**<script>**

**function adder(a,b){**

**return a+b**

**}**

**document.write(adder(1,0))**

**</script>CLO1 Total Marks[20]**

**This is an open book quiz. You may refer to any web or book reference.**

Q1: What do you understand by the term DBMS. [3]

ANS: - A database management system is a collection of shared files, data or information. In database a data is well-organized for rapid search and retrieval by a computer. In DBMS we extract or fetch information from database by using queries. Databases are structured to facilitate the storage, retrieval, modification, and deletion of data in conjunction with various data-processing operations.

DBMS limits or restricts the data duplication (redundancy) ,inconsistencies of data and separation and isolation of data

**Examples of database applications**

* Amazon.
* NADRA
* Student Data.
* CNN.
* Facebook

ss

Q2: What should be the attributes of a good DBMS. [5]

Q3: Explain following terms briefly. Please clearly reference the sources used using IEEE style of referencing. [12]

1. Centralized Database
2. Distributed Database
3. Cloud database
4. Relational DB
5. NoSQL DB
6. Object Oriented DB
7. **Centralized Database: -**

It is a Database that locates , stores and maintained the data that is required to complete all of yours day-to-day business activities in a single location.

It is the base that enables your business to make use of things like business process automation and connected teams. Everything in one place so, we can improved business decisions and provided with a complete view of the organization.

In Centralized Database we stores all the different types of database (e.g. product data, financial data, customer data, employee data) of an organization or a business in a single location (centralized data).

<https://blog.soliditech.com/blog/an-introduction-to-a-centralised-databases>

Publish Date:   Jul 13, 2021

Author Name: [Merissa Badenhorst](https://blog.soliditech.com/blog/author/merissa-badenhorst)

**Reference: -**

[#] [Merissa Badenhorst](https://blog.soliditech.com/blog/author/merissa-badenhorst) , “Centralized adatabase,” Soliditech, Jul 13, 2021.[Online].Available: <https://blog.soliditech.com/blog/an-introduction-to-a-centralised-databases>

1. **Distributed Database: -**

In distributed database system the actual database and the Database Management System software are distributed from various sites that are connected by a computer network.

Types of distributed database system:

**Heterogenous distributed database system:** In these systems different sites used different DBMS softwares from each other. But these sites have an additional common software to share data between these sites.

**Homogenous distributed database system**: In these systems different/multiple sites used same DBMS softwares.

**Book name:** Database Design – 2nd Edition

**Chapter 6 Classification of Database Management Systems**

Author: Adrienne Watt and Nelson Eng

Url: <https://opentextbc.ca/dbdesign01/chapter/chapter-6-classification-of-database-systems/>

September 27, 2018

**Reference: -**

[6] Addrienne Watt and Nelson Eng, “Classification of Database Management Systems”, Database Design – 2nd Edition.September 27, 2018

Available[online]: <https://opentextbc.ca/dbdesign01/chapter/chapter-6-classification-of-database-systems/>

1. **Cloud database: -**

In cloud database system all the data or information either structured or unstructured is locates or resides on a private, public or hybrid cloud computing infrastructure plateform.

Types of cloud databases:

* Traditional
* Database as a service (DBaaS).

Robert Sheldon

Topic name: Cloud app development and management

Website: TechTarget

15 Mar 2022

**Reference: -**

[#] Robert Sheldon, “Search sql server,” TechTarget, 15 Mar 2022.[Online].Available:https://www.techtarget.com/searchcloudcomputing/definition/cloud-database

1. **Relational DB: -**

A relational database is written in sequential query language (SQL), it makes with a set of integrated tables that are organized into rows and columns. The relationship between tables and columns (fields) is specified in a [schema](https://searchsqlserver.techtarget.com/definition/schema). SQL databases, by design, rely on data that is highly consistent in its format , such as banking transactions or a telephone directory.

**Reference: -**

[#] Robert Sheldon, “Search sql server,” TechTarget, 15 Mar 2022

.[Online].Available:https://www.techtarget.com/searchcloudcomputing/definition/cloud-database

1. **NoSQL DB: -**

No SQL database is also called non-relational database in this system we don’t write any SQL queries and do not employ a table model.  Instead, they store content, regardless of its structure, as a single document. This technology is well-suited for unstructured data, such as social media content, photos and videos.

**Reference: -**

[#] Robert Sheldon, “Search sql server,” TechTarget, 15 Mar 2022.[Online].Available:https://www.techtarget.com/searchcloudcomputing/definition/cloud-database

1. **Object Oriented DB: -**

In this type of database system information or data is represented in form of objects as used in Object-Oriented-Programming (OOP).

**Reference: -**

[6] Addrienne Watt and Nelson Eng, “Classification of Database Management Systems”, Database Design – 2nd Edition.September 27, 2018

Available[online]: <https://opentextbc.ca/dbdesign01/chapter/chapter-6-classification-of-database-systems/>

create table student09990

(

sid int,

name varchar(10),

login varchar(10),

age int,

gpa float,

constraint hssh primary key (sid)

);

create table course09990

(

cid varchar(10),

cname varchar(10),

credits int,

constraint htssh primary key (cid)

);

create table enrolled0990

(

sid int,

cid varchar(10),

grade varchar(10),

constraint ssah foreign key (cid) references course09990 (cid),

constraint haah foreign key (sid) references student09990 (sid)

);

select constraint\_name,constraint\_type from user\_constraints where table\_name='ENROLLED0990';

select constraint\_name,column\_name from user\_cons\_columns where table\_name='ENROLLED0990';

ALTER TABLE enrolled0990

ADD senn varchar(10);

Drop Table student;

4

create table employee09990

(

empid int,

name varchar(10),

specialization varchar(10),

experience int,

rate int,

constraint alyyi primary key (empid)

);

create table service099900

(

servid int,

name varchar(10),

cost int,

hours\_required int,

constraint allyyyi primary key (servid)

);

create table customer099900

(

custid int,

name varchar(10),

address int,

constraint alliyyyi primary key (custid)

);

create table workorder0998

(

woid int,

datee date,

constraint car\_kaa primary key (woid)

);

insert into workorder0998

values(5,'21-SEP-21');

create table car099900

(

VPN int,

make varchar(10),

model int,

color varchar(10),

custid int,

constraint allayi primary key (VPN),

constraint cust\_custiid\_fk foreign key(custid) references customer099900 (custid)

);

insert into car099900

values(5,'Proton',2022,'Blue',55);

create table workorderitem082

(

woiid int,

empid int,

VPN int,

servid int,

Datee date,

wrapupNotes varchar(20),

constraint allzz primary key (woiid),

constraint emp\_empp\_fk foreign key(empid) references employee09990 (empid),

constraint car\_cars\_fk foreign key(VPN) references car099900 (VPN),

constraint ser\_srs\_fk foreign key(servid) references service099900 (servid)

)

insert into workorderitem082

values(32,2,2,13,'21-Sep-2021','Partially completed');

insert into employee09990(empid,name, specialization,experience,rate)

values (2,'asim','repair',22,110);

select name,Datee from service099900, workorder0998 where workorder0998.Datee='12-Jan-20';

insert into workorderitem082

values(902,2,2,32,'12-JAN-22','cleanfash');

5

select servid from workorderitem082 where Datee='12-JAN-22';