Unit1-Introduction to Computer Fundamentals: Definition of Relational Database, Mode of data transfer

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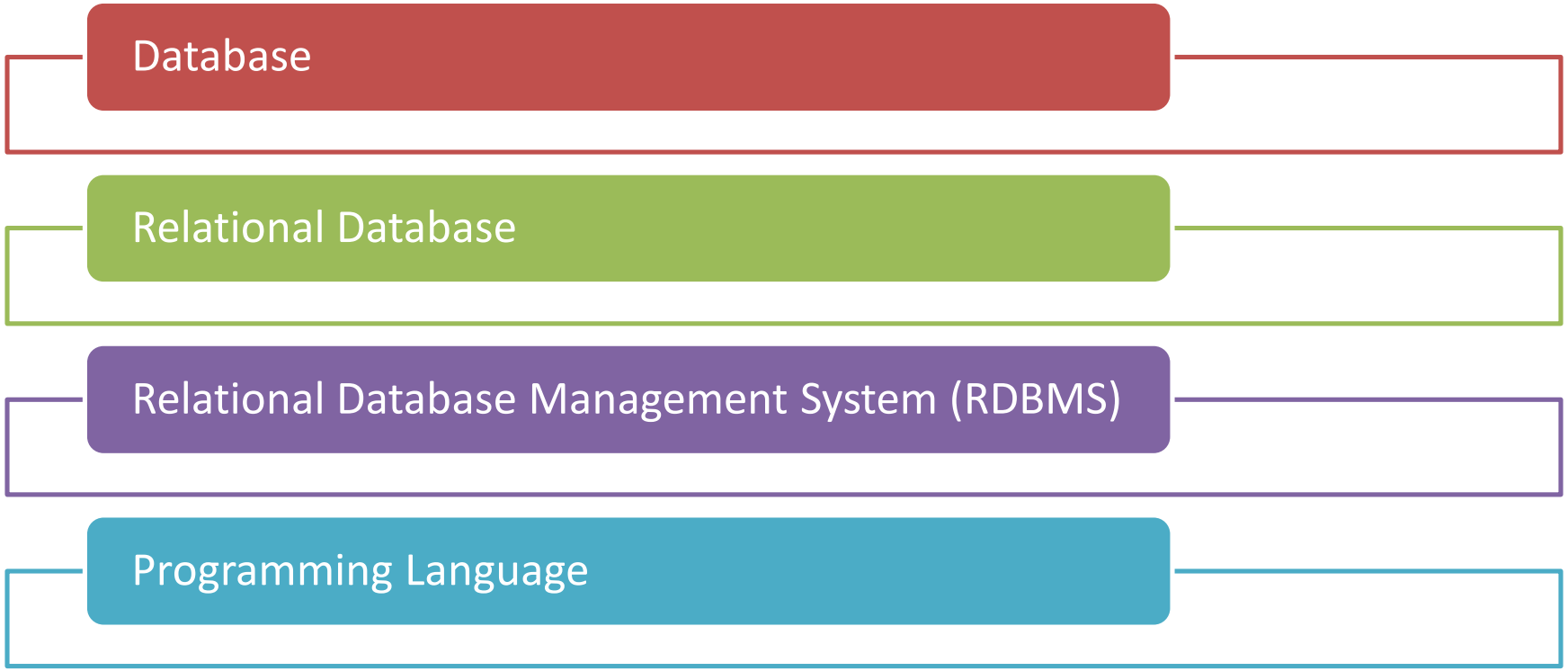
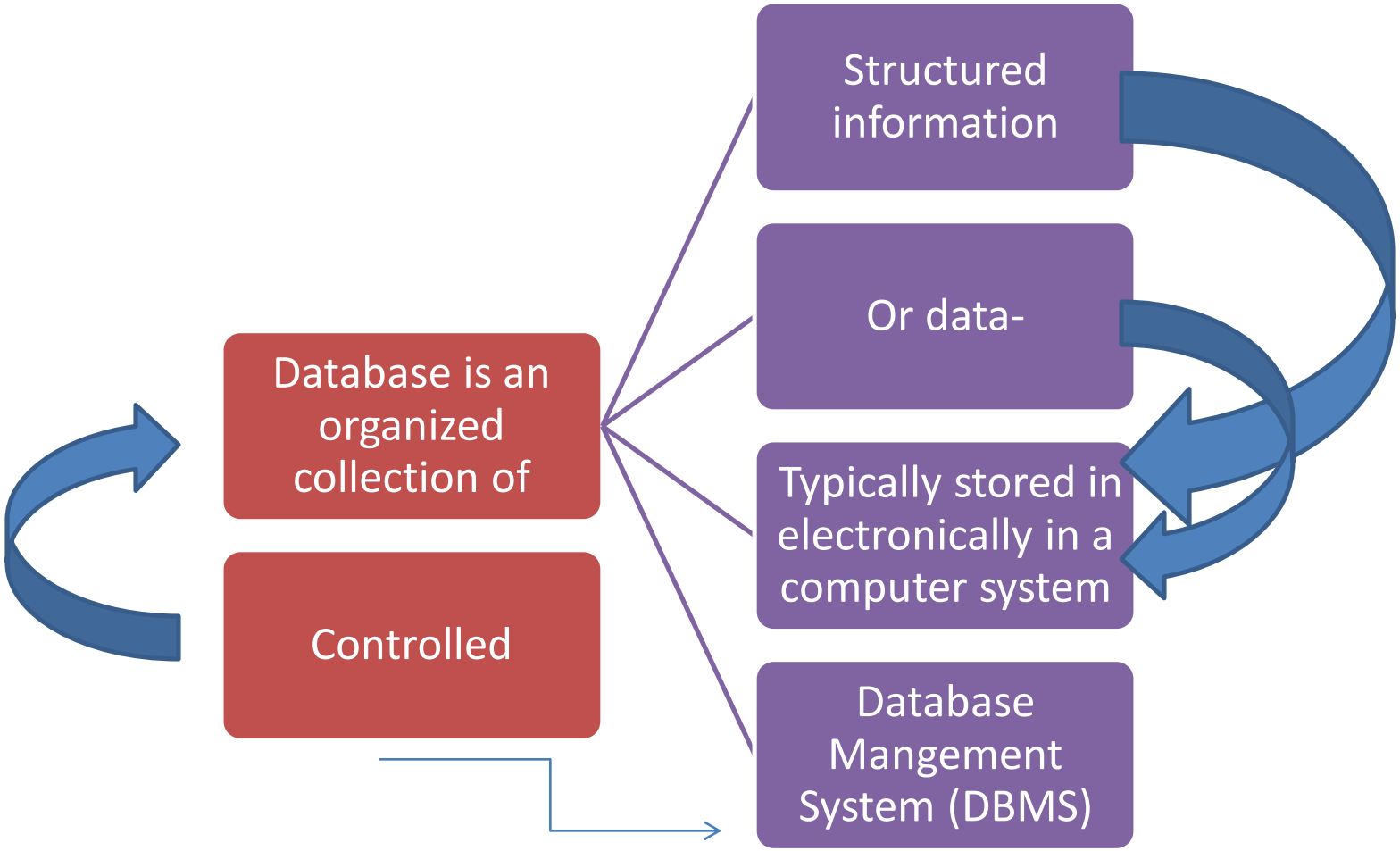
Definition of Relational Database, Mode of data transfer



