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ID#	16027
DEP...	BS (SE)
LAB	COMPUTING FUNDAMENTAL (ICT)

INSTRUCTOR

DR ATIF ISHTIAQ

Q1

Create presentation in your own choice?

TOPIC

DATABASE MANAGEMENT SYSTEM

WHAT IS DATABASE ?

A database is an organized collection of data, generally stored and accessed electronically from a computer system. ... The database management system (DBMS) is the software that interacts with end users, applications, and the database itself to capture and analyze the data.

TERMINOLOGY AND OVERVIEW

Formally, a "database" refers to a set of related data and the way it is organized. Access to this data is usually provided by a "database management system" (DBMS) consisting of an integrated set of computer software that allows users to interact with one or more databases and provides access to all of the data contained in the database (although restrictions may exist that limit access to particular data). The DBMS provides various functions that allow entry, storage and retrieval of large quantities of information and provides ways to manage how that information is organized.

DATA DEFINITION – CREATION, MODIFICATION AND REMOVAL OF DEFINITIONS THAT DEFINE THE ORGANIZATION OF THE DATA.

UPDATE – INSERTION, MODIFICATION, AND DELETION OF THE ACTUAL DATA.

RETRIEVAL – PROVIDING INFORMATION IN A FORM DIRECTLY USABLE OR FOR FURTHER PROCESSING BY OTHER APPLICATIONS. THE RETRIEVED DATA MAY BE MADE AVAILABLE IN A FORM BASICALLY THE SAME AS IT IS STORED IN THE DATABASE OR IN A NEW FORM OBTAINED BY ALTERING OR COMBINING EXISTING DATA FROM THE DATABASE.

ADMINISTRATION – REGISTERING AND MONITORING USERS, ENFORCING DATA SECURITY, MONITORING PERFORMANCE, MAINTAINING DATA INTEGRITY, DEALING WITH CONCURRENCY CONTROL, AND RECOVERING INFORMATION THAT HAS BEEN CORRUPTED BY SOME EVENT SUCH AS AN UNEXPECTED SYSTEM FAILURE

Both a database and its DBMS conform to the principles of a particular database model. "Database system" refers collectively to the database model, database management system, and database.

HISTORY

The introduction of the term *database* coincided with the availability of direct-access storage (disks and drums) from the mid-1960s onwards. The term represented a contrast with the tape-based systems of the past, allowing shared interactive use rather than daily batch processing. The Oxford English Dictionary cites a 1962 report by the System Development Corporation of California as the first to use the term "data-base" in a specific technical sense.[10]

As computers grew in speed and capability, a number of general-purpose database systems emerged; by the mid-1960s a number of such systems had come into commercial use. Interest in a standard began to grow, and Charles Bachman, author of one such product, the Integrated Data Store (IDS), founded the Database Task Group within CODASYL, the group responsible for the creation and standardization of COBOL. In 1971, the Database Task Group delivered their standard, which generally became known as the *CODASYL approach*, and soon a number of commercial products based on this approach entered the market.

THE CODASYL APPROACH OFFERED APPLICATIONS THE ABILITY TO NAVIGATE AROUND A LINKED DATA SET WHICH WAS FORMED INTO A LARGE NETWORK. APPLICATIONS COULD FIND RECORDS BY ONE OF THREE METHODS:

USE OF A PRIMARY KEY (KNOWN AS A CALC KEY, TYPICALLY IMPLEMENTED BY HASHING)

NAVIGATING RELATIONSHIPS (CALLED *SETS*) FROM ONE RECORD TO ANOTHER

SCANNING ALL THE RECORDS IN A SEQUENTIAL ORDER

LATER SYSTEMS ADDED B-TREES TO PROVIDE ALTERNATE ACCESS PATHS. MANY CODASYL DATABASES ALSO ADDED A DECLARATIVE QUERY LANGUAGE FOR END USERS (AS DISTINCT FROM THE NAVIGATIONAL API). HOWEVER CODASYL DATABASES WERE COMPLEX AND REQUIRED SIGN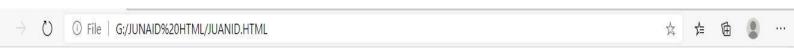IFICANT TRAINING AND EFFORT TO PRODUCE USEFUL APPLICATIONS. IBM ALSO HAD THEIR OWN DBMS IN 1966, KNOWN AS INFORMATION MANAGEMENT SYSTEM (IMS).

IMS WAS A DEVELOPMENT OF SOFTWARE WRITTEN FOR THE APOLLO PROGRAM ON THE SYSTEM/360. IMS WAS GENERALLY SIMILAR IN CONCEPT TO CODASYL, BUT USED A STRICT HIERARCHY FOR ITS MODEL OF DATA NAVIGATION INSTEAD OF CODASYL'S NETWORK MODEL. BOTH CONCEPTS LATER BECAME KNOWN AS NAVIGATIONAL DATABASES DUE TO THE WAY DATA WAS ACCESSED: THE TERM WAS POPULARIZED BY BACHMAN'S 1973 TURING AWARD PRESENTATION *THE PROGRAMMER AS NAVIGATOR*. IMS IS CLASSIFIED BY IBM AS A HIERARCHICAL DATABASE. IDMS AND CINCOM SYSTEMS' TOTAL DATABASE ARE CLASSIFIED AS NETWORK DATABASES. IMS REMAINS IN USE AS OF 2014

Q2

Create web page using following and show output?

SOLUTION

```html
<html>
<html>
<head>
    <title>ITITLE</title>

    <style>
        h2{
            text-align: center;
            color: blue;
        }
        table{

            margin-left: 32%;
            border-top-width: 20px;
            width:40%;
        }
        h4{
            text-align: center;
        }
        img{


            margin-left: 38%;
        }
    </style>

</head>
<body>


    <h2>IQRA NATIONAL UNIVERSITY PESHAWAR</h2>
    <h2>ICT LAB</h2>
```

```html
<h2>IQRA NATIONAL UNIVERSITY PESHAWAR</h2>
<h2>ICT LAB</h2>

<table border="2px">
  <thead>
      <tr>
          <th>Name</th>
          <th>Father Name</th>
          <th>ID</th>
          <th>ADDRESS</th>
      </tr>
  </thead>
  <tbody>
      <tr>
          <td>Muhammad Junaid</td>
          <td> Ghualam Muhammad</td>
          <td>16027</td>
          <td>Malakand</td>
      </tr>
  </tbody>
</table>

<h4>RESUME</h4>

<img src="CV.jpg">

</body>
</html>
```
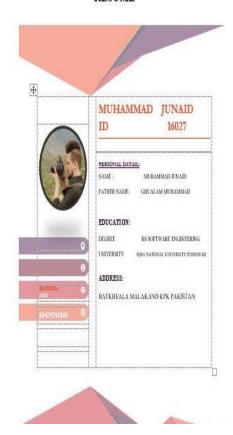
END