

# **DATABASE MANAGEMENT SYSTEM**

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### **1. Define the terms data and information with suitable example.**

→ Data: data is the set of raw facts, symbols or unprocessed mean of information collected from various sources which does not give the proper meaning.

Example: ram, 15, 10, Butwal, student.

Information: information is the meaningful result or desired output obtained after processing data which gives proper meaning.

Example: Ram is a 15 years boy reads in grade 10, Butwal.

### **2. What is database? Write some examples of databases.**

→ A database is the collection of related data records organized in such a way that its content can easily be accessed, managed and updated.

Some examples of database are:

- (i) Telephone directory
- (ii) Mark ledger
- (iii) Flight schedule etc.

### **3. Write the advantage of computerized database.**

→ The advantage of computerized databases are:

- (1) Computerized database allows storing large volume of data in a small device.
- (2) Computerized database allows searching specific data quickly.
- (3) Computerized database reduces data duplication.
- (4) Computerized database allows advance filtering of data.

### **4. What is Database Management System(DBMS)?**

→ Database management system is a collection of software that manages data stored in database. It is a collection of software which is used to store data, records, process them and obtain desired information.

### **5. List some popular Database Management system software?**

→ Some popular DBMS software are:

- (1) DBase
- (2) FoxPro
- (3) Ms-Access
- (4) Oracle
- (5) Sybase

## 6. Write the features of DBMS?

→ The features of DBMS are as follows:

- (1) Easy to add new data.
- (2) Easy to modify new data.
- (3) Easy to delete existing data.
- (4) Easy to sort data and index data.
- (5) Easy to search data.

## 7. Write the advantage and disadvantage of DBMS.

→ Advantage of DBMS:

1. Data redundancy.
2. Allows sharing data among different users and program.
3. Easy for editing, adding and removing of data.
4. Mass storage of data can be stored in small disc.
5. It provides better interacting environment to the user.

→ Disadvantage of DBMS:

1. Costly and time consuming procedures.
2. Additional hardware and software may be required.
3. Qualified personal required to operate.
4. Data security problem may be occurred.

## 8. Differentiate between database and DBMS.

Database	DBMS
i) It is a collection of raw facts, symbol or data.	i) It is software to manage database.
ii) It consists of data related field.	li) It manages data stored in database.
iii) It is a part of DBMS.	III) It is a software system which contain database.
iv) E.g. Result sheet, inventory, salary sheet etc.	Iv) E.g. Ms-Access, FoxPro, dBase etc.

## 9. What is relationship?

→ A relationship is databases is needed in order to pull and share the information from different objects and multiple tables.

### **10. List the different type of object of Ms-Access.**

➔ In MS-Access all object of a tables are stored in single line. The file name default extension is .MDB (Microsoft Database). The object Ms-Access are follows:

- (1) Table
- (2) Query
- (3) Form
- (4) Report
- (5) Macro
- (6) Module

### **11. Why is table called a primary block of database?**

➔ A table is called the primary building block of database because it allows keeping and storing related data at the beginning after designing the structure.

### **12. What is primary key? Write its use and importance.**

➔ A primary key is the field that uniquely identifies record in a table so that there will not be repetition of data. It is very much useful to keep records such as ID, Roll no, Phone number, passport no. etc. which should not be repeated.

The importance of primary key is:

- I) Reduce data redundancy.
- II) Not to leave the field blank.
- III) To set link among the different tables.
- IV) To identify unique record in the table.

### **13. What is compound key (Composite Key)?**

➔ A compound key is a key that consist of multiple columns because one column is not sufficient to store data uniquely.

### **14. Define foreign key?**

➔ A foreign key is the linking pin between two tables. It allows storing duplicate data but doesn't accept null value.

### **15. Write the importance of table? In how many ways you can create table?**

→ Importance of table:

- 1) To store the data about specific topic.
- 2) To hold the main information.
- 3) To facilitate grouping and storing the relevant data.

We can create a table in following ways:

- 1) Design view
- 2) Using wizard
- 3) By entering data

### **17) What is query? Write the importance and use of query?**

→ Query is one the most important objects of Ms-Access. It is a way retrieving and editing information according to the condition asked then allows to process data accordingly.

Importance of query:

- 1) It displays the records of different tables.
- 2) It allows sorting and filtering the data
- 3) It manipulates the data according the user choice.
- 4) It allows viewing, changing and analyzing the data.

### **18) Write the short note on the following types of query.**

→ a) select query:

This type of query allows retrieving and displaying the selected records from one or more linked table according to the specified criteria.

b) Action query:

This type of query allows updating, adding and removing mass records in just one single attempt.

c) SQL query

This type of query allows specifying and using SQL commands as supported by RDBMS.

d) Cross tab query

This type of query allows to perform calculation as well analyze the data on the database.

e) Advance sort/filter query

This type of query allows performing advance sorting and filtering data from the database with multiple criteria.

