Chapter:1

Data Basics

Multiple Choice Questions

Q 1: The manipulated and processed data is called

Ⓐ Object **Ⓑ Information** Ⓒ Knowledge Ⓓ Data

Q 2: The process of arranging data in a logical sequence is called.

Ⓐ Sorting Ⓑ Summarizing Ⓒ Capturing Ⓓ Classifying

Q 3: Storage and retrieval of data are related is.

Ⓐ Data capturing Ⓑ Data manipulation
Ⓒ Analysis result **Ⓓ Managing output**

Q 4: A collection of raw facts and figures is called.

Ⓐ Data Ⓑ Information Ⓒ Processing Ⓓ Output

Q 5: Which of the following represents an object?

Ⓐ Person Ⓑ Company Ⓒ An event **Ⓓ All of these**

Q 6: A person's account, computer, car and college are considered

Ⓐ Table Ⓑ Data processing Ⓒ Raw data **Ⓓ Object**

Q 7: Which of the following is an example of student data?

Ⓐ Roll - no Ⓑ Name Ⓒ Address **Ⓓ All of these**

Q 8: A series of actions that are performed on raw data to achieve the required objectives and results are called.

Ⓐ Operation Ⓑ Data processing Ⓒ Information **Ⓓ Both A & B**

Q 9: Which of the following activities involved in data processing or operating?

Ⓐ Data capturing Ⓑ Data manipulation Ⓒ Managing output result **Ⓓ All of these**

Q10: Communicating the information through Internet is related to

Ⓐ Managing the output result Ⓑ Data manipulation
Ⓒ Data capturing Ⓓ Sorting

Q11: A set of related records that represents a unit of data is.

Ⓐ File Ⓑ Record Ⓒ Field Ⓓ Database

Q12: Each column in a table represents.

Ⓐ Field Ⓑ Record Ⓒ File Ⓓ Data set

Q13: All records in a file have the same.

Ⓐ Contents **Ⓑ Structure** Ⓒ Order Ⓓ Key

Q14: The type of files from usage point of view includes:

Ⓐ Master file Ⓑ Backup file Ⓒ Transaction file **Ⓓ All of these**

Q15: Which of the following may be a temporary file?

Ⓐ Master file Ⓑ Data file **Ⓒ Transaction file** Ⓓ Program file

Q16: Following is the file extension of the program file.

Ⓐ .exe Ⓑ .com Ⓒ .png **Ⓓ Both A & B**

Q17: The extension of a file created in notepad is.

Ⓐ .doc **Ⓑ .txt** Ⓒ .exe Ⓓ .xls

Q18: Video file has the following file extension:

Ⓐ .avi Ⓑ .wav Ⓒ .mpg **Ⓓ Both B & C**

Q19: A collection of logically related data set is called:

Ⓐ Record Ⓑ Data file **Ⓒ Database** Ⓓ File

Q20: Normally, database is a collection of logically related:

Ⓐ Program files Ⓑ Files Ⓒ Data sets **Ⓓ Both B & C**

Q21: The Database system consists of following four major parts:

Ⓐ Hardware, hard drive, monitor, data **Ⓑ Hardware , software ,people and data**
Ⓒ Software , you , me ,DBA , client Ⓓ DBMS , hardware , user ,programmer

Q22: The Objectives of database include:

Ⓐ Data integration Ⓑ Data integrity **Ⓒ Data independence** Ⓓ All of these

Q23: Which of the database models has the general shape of an organizational chart?

Ⓐ Network model Ⓑ Relational model **Ⓒ Hierarchical model** Ⓓ Data type

Q24: The following data model creates parent - child relationship between data elements and enables each child to have just one parent:

Ⓐ Network model Ⓑ Relational model **Ⓒ Hierarchical model** Ⓓ Data model

Q25: The following model has no physical connections between entities:

Ⓐ Network model **Ⓑ Relational model** Ⓒ Hierarchical model Ⓓ None of these

Q26: Which database model is considered more flexible?

