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Database Systems – CMPT 308 114

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Lab 2

1. Primary keys are keys in the specific table that identifies a row (record) in the table. For example, the primary key in the Products table is named “pid”. The primary key is the way the database identifies each record. A candidate key is a necessary key for the attributes to work. Without the candidate key the information is cannot be accessed. A superkey is a key that be removed and still remain true.
2. The data types in a database are string, integer, Boolean, array, and object. A string is very similar to a sentence, meaning it can contain any character, null. An integer in a database is the same thing as an integer in Mathematics, meaning it doesn’t have any decimals attached to it. A Boolean is a data type with a true or false value (1 or 0). An array is a very similar to a list, an array could be a list of integers, strings, Booleans, objects, null, or even other arrays.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Age** | **Sex** | **21 or Older?** |
| Joe | 21 | M | TRUE |
| Jane | 20 | F | FALSE |
| Annie | 19 | F | FALSE |

1. The first of the three relational rules is first normal rule. The first normal is states that all fields are atomic, meaning that no field can be divided into smaller values. An example of this is if a field had a table inside of it (i.e. if the Name field had a table inside for first and last name). This rule is important because it doesn’t allow tables to be built inside of one another, making it more and more complicated. The second rule is the access rows by content only. This rule allows users to search for something by saying “show me where xxx shows up”. The second rule does not allow the user to say “Show me what is at column x and row y”. This rule is important because it gives context to queries and allows the user to get the information he or she intended on. The last rule is the all rows are unique rule. This rule makes each row different than each other. For example, in a database there is not two rows that have the same entity. This rule is important so that there are no duplications in a table. Duplications can cause errors in reports because one entity could have other key (necessary) information about it, but the second one might not.