

WORKSHEET 1 SQL

Q1 and Q2 Answers

1. A, D
2. A, B

Q3 to Q10 Answers

3. B
4. B
5. A
6. C
7. B
8. B
9. D
10. C

Q11 to Q15 Answers

11. A data warehouse is a central repository of information that can be analyzed to make more informed decisions. Data flows into a data warehouse from transactional systems, relational databases, and other sources, typically on a regular cadence. Business analysts, data engineers, data scientists, and decision-makers access the data through business intelligence (BI) tools, SQL clients, and other analytics applications.
12. OLTP and OLAP: The terms look similar but refer to different systems. Online transaction processing (OLTP) captures, stores, and processes data from transactions in real-time. Online analytical processing (OLAP) uses complex queries to analyze aggregated historical data from OLTP systems.
13. **Subject-oriented:** A data warehouse typically provides information on a topic (such as a sales inventory or supply chain) rather than company operations.

Time-variant: Time variant keys (e.g., for the date, month, time) are typically present.

Integrated: A data warehouse combines data from various sources. These may include a cloud, relational databases, flat files, structured and semi-structured data, metadata, and master data. The sources are combined in a manner that's consistent, relatable, and ideally certifiable, providing a business with confidence in the data's quality.

Persistent and non-volatile: Prior data isn't deleted when new data is added. Historical data is preserved for comparisons, trends, and analytics.

14. A star schema is a database organizational structure optimized for use in a data warehouse or business intelligence that uses a single large fact table to store transactional or measured data, and one or more smaller dimensional tables that store attributes about the data. It is called a star schema.
15. SETL provides two basic aggregate data types: unordered sets, and sequences (the latter also called tuples). The elements of sets and tuples can be of any arbitrary type, including sets and tuples themselves. *Maps* are provided as sets of *pairs* (i.e., tuples of length 2) and can have arbitrary domain and range types. Primitive operations in SETL include set membership, union, intersection, and power set construction, among others. SETL provides quantified boolean expressions constructed using the universal and existential quantifiers of first-order predicate logic. SETL provides several iterators to produce a variety of loops over aggregate data structures.