# Data

- Data is an individual unit that contains raw material with do not carry any specific meaning.
- Data is usually in the form of letters, numbers, characters, etc..
- Data is the low -level knowledge

# Information

- Information is a dependent data.
- Information is a group of data that collectively carries a logical meaning.
- It is a second-level knowledge.
- It is independent on data.

# How data is useful for us?

- Describing.
- Diagnosing.
- Predicting.
- Prescribing.

# Big Data

- Big data is also a data but with huge size.
- It is a data with so large size and complexity .
- Big data is also a data but with huge size.
- Big data is the set of technologies created a store , analyze and manage this bulk data.

# Structured Data

- Structured data stands for information that is highly organized, factual, and to-the- point.
- Quantitative.
- Relational databases.
- Several predetermined formats.

# Semi-Structured Data

- Textual data files with an apparent pattern, enabling analysis.
- E.g. Spreadsheets and XML files
- Loosely-coupled data models.

## Unstructured Data

- Unstructured data doesn't have any predefined structure to it and comes in all its diversity of forms.
- Qualitative.
- Non-relational databases.
- A huge array of formats.

## Quantitative Data

- Deals with numbers and statistics.
- Requires many respondents.
- Data collection methods include Surveys, experiments, and observations.
- Data analysis methods include finding common patterns in the data using tools such as R, SPSS, Excel etc.

# Qualitative Data

- Deals with words and meanings.
- Requires few respondents.
- Data collection methods include Interviews, focus groups, case studies and literature review.
- Data analysis methods include thematic analysis, discourse analysis and content analysis.

# Different V’s of Big Data

- Volume
- Velocity
- Variety
- Veracity
- Value

# Popular Tools Used in Big Data

- Hadoop
- HPCC
- Storm
- Cassandra
- Qubole
- MongoDB
- Tableau
- Datawrapper

# Types of Data

- Quantitative Data.
- Qualitative Data.
- Nominal Data.
- Ordinal Data.
- Discrete Data.
- Continuous Data