

Data Processing

Q1: Define data with example?

Data is a collection of facts, figures and statistics related to an object.

Example:- Students fill an admission form when they get admission in college. The form consists of raw facts about the students. These raw facts are student's name, fathurname, address etc. The purpose of collecting this data is to maintain the records of the students during their study period in the college.

Q2: Types of Data?

Data may be of the following types:

1: Numeric Data:-

Numeric data consist of numeric digit from 0 to 9 like 10, 245 or -5. The numeric type of data may either be positive or negative.

2: Alphabetic data:-

Alphabetic data consist of alphabetic letters from A to Z, a to z and blank specs e.g. "IT series" , "Islam" , and "Computer".

3: Alphanumeric Data:-

Alphanumeric data consists of numeric digits 0-9 , letters A-Z & all special characters like (+,%,@) .

4: Image Data:-

This type of data includes charts, graphs, pictures & drawings. This form of data is more comprehensive.

5: Audio Data:-

Sound is a representation of audio. Audio data includes music, speech or any type of sound.

6: Video Data:-

Video is a set of full motion images played at a high speed. Video is used to display action & movements.

Q3: What is information with example?

The processed data is called information. Information is meaningful, useful and organized. It is used for making decision.

Example:- The marks of the student in different subjects is the data. To calculate the total marks, the marks of different subjects are used as data and total marks is the information. Now, to calculate the average marks of the student, this information will be processed again. In this processing the information is used as data and average marks will be the information.

Q4: What is Data Processing and its function?

The [collection](#) and manipulation of items of data to produce [meaningful](#) information is called data processing.

Data processing functions

Data processing may involve various processes, including:

- [Validation](#) – Ensuring that supplied data is "clean, correct and useful."
- [Sorting](#) – "arranging items in some sequence and/or in different sets."
- [Summarization](#) – reducing detail data to its main points.
- [Aggregation](#) – combining multiple pieces of data.
- [Analysis](#) – the "collection, organization, analysis, interpretation and presentation of data."
- [Reporting](#) – list detail or summary data or computed information.
- [Classifying](#); separates data into various categories.

Q5:Types of data processing

By application area

Scientific data processing

Scientific data processing "usually involves a great deal of computation (arithmetic and comparison operations) upon a relatively small amount of input data, resulting in a small volume of output.

Commercial data processing

Commercial data processing "involves a large volume of input data, relatively few computational operations, and a large volume of output. Accounting programs are the prototypal examples of data processing applications. [Information systems \(IS\)](#) is the field that studies such organizational computer systems.

Data analysis

"[Data analysis](#) is a body of methods that help to describe facts, detect patterns, develop explanations, and test hypotheses."^[4] For example, data analysis might be used to look at sales and customer data to "identify connections between products to allow for cross selling campaigns.