Communicate clearly with visuals Considerations when laying out a Glossary terms from week 2 dashboard Review: Visualize results Video: Wrap-up
1 min **Dimension (visualization):** A qualitative data type that can be used to categorize data Reading: Glossary terms from week **Encoding:** The process of translating dimensions and measures into visual representations of the data Measure: A quantitative data type that can be either discrete or continuous Quiz: Weekly challenge 2 **Object-level permission:** A privacy setting that controls the availability of a single item in a dashboard [Optional] Review Google Data **Pre-aggregation:** The process of performing calculations on data while it is still in the database **Analytics Certificate content Processing speed:** How quickly a program can update and load a specified amount of data **Public availability:** A privacy setting that allows anyone to access a dashboard **Row-level permission:** A privacy setting that controls the availability of specific rows of a table or dataset in a **Trade-off:** Balancing various factors, often by prioritizing one element while sacrificing another, in order to arrive at the best possible result Terms and definitions from previous weeks **Accuracy:** An element of quality testing used to confirm that data conforms to the actual entity being measured or Application programming interface (API): A set of functions and procedures that integrate computer programs, forming a connection that enables them to communicate **Applications software developer:** A person who designs computer or mobile applications, generally for consumers Attribute: In a dimensional model, a characteristic or quality used to describe a dimension Audience problem: A dashboard issue caused by failing to adequately consider the needs of the user Business intelligence (BI): Automating processes and information channels in order to transform relevant data into actionable insights that are easily available to decision-makers **Business intelligence governance:** A process for defining and implementing business intelligence systems and frameworks within an organization Business intelligence monitoring: Building and using hardware and software tools to easily and rapidly analyze data and enable stakeholders to make impactful business decisions Business intelligence stages: The sequence of stages that determine both BI business value and organizational data maturity, which are capture, analyze, and monitor **Business intelligence strategy:** The management of the people, processes, and tools used in the business intelligence **Business rule:** A statement that creates a restriction on specific parts of a database Columnar database: A database organized by columns instead of rows **Combined systems:** Database systems that store and analyze data in the same place **Compiled programming language:** A programming language that compiles coded instructions that are executed directly by the target machine **Completeness:** An element of quality testing used to confirm that data contains all desired components or measures **Conformity:** An element of quality testing used to confirm that data fits the required destination format **Contention:** When two or more components attempt to use a single resource in a conflicting way **Consistency:** An element of quality testing used to confirm that data is compatible and in agreement across all systems Data analysts: People who collect, transform, and organize data Data availability: The degree or extent to which timely and relevant information is readily accessible and able to be put to use **Data dictionary:** A collection of information that describes the content, format, and structure of data objects within a database, as well as their relationships Data governance professionals: People who are responsible for the formal management of an organization's data **Data integrity:** The accuracy, completeness, consistency, and trustworthiness of data throughout its life cycle **Data lake:** A database system that stores large amounts of raw data in its original format until it's needed **Data lineage:** The process of identifying the origin of data, where it has moved throughout the system, and how it has transformed over time **Data mapping:** The process of matching fields from one data source to another **Data mart:** A subject-oriented database that can be a subset of a larger data warehouse **Data maturity:** The extent to which an organization is able to effectively use its data in order to extract actionable **Data model:** A tool for organizing data elements and how they relate to one another Data partitioning: The process of dividing a database into distinct, logical parts in order to improve query processing and increase manageability **Data pipeline:** A series of processes that transports data from different sources to their final destination for storage and analysis Data problem: A dashboard issue caused by the data being used **Data visibility:** The degree or extent to which information can be identified, monitored, and integrated from disparate internal and external sources **Data warehouse:** A specific type of database that consolidates data from multiple source systems for data consistency, accuracy, and efficient access **Data warehousing specialists:** People who develop processes and procedures to effectively store and organize data **Database migration:** Moving data from one source platform to another target database **Database performance:** A measure of the workload that can be processed by a database, as well as associated costs **Deliverable:** Any product, service, or result that must be achieved in order to complete a project **Developer:** A person who uses programming languages to create, execute, test, and troubleshoot software **Dimension (data modeling):** A piece of information that provides more detail and context regarding a fact **Dimension table:** The table where the attributes of the dimensions of a fact are stored **Design pattern:** A solution that uses relevant measures and facts