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Lab-Two: CAP Database
CMPT 308
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2. Explain the distinctions among the terms:
primary key- uniquely identifies each record in a database table; “chosen” candidate key; can only have one in a table
candidate key- superkey that has minimal number of columns; can have multiple columns.
superkey- column or a set of columns that ensures that every row will be unique

3. Data Types:
A data type is a classification of data which tells the interpreter how the programmer intends to use the data. It defines the operations that can be don on the data, the meaning of it, and the way values can be stored. An example of a data table can be an Employee table. Exemplary columns are Emp_ID, Emp_Name, City, Dept_ID. The Dept_ID can lead to another table called Departments that will contain Dept_ID and Dept_Name. These fields are not nullable. There is a unique employee ID for each employee, same with name, city, and Dept_ID. The Dept_name is not nullable either because each ID will have a designated department such as Accounting, Design, Finance, etc and each employee must have a Dept_ID.

4. Relational rules:
a. “first normal form” rule: there cannot be any data with its own structure at the intersection of a row and column. It cannot be a list, or multiple or multiple values (unless there is a data type for it). This rule helps remove ambiguity.
b. “access rows by content only”: a user cannot simply say “give me row 4”, they must give a more specific row or column such as “give me orderNumber 1010.” This is important because data always changes, so a row 4 now may not be a row 4 later on, but there will always be one orderNumber 1010.
c. “all rows must be unique” rule: buts a constraint that every element of a set is unique. This rule is important because duplicate data can lead to inconsistency which can lead to major problems in the future.