse , information warehouse manage systems , knowledge warehouse etc example to be possible

SQL (Structured Query Language) Statistical packages of capabilities i

SQL(Structured Query Language) – This query language consists of many operators through which users and programs can access the database in Oracle(MBBT). Oracle utilities or various programs can perform database access without SQL operators, but it is impossible not to use this query language when executing queries.

In June 1970, EF Codd made his paper EF Codd, "A Relational Model of Data for Large Shared Data Banks" public. This article was published in Communications of the ACM. Nowadays, this model of Codd is accepted as the final model of "relational database management system (RMBBT)". IBM developed the SEQUEL (Structured English Query Language) language to implement Codd's model. This language was later changed to SQL, but is still referred to as a "sequel". 1979 Relational Software (now Oracle) Corporation released the first commercial development of SQL. Currently, SQL is the standard language of RMBBT.

The SQL language works in query-result form. Queries are issued not for each element, but for a whole group, and the result is obtained. For SQL, it doesn't matter what form or order the data in the database is, and users don't need to know this data either. Only by writing the operators correctly will it be possible to extract the desired data.

SQL is the common standard language for all database management systems. It follows that if you learn this language once, you can work with any MBBT. A set of sql operators (small query program) created in one MBBT can be moved to any MBBT.

The following tasks can be performed using SQL statements:

- Obtaining data by request.
- Adding data to the rows of the table, deleting and updating the rows.

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- Create, modify and delete objects.
- Set database and object permissions.
- Create database users and ensure database security.

There are 2 types of SQL: interactive and built-in. These 2 types of SQL work the same but are used in different places.

Interactive SQL refers to making a query to the database and getting the result immediately. That is, the process takes place based on the sequence. It works in query-result mode.

Embedded SQL means that a set of queries is used in a programming language. In Pascal, Delphi, Java, we refer to the base, load the result into a variable and use this result in the necessary place. That is, we cannot send a request and get the result immediately. The result is obtained only for the continuation of the program and is used where required.

SQl operators are divided into several groups. This division is divided on the basis of the task performed by the operators. They are as follows:

- DDL(Data Definition Language) , ANSI this group is called SDL(Schema Definition Language). This group includes operators that create objects (tables, indexes) in the database ;
- DML (Data Manipulation Language) is a group of data manipulation operators. Operators that determine what data is stored in the table at any time ;
- DCL (Data Control Language) - data management operators ;

By permission of ANSI, DCL is considered part of DDL. These groups should not be confused. These are not separate languages, but groups of SQL operators.

SQL and data analysis . In the world of IT and business, fads and fads come and go very quickly. The best HYIPs change every few months. The marketing departments of almost all tech companies compete to repackage and rebrand the old, emphasizing the coolness and appeal of their products. The strategy seems to be working, at least for some.

As Stonebreaker points out, big data is Stonebreaker's buzzword of the day. As with other words, this term does not have a fixed definition. What is the difference between big data, databases and data warehouses, they all deal with large amounts of data.

E-commerce sites, sensors, cameras, mobile applications generate large amounts of data at different time intervals. This mountain of data needs to be processed and analyzed to identify patterns, explain and predict business events. A basic assumption about big data is that we can learn from data.

According to Jacobs, big data should be defined as data at any time whose dimensions force us to look beyond the tried and true methods commonly used at the time, for Cuzzocrea et al. (2011) Big data refers to large amounts of unstructured data generated by high-performance applications belonging to a broad and heterogeneous family of scenarios, from scientific computing applications to social networks, from e-government applications to medical information systems, etc. . Stonebraker (2012) identifies four types of big data:

- Big data, but little analysis ;
- Big Data Analytics ;
- High speed ;
- Great variety.

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Big data but little analysis usually means using simple SQL queries (MIN, MAX, SUM, COUNT, AVG, GROUP BY, HAVING functions and SELECT with clauses) on large data sets. All types of SQL databases (relational), commercial (Oracle, IBM DB2, Microsoft SQL Server) or open source databases (PostgreSQL, MySQL) can be platforms/tools for this type of processing. Big data analysis requires the integration of ETL (Extract-Transform-Load) tools with a statistical packager. Big analytics means regression, data mining, machine learning, and other more complex types of processing. Data can be extracted from various data sources using SQL queries and/or ETL tools. Complex analysis requires packages like SPSS, R, SAS, etc. and sometimes a lot of code.

The great variety is due to the heterogeneity of data sources and data formats (XLS, relational databases, CSV, flat files, etc.) that must be imported and converted for processing/analysis.

Big data management means dealing with three types of operations: data collection, data storage, and data processing. Therefore, the main components of twp for big data are databases and statistical packages.

SQL and Statistics packages. Here is a la rge offer of statistical packages dedicated to data analysis and other types of complex processing. Most famous commerce from products some : SPSS, SAS, Stata, S-PLUS, Minitab. They are usually simple user (developer for those who are not very comfortable to interfaces have has been wide scope statistics functions and options present is enough But theirs never when not some of them own expenses also known as Small and medium business as well as many universities a lot didn't happen licenses for sometimes to spend a thousand dollars able it's not . Of course , the prices and licensing systems from each other difference does , but our to our experience according to the price still from them use for the most wide spread out is an obstacle . That's it although many universities such as SPSS, SAS packages donations , research grants , industry with depends projects and others through buy they took

Last in years higher education and research in the world open coded statistics software to supply , mainly R, Tsoukalos and to others relatively common trend witness it has been . (2013). R gradually universities , companies and researchers to the dominant platform for turning around going , they software to supply very a lot money spend didn't get , especially present financial in problems . R is final user for never how cost without doing statistics , information digging get the car learning and etc according to the most last achievements constant respectively done which increases passionate work of exits huge to the community have

This documents goals with depends of R without two main limitation there is . Of them one to R special and user to the interface belongs to Some open source extensions (such as RStudio) . dialog box softened though the R command string and to scripts based on programming as well inclined Otherwise by doing in other words , R is still commercial of products from its elegance far away

Second restriction all statistics to packages is typical and data to the source applies . Requests and laboratory information straight away statistics package to his age the introduction possible , but analysis to be done real of companies information wide on platforms located : SQL data databases , web logs , sensors , mobile applications , Excel files and others As a result , many in cases R or another in packages information collection for some extraction - transformation -load (ETL) mechanisms need will be

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Usually statistics packages usually the following from solutions one or one how many using again work for own information uploads :

- External data from files (Excel, CSV- comma with separated values , text files and others) their menus (available if) using direct import ;
- Information from sources (data databases , Excel and others) intermediate the results common format to files keep and after this intermediate files import into package ; the most famous exchange XML, CSV and JSON formats ;
- ODBC (Object Data Base Connectivity) or JDBC (Object Data Base Connectivity) drivers using data sources create and straight away package ODBC/JDBC data sources connect
- Information source and the goal package for adaptation possible has been from custom ETL procedures use
- Import for comfortable formats data collection present which custom API (App programming interfaces) or web / data services connection Google Analytics is like that service years during famous being going on ;
- User by defined or standard ETL procedures using web servers from the magazine import data . These are NoSQL systems strong there is has been is a field;

ODBC/JDBC connections through from a simple import except sometimes data base on the server data base request directly statistics from the package done increase can For example , R users straight away SQLLite data bases to ask and the results R work from tables import to the field can

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