Ⓐ Network model **Ⓑ Relational model** Ⓒ Hierarchical model Ⓓ None of these

Q27: DBMS stands for:

Ⓐ Data Modeling System Ⓑ Data Basic Management System
Ⓒ Data Business Model System **Ⓓ Database Management System**

Q28: The following is called a computerized record-keeping system:

Ⓐ DBMS Ⓑ Database system Ⓒ Data System **Ⓓ Both A & B**

Q29: The following is the main components of DBMS:

Ⓐ Hardware **Ⓑ Software** Ⓒ Personal Ⓓ Data

Q30: The objectives of database system or DBMS include:

Ⓐ Database integrity Ⓑ Availability Ⓒ Evolvability **Ⓓ All of these**

Q31: The following is not an example of database management system?

Ⓐ MS Access Ⓑ SQL Server Ⓒ Oracle **Ⓓ Excel**

Q32: The following is not an advantage of database system or DBMS:

Ⓐ Data security Ⓑ Data independence **Ⓒ Data redundancy** Ⓓ Data sharing

Q33: The following is / are example (s) of a database system:

Ⓐ Library management system Ⓑ Inventory management
Ⓒ College Management system **Ⓓ All of these**

Q34: SQL Stands for:

Ⓐ Sort Query List **Ⓑ Structured Query Language**
Ⓒ Self-Quantifying Language Ⓓ Self-Quantitate Language

Q35: A request for information from a database in database terminology is called:

Ⓐ Report Ⓑ Form Ⓒ Table **Ⓓ Query**

Q36: SQL can be used to:

Ⓐ Retrieve selected records from database **Ⓑ Update records of database**
Ⓒ Create table Ⓓ All of these

Q37: The following is the feature of DBMS?

Ⓐ Data dictionary Ⓑ Backup and recovery Ⓒ Query language **Ⓓ All of these**

Q38: Which of the following represents a collection of concepts that are used to describe the structure of a database?

Ⓐ Data warehouse **Ⓑ Data model** Ⓒ Data structure Ⓓ Data type

Q39: Which of the following data model is more flexible?

Ⓐ Network data model Ⓑ Relational data model
Ⓒ Hierarchical data model **Ⓓ Object data model**

Q40: Which of the following type of file require largest processing time?

Ⓐ Sequential file Ⓑ Random file Ⓒ Direct access file Ⓓ Indexed sequential file

Q41: Which of the following may be a temporary file?

Ⓐ Master file **Ⓑ Transaction file** Ⓒ Backup file Ⓓ None of these

Q42: SQL is a (n):

Ⓐ Unstructured language Ⓑ Object-oriented language **Ⓒ Structured language** Ⓓ Software

Short Questions

Q1: What is Data?

Ans: Raw facts and figures are called data. It is used to perform certain operations in an organization. It gives the status of past activities. Data may be numerical like inventory figures, test scores, etc. Data may be non-numerical like your name and address.

Q2: What is information?

Ans: Processed data is called information. It is usually the output of a process and is meaningful. The grade of a student in a particular subject in a semester precisely gives the complete information of the performance of a student.

Q3: What is the difference between data and information?

Ans: Data is raw facts whereas information is processed form of data. Data is given to the computer for input and information is received from the computer in the form of output.

Q4: Define data processing.

Ans: Data processing is any computer process that converts data into information or knowledge. The processing is usually assumed to be automated an running on a computer. It can also be defined "The manipulation of data to achieve some required objective is called data processing.

Q5: What is data manipulation?

Ans: Applying different operations on data is called data manipulation. This operation includes classification, calculation, sorting, and summarizing.

Q6: Define field?

Ans: Each column of a table in relational database is called a field. It represents the attributes of the entity. In table it is represented as a column header.

Q7: Define record.

Ans: A collection of related fields treated as a single unit is called record. If we collect different attributes of a student then it will be called student record.