Database


Structured information
Or data-
Typically stored in electronically in a computer system
Database Mangement System (DBMS)
Database is an organized collection of
Controlled

Relational Database

- Relational Database is a type of database, that stores and provide access to data points that are related to one another.
- Relational databases are based on the relational model, an intuitive, straightforward way of representing data in tables.
- In a relational database, each row in the table is a record with a unique ID called the *key*. The columns of the table hold attributes of the data, and each record usually has a value for each attribute, making it easy to establish the relationships among data points

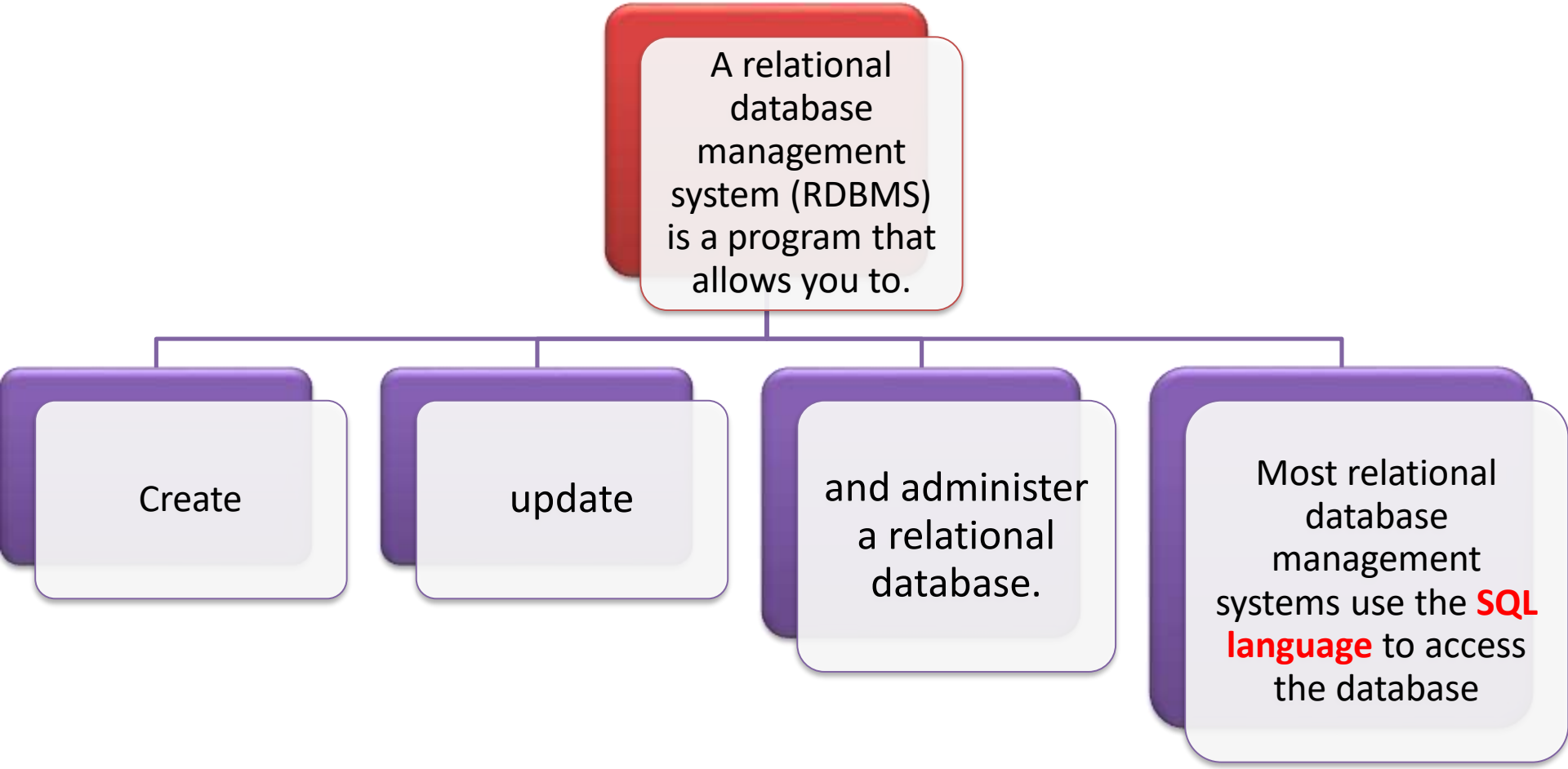
Relational Database

name	age	country
Natalia	11	Iceland
Ned	6	New York
Zenas	14	Ireland
Laura	8	Kenya

Relational Database

- Relational Databases are structured- the data table, views, indexes. This separation means that database administrators can manage physical data storage without affecting access to that data as a logical structure. For example, renaming a database file does not rename the tables stored within it.

Relational Database Mangement System (RDBMS)



SQL (Structured Query Language)

- SQL (**S**tructured **Q**uery **L**anguage) is a programming language used to communicate with data stored in a relational database management system. SQL syntax is similar to the English language, which makes it relatively easy to write, read, and interpret.
- Many RDBMS use SQL (and variations of SQL) to access the data in tables. For example, SQLite is a relational database management system. SQLite contains a minimal set of SQL commands (which are the same across all RDBMSs). Other RDBMS may use other variants.

Popular Relational Database Management System

1. MySQL
2. PostgreSQL
3. SQLite

SQLite

- SQLite is a popular open source SQL database. It can store an entire database in a single file. One of the most significant advantages this provides is that all of the data can be stored locally without having to connect your database to a server.
- SQLite is a popular choice for databases in cellphones, PDAs, MP3 players, set-top boxes, and other electronic gadgets.

MySQL

- MySQL is the most popular open source SQL database. It is typically used for web application development, and often accessed using PHP.
- The main advantages of MySQL are that it is easy to use, inexpensive, reliable (has been around since 1995), and has a large community of developers who can help answer questions.
- Some of the disadvantages are that it has been known to suffer from poor performance when scaling, open source development has lagged since Oracle has taken control of MySQL, and it does not include some advanced features that developers may be used to.

PostgreSQL

- PostgreSQL is an open source SQL database that is not controlled by any corporation. It is typically used for web application development.
- PostgreSQL shares many of the same advantages of MySQL. It is easy to use, inexpensive, reliable and has a large community of developers. It also provides some additional features such as foreign key support without requiring complex configuration.
- The main disadvantage of PostgreSQL is that it is slower in performance than other databases such as MySQL. It is also less popular than MySQL which makes it harder to come by hosts or service providers that offer managed PostgreSQL instances.

Thank You

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