**Apa itu data analytics** -> definisi suatu proses mengesktrasi value dari data yang besar.

can be defined as the way to extract value out of big data.

Process and practice of exploring data to answer questions, extract insights, identify trends, and communicate findings to solve business problems

**Apa itu big data** -> big data is data sets that are too large or complex to be dealt with by traditional data-processing application software

Kenapa big data itu penting -> Leveraging a big data analytics solution helps organizations to unlock the strategic values and take full advantage of their assets

**Task Data Analytics**:

1. Cleaning and organizing raw data
2. Verifying the source and relevance of the raw data used
3. Utilizing descriptive statistics to provide and interpretation of the data
4. Identifying and analysing any trends
5. Create visual representations of the data

**Why start with data analysis:**

1. Easy to start
2. Profession in demand
3. Versatile
4. Competitive salary
5. Decision making
6. Work with C-levels
7. Growth opportunity
8. Have Freelance project

**Why learn Data Analytics:**

1. Huge digital talent gap
2. Data analytics is one of the most in demand job
3. Demand for analysis skills

**Common Data Analytics Role HR Process**

1. Application & HR Interview
2. Technical Case Study (Data preparation, data manipulation, data visualization, presentation to management)
3. User Technical Interview
4. Management Panel Interview

**Apa aitu Data?**

Data is number, character, images, or other method of recording, in a form which can be assessed to make a determination or decision about a specific action.

Many believe that data on its has no meaning, only when interpreted does it take on meaning and become information.

**Data vs Information**

The number of 1,099 is one **example of data.**

“The number of children who were determined to have a disability prior to enrolment in migrant and seasonal head start for the 2004 enrolment year is 1,099” **-> is information**

**Data Analytics**

1. Data analytics is the science of extracting trend, patterns, and relevant information from raw data to draw conclusions.
2. It has multiple approaches, multiple dimensions, and diverse techniques.
3. In addition to making business decisions, it is used by data scientists and researchers to verify scientific models and theories.

**Why Data Analytics:**

1. It helps in decision making and effective business operations
2. Analyzing data, gaining profits, making better use of resources, and improving managerial operations.

**Step Analytics:**

1. Data Collection
2. Data Preparation
3. Data Visualization
4. Data Analysis
5. Data Stroytelling

**The 5Vs of Big Data**

Diagram

Description automatically generated

**Descriptive Analytics**

1. Descriptive analytics is designed to access information about the past
2. Its purpose is to summarize the findings, focuses on the summarized view of facts
3. Techniques: Data Mining, Data Aggregation
4. Tools: Excel, SPSS, Matlab
5. Example: Company Report

**Diagnostic Analytics**

1. Diagnostic analytics helps you identify why something happened in the past.
2. It takes a deeper look at data to understand the root cause of events, understanding of causal relationships and sequences.
3. It has limited ability to provide actionable insights.
4. Techniques: Data Mining, Data Discovery, Correction, Drilldown.
5. Example: Identify why sales representative has sold fewer items than usual.

**Predictive Analytics**

1. Predictive uture outcomes in terms of probability of an event to occur
2. Tools: Machine Learning Algorithm (random forest, SVM), Python, R
3. Example:

* Identifying target audience for a promotional campaign
* Forecasting weather, plan-failure prediction, and travel products recommender system

**Prescriptive Analytics**

1. Prescriptive analytics provides the solution for a prediction in the future.
2. It creates and updates the relationship between acton and outcome using a feedback system
3. It is the final frontier of advanced analytics
4. Example: allow marketers and sales staff to become more precise with their campaigns and customer outreach.

**Data Warehouse**

A collection of corporate information and data derived from operational system and external data sources.

Diagram

Description automatically generated

Diagram

Description automatically generated

Graphical user interface

Description automatically generated