Tutorial Sheet: Data Schemas and Data Sets

No.	Question	Options	Answer	Explanation
1	What is another name for a data set in SQLite?	A) Relation B) Row C) Column D) Schema	A) Relation	In SQLite, a data set is often referred to as a relation or table.
2	What term is used to describe the individual items in a data set?	A) Attributes B) Records C) Columns D) Schema	B) Records	Individual items in a data set are called records or rows.
3	Which of the following describes a single unit of information in a record?	A) Schema B) Entry C) Value D) Column	C) Value	Each piece of data within an entry is called a value.
4	What do the attributes in a data set define?	A) The types of columns B) The structure and meaning of data C) The encryption method D) None of the above	B) The structure and meaning of data	Attributes define the structure and meaning of each entry in the data set.
5	In a table, which term is equivalent to attributes?	A) Records B) Rows C) Columns D) Values	C) Columns	Attributes are often called columns when data sets are presented as tables.
6	What is the term used for the collection of attributes that define the structure of a data set?	A) Schema B) Column C) Row D) Record	A) Schema	The schema defines the structure and meaning of each entry in the data set.
7	Which of the following is NOT a type of value found in a data set?	A) Timestamp B) Record C) Number D) Text	B) Record	A record is a collection of values, not a type of value itself.
8	How are attributes represented in a NoSQL database?	A) Columns B) Documents C) Rows D) Schemas	B) Documents	Attributes are often identified and associated with values in document form in NoSQL databases.
9	Which representation is used for entries in mathematical manipulations?	A) Column B) Schema C) Tuple D) Document	C) Tuple	A tuple or vector representation is used for mathematical manipulation of data entries.
10	What constraint ensures that no record	A) NOT NULL B) UNIQUE C) FOREIGN KEY D) CHECK	A) NOT NULL	The NOT NULL constraint ensures that every record in a

No.	Question	Options	Answer	Explanation
	in a column can be empty?			column must have a value.
11	In what scenario are attributes not explicitly labeled?	A) In a table format B) In a schema C) In a tuple/vector D) In a document-based database	C) In a tuple/vector	In tuple or vector formats, attributes are omitted and inferred from context.
12	What term refers to the vertical arrangement of values under a specific attribute?	A) Row B) Schema C) Column D) Entry	C) Column	A column refers to the values under a specific attribute across multiple entries in a data set.
13	Which of these describes the entire structure and layout of a data set?	A) Row B) Schema C) Column D) Value	B) Schema	The schema defines the entire structure and layout of a data set.
14	What does a schema sometimes specify about the values in a column?	A) Their encryption level B) Their constraints C) Their row position D) Their record size	B) Their constraints	A schema may specify constraints like the value type and whether the value can be null.
15	Which type of database commonly uses document-based representations of entries?	A) Relational database B) NoSQL database C) Vector database D) Data warehouse	B) NoSQL database	NoSQL databases often use document-based entries for flexible data representation.
16	What kind of constraint prevents duplicate values in a column?	A) NOT NULL B) UNIQUE C) CHECK D) PRIMARY KEY	B) UNIQUE	The UNIQUE constraint ensures that all values in a column are distinct.
17	What data type would most likely be used for a timestamp in a schema?	A) String B) Integer C) Date/Time D) Boolean	C) Date/Time	The timestamp attribute would typically use a Date/Time data type to represent time-related data.
18	Which attribute example shows that the schema defines value types in a column?	A) Quantity as numbers B) Product name as columns C) Record as entries D) None of the above	A) Quantity as numbers	The schema defines the value type of an attribute like quantity as numeric.
19	In a structured database, what is used to organize data values under the same attribute label?	A) Rows B) Columns C) Documents D) Tuples	B) Columns	In structured databases, columns organize data values under the same attribute label.

No.	Question	Options	Answer	Explanation
20	Why is a schema important in the context of data sets?	A) It allows data manipulation. B) It defines the structure, attributes, and constraints. C) It encrypts data. D) It compresses data.	B) It defines the structure, attributes, and constraints.	A schema is crucial for structuring, defining attributes, and managing constraints in a data set.

| | | A) It allows data manipulation. B) It defines the structure, attributes, and constraints. C) It encrypts data. D) It compresses data. | B) It defines the structure, attributes, and constraints. | A schema is crucial for structuring, |