1. The theoretical basis of relational databases is the **relational data model**, where data tables are represented as relations, tuples and attributes. Relations must fulfill domain and key constraints to be able to establish relationships and ensure valid database state.
2. A domain of possible values is a set of **atomic** values that is accepted by an attribute **in type and format**. It is used to describe the data type of values in a column by preventing users from entering an invalid data type that is outside the domain via a **domain constraint**.
3. Degree of STUDENT relation: 4

Attributes of STUDENT relation: 4

1. Ordering in a relation is important to **make information visible and sensible** to end users. Though it is optional to order the position of attributes in a relation, the **ordering of values for a new tuple** in a relation is important to ensure that each value **conforms to the domains** of their corresponding attributes, which is also how ordering is used to display relation as tables.
2. NULL value constraints help maintain data integrity by **preventing users from leaving a NULL value** in an attribute that must contain a value. Types of data such as candidate keys that were not chosen as the primary key, like IC number or phone numbers, might use these constraints to prevent users from leaving out mandatory data.
3. Referential integrity is the constraint on an attribute that **ensures valid references to a tuple** from another relation. To relate it with the UPDATE operation, if users try to update the value of a referential integrity constrained attribute to a key that is non-existent in the referenced relation, referential integrity errors will be thrown.
4. Primary key constraint is the constraint on the primary key of a relation that **ensures that each key value is not NULL and unique**. To relate it with the UPDATE operation, if users try to UPDATE a tuple’s key value to NULL or an existing key value, primary key constraint errors will be thrown.