

SHORT QUESTIONS

Q1. What is data?

Ans. Raw facts and figures are called data. It is used to perform certain operation 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 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 where as 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 and data manipulation.

Ans. Data processing is a computer process that converts data into information or knowledge. The processing is usually assumed to be automated and running on a computer. It can also be defined; the manipulation of data to achieve some required objectives is called data processing.

Applying different operations on data is called data manipulation. These operations include classification, calculation, sorting and summarizing.

Q.5 Name the four major components of database system

Ans. Data

Raw facts that becomes information after processing

- **Hardware**

The physical components of a system it includes

- I/O Devices
- Primary Storage
- Secondary Storage Devices
- I/O Channels
- Processor

- **Software**

All kind of programs which include

- User/System Software

- Utilities

- **Personnel**

People who involves with the system

- Programmer / Analyst
- End Users
- Database Administrator

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 a record. If we collect different attributes of a student then it will be called student's record.

Q8. Define file.

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

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

Ans.

1. Master file
2. Transaction file
3. Backup file.

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

Ans.

1. Program files
2. Data files.

Q11. What is program file?

Ans. A file that contains software instruction. 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. The different type of file organizations are.

1. Sequential files
2. Direct or random access files
3. Indexed sequential files.

Q13. Name different types of file organization?

Ans.

1. Sequential files
2. Direct or random access files

3. 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 their degree of portability to other programs. 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 calculated address. In random files 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 index file, therefore, it requires more space on the disk as compared to random files. Its 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 developer or DBA containing the key attributes of the table for which the index is created. Indices can be created using one or more columns of a database table, providing the basis 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 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 numeric value, in date of birth field there must be a date.

Q21. 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 element in the organization's files and databases.

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 programs. DBMS lies between the application program and database.

Q23. Name some large databases developed.

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

Q.24 Write down any two disadvantages of Database System.

Ans. Additional training is required.

Additional Hardware cost

Additional software cost.

Q.25 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