Q8: Define file.

Ans: A collection of related records treated as a single unit is called a file. If we collect the records of students then collective it will be called a student file.

Q9: Name the file types from a usage point of view.

Ans: Types of files from usage point of view:

- Master file
- Transaction file
- Back up file

Q10: Name the file types from function point of view.

Ans: Types of files from a function point of view:

- Program files
- Data files

Q11: What is program file?

Ans: A file that contains software instructions. The source files and executable files are examples of program file.

Q12: What do you mean by file organization?

Ans: The physical arrangement of records of a file on secondary storage devices is called file organization. There are a lot of methods to store files on secondary storage. All the methods have their own advantages and disadvantages.

Q13: Name different types of file organization?

Ans: Different types of file organization:

- Sequential files
- Direct or random access files
- Indexed sequential files

Q14: What are sequential files?

Ans: In sequential files records are stored sequentially. These files store data as it arrives one after another in the sequence. These files take more time to store data. The best reason for using sequential files is there degree of portability to other program. The drawback to sequential files is that you only have sequential access to your data.

Q15: What are direct or random access files?

Ans: In random files, records are accessed directly without going through the preceding records. Record in this type of file is stored on a calculate address. In random file the data is stored exactly as it appears in memory, thus saving processing time.

Q16: What are indexed sequential files?

Ans: The data in this type of file can be accessed sequentially as well as randomly based on a key value. As records are stored in the form of key-pointer pair in the indexed file, therefore, it requires more space on the disk as compared to random files. It's processing is as fast as random files.

Q17: What is an index?

Ans: A database index is a data structure that improves the speed of operations on a database table. It is a table created by system developers or DBA containing the key attributes of the table for which the index is created. Indexes can be created using one or more columns of a database table, providing the bases for both rapid random lookups and efficient access of ordered records.

Q18: Define database?

Ans: A database is a structured collection of records or data that is stored in a computer so that a program can consult it to answer queries. The records retrieved in answer to queries become information that can be used to make decisions. The term database refers to the collection of related records or related data sets or files, and the software which is used to manipulate the database is database management system or DBMS.

Q19: What is database management system?

Ans: A collection of programs that enables you to store, modify and extract information from a database. There are many different types of DBMS, ranging from small systems that run on personal computers to huge systems that run on mainframes. The DBMS is used for large and medium sized organizations having different types of files for different purposes.

Q20: What is data dictionary?

Ans: DBMS uses a file to store the data definition or description of the structure of database is called data dictionary i.e. data about database. It holds the name, type, range of values, source, and authorization for access for each data elements in the organization's files and databases.

Q21: What do you mean by consistency constraint?

Ans: These are the rules that must be followed to enter data in the database e.g. in name field there must not be a numerical value, in date of birth field there must be a date.

Q22: What is meant by data independence?

Ans: Data independence means that data and application programs are separate from each other. Physical implementation of data is hidden from application program. DBMS lies between the application program and database, screen.

Q23: Name some large databases developed.

Ans: NADRA, Google, VISA and Amazon books database are a few commonly known large databases around the world.

Q24: Write down any two disadvantages of database system.

Ans: Disadvantages of database system:

- Additional training is required
- Additional hardware cost
- Additional software cost

Q25: What are the activities performed on data?

Ans: The user of database normally has the following facilities.

- Adding new files to the database
- Removing existing files from the database
- Inserting new data into the existing files
- Retrieving data from existing files
- Updating data in existing files
- Deleting data from existing files

Q26: Name the four major components of database system.

Ans: Four major components of database system:

Data:

Raw facts that become information after processing

Hardware:

The physical components of a system it includes:

- Input/output (I/O) Devices
- Primary storage
- Secondary storage devices
- I/O channels
- Processor

Software:

All kinds of programs which includes:

- User / System software
- Utilities

Personnel:

People who involve with the system:

- Programmer/Analyst
- End Users
- Database Administrator