to create a model in support of business needs **Dimensional model:** A type of relational model that has been optimized to quickly retrieve data from a data **Distributed database:** A collection of data systems distributed across multiple physical locations **ELT (extract, load, and transform):** A type of data pipeline that enables data to be gathered from data lakes, loaded into a unified destination system, and transformed into a useful format ETL (extract, transform, and load): A type of data pipeline that enables data to be gathered from source systems, converted into a useful format, and brought into a data warehouse or other unified destination system Experiential learning: Understanding through doing Fact: In a dimensional model, a measurement or metric Fact table: A table that contains measurements or metrics related to a particular event Foreign key: A field within a database table that is a primary key in another table (Refer to primary key) Fragmented data: Data that is broken up into many pieces that are not stored together, often as a result of using the data frequently or creating, deleting, or modifying files **Functional programming language:** A programming language modeled around functions $\textbf{Google DataFlow:} \ A \ server less \ data-processing service \ that \ reads \ data \ from \ the \ source, \ transforms \ it, \ and \ writes \ it \ in \ and \ writes \$ the destination location Index: An organizational tag used to quickly locate data within a database system Information technology professionals: People who test, install, repair, upgrade, and maintain hardware and software Integrity: An element of quality testing used to confirm that data is accurate, complete, consistent, and trustworthy throughout its life cycle **Interpreted programming language:** A programming language that uses an interpreter, typically another program, to read and execute coded instructions **Iteration:** Repeating a procedure over and over again in order to keep getting closer to the desired result **Key performance indicator (KPI):** A quantifiable value, closely linked to business strategy, which is used to track progress toward a goal **Logical data modeling:** Representing different tables in the physical data model **Low-fidelity mockup:** A simple draft of a visualization that is used for planning a dashboard and evaluating its **Metric:** A single, quantifiable data point that is used to evaluate performance **Object-oriented programming language:** A programming language modeled around data objects **OLAP (Online Analytical Processing) system:** A tool that has been optimized for analysis in addition to processing and can analyze data from multiple databases **OLTP (Online Transaction Processing) database:** A type of database that has been optimized for data processing instead of analysis **Optimization:** Maximizing the speed and efficiency with which data is retrieved in order to ensure high levels of database performance **Portfolio:** A collection of materials that can be shared with potential employers **Primary key:** An identifier in a database that references a column or a group of columns in which each row uniquely identifies each record in the table (Refer to foreign key) **Project manager:** A person who handles a project's day-to-day steps, scope, schedule, budget, and resources **Project sponsor:** A person who has overall accountability for a project and establishes the criteria for its success **Python:** A general purpose programming language **Quality testing:** The process of checking data for defects in order to prevent system failures; it involves the seven validation elements of completeness, consistency, conformity, accuracy, redundancy, integrity, and timeliness Query plan: A description of the steps a database system takes in order to execute a query **Redundancy:** An element of quality testing used to confirm that no more data than necessary is moved, transformed, **Resources:** The hardware and software tools available for use in a database system **Response time:** The time it takes for a database to complete a user request **Row-based database:** A database that is organized by rows **Separated storage and computing systems:** Databases where data is stored remotely, and relevant data is stored locally for analysis **Single-homed database:** Database where all of the data is stored in the same physical location

Schema validation: A process to ensure that the source system data schema matches the target database data schema

Snowflake schema: An extension of a star schema with additional dimensions and, often, subdimensions **Star schema:** A schema consisting of one fact table that references any number of dimension tables **Strategy:** A plan for achieving a goal or arriving at a desired future state

Subject-oriented: Associated with specific areas or departments of a business **Systems analyst:** A person who identifies ways to design, implement, and advance information systems in order to ensure that they help make it possible to achieve business goals **Systems software developer:** A person who develops applications and programs for the backend processing systems used in organizations

Tactic: A method used to enable an accomplishment **Target table:** The predetermined location where pipeline data is sent in order to be acted on **Throughput:** The overall capability of the database's hardware and software to process requests

Timeliness: An element of quality testing used to confirm that data is current

Tool problem: A dashboard issue involving the hardware or software being used **Transferable skill:** A capability or proficiency that can be applied from one job to another

Vanity metric: Data points that are intended to impress others, but are not indicative of actual performance and, therefore, cannot reveal any meaningful business insights

Workload: The combination of transactions, queries, data warehousing analysis, and system commands being processed by the database system at any given time

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