### **19) What is form? Write the importance of form.**

→ A form is a database object which is designed to enter new records and edit existing records easily.

Importance of form:

- 1) To make modification of data directly into the table.
- 2) To view the table in user defined manner.
- 3) To control and enhance the way the data looks on the screen.
- 4) To perform extensive editing of data using macros and VB procedures.

### **20) Write the advantages of form over table?**

→ The advantage of form over table are:

- 1) Forms are easier to enter data and perform calculation.
- 2) Forms allows the easy modification of particular data.
- 3) Forms are easier to focus on specific information needed.
- 4) Forms allow editing of data using macros or visual basic procedures.

### **21) What is report? Write the importance of report.**

→ It is very important object of Ms-Access. A report is an effective way of presenting final database in a printed format as hard copy.

Importance of report:

- 1) To prepare complete output of the processing a database.
- 2) To compare, summarize and subtotal large set of data.
- 3) To create and produce attractive invoices, purchase orders, mailing and labels.
- 4) To preview the database on screen before printing finally.

### **22) What is wizard? Write it advantage?**

- A wizard is a small predefined set of programs that interview us, asking question about what we want to accomplish. The advantage of wizard is to create table, query or any object according to our specification quickly.

### 23) Differentiate between design view and wizard.

Design view	Wizard
i) It takes more time.	I) It saves our time.
ii) We can make our own design.	II) We can choose formats from pre-mode one.
iii) We can create any field according to own requirement.	III) We can copy fields from any of the simple table.

### 24) What is data type? List the different data types used in Ms-Access.

- Data type is an attribute for a field that determines what type of data can be stored in the table while entering records.

Following are the common data types used in Ms-Access:

Data types	Purpose/function	Size
Text	Text or combination of text and numbers.	Up to 255 characters.
Memo	Lengthy text or combination of text and numbers.	Up to 65,535 characters
Number	Numeric data	1 byte
	Byte:	2 bytes
	Long integer	4 bytes
	Single precision	4 bytes
	Double precision	8 bytes
Data/time	Date and time information	8 bytes
Currency	Monitory values	8 bytes
Auto number	A unique sequential number (incremented by 1)	4 bytes (in 2003) 8 bytes (in 2007)
Yes/No	Boolean values (i.e. 0 and 1)	1 bit (0 or 1)
OLE object	An object (word, excel, graphics, picture, sound etc.)	Up to 1 GB
Hyperlink	Web/email and other documents	2048 character in (2003) 1 GB (in 2007)
Lookup Wizard	Creates a field that allow you to select a value	Up to 4 byte or 255 character per value.
Attachment	File attachments	2 GB compressed

## **25) What is field property? List the different types of Field properties of Ms-Access.**

→ The additional information or attributes provided to each field data type is known as field property.

Some of the common field properties and meaning is given below:

Property	Meaning
Field size	Maximum size for data we can enter.
Format	To control and customized the data display pattern.
Input mask	The way/patterned of data to be entered.
Caption	The label of field.
Decimal places	The number of digits to the right of decimal place.
Default value	The value automatically enters for the new record.
Validation rule	An expression that limits data entry value
Required	The data should be entered.
Allow zero length	Permit the zero length of string.
Indexed	It speeds up the searches and sorting operation

## **26) Define the terms Sorting and filtering the database with their purpose.**

→ Sorting data:

Sorting is the process of arranging the records in a particular order of a field. The order of sorting may be entered in ascending order (A – Z) or descending (Z – A)

Filtering data:

The process of displaying the specific and particular records according to the set criteria from the database or group of records is known as filtering the data.

## **27) Differentiate between text and memo field?**

→ Text field allows storing alphanumeric data up to 255 characters long where as memo field allows to store long and descriptive data up to 65535 character long. Text field can be set with primary key where as memo field cannot be set with the primary key.



## **28) what is indexing? Write the advantage of indexing?**

- Indexing is one of the field properties and feature of Ms-Access. They are:
- i) Yes (No duplication): In case it does not accept the duplicate data in particular fields.
  - ii) Yes (duplicate ok) In this case it accepts the duplicate data in the particular field.

## **29) Differentiate between number and auto number?**

- Number: It allows any number to be entered in the field.
- Auto number: It will automatically insert the unique number in the row data.

## **30) What is data redundancy?**

- Data redundancy is the repetition of same data in the particular field again which is undesirable for the field such as roll number, ID number, Serial number, account number etc.

## **31) Write the difference between a form and a report?**

- The difference between a form and a report:

Form	Report
a) Forms are primarily used to edit the overview data.	a) Reports are used primarily to print or view data.
b) In a form you usually navigate from one record to another.	b) In reports you summarized the data to present.