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Database Management

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Relational Rules

The first normal form rule is the condition in which every component of every tuple is an atomic value.That data must be in the database table and there must not be any repeating groups of columns. An example of this rule would be to create another table in my previous example of my Ski Shop database (referenced in my Data Types Short Essay) for product prices. For example, if there was an additional table labeled product prices, I could give each price a value and set key, then I would be able to label said key alongside the product in another column to avoid multiple values in the same row. In my example the cost of footware and headgear are the same. Rather than putting footware and headgear in the same row, I separated it and just labeled it with the correct key. This is important because it makes searching for the products a lot easier. Having certain products jumbled together will make it difficult to find, change, and edit later on. Multiple values in a given row isn't the most organized way to go about the database to begin with either, it's much more beneficial to just create another table need be.

Prices	
15000	$150.00
7000	$70.00
6500	$65.00

Product Price	
15000	Skiing Equipment
7000	Outerware
6500	Head Gear
6500	Footware

The access rows by content only rule is the condition in which we can only access rows by their content / attributes that already exist in them. There's no order or organizational method to the rows. An example of this would be that in the product prices table, you cannot look for information by referring to the second row, you would have to be specific and refer to the content within that row in order to achieve your desired result. The user would have to specifically reference the value / key of 7000 to access the data and information of that row. This is important because it helps to specify what exactly the users wants the query to look for, being vague and just saying row two isn't enough because what do you want from the second row? What information or data are you specifically looking for?

The third rule, all rows must be unique rule, is that two rows in a table cannot be identical in a column. There's no purpose for there to be duplicates because each row must be unique with its own set of identifiers. An example would be repeating the footware key and it's price in the product price table. There's no point in repeating that data because it would be a waste and redundant, hence why the rule is so important.