

For this program I will be using a relational database to store my data. A relational database stores data in tables. Tables are organized into columns, and each column stores one type of data (integer, real number, character strings, date, and so on...). The data for a single “instance” of a table is stored as a row. For example, the user table would have columns such as EmployeeNumber, FirstName, and LastName, and a row within that table would be something like {1701, “John”, “Love”}. My data structure I will work with will be arrays. I will work with arrays because it is one of the simplest and most widely used data structure. Other data structures like stacks and queues are derived from arrays. With arrays each data element is assigned a positive numerical value called the index, which corresponds to the position of that item in the array. The majority of languages define the starting index of the array as 0.

The following are the two types of arrays:

- One-dimensional arrays (as shown above)
- Multi-dimensional arrays (arrays within arrays)

#### Basic Operations on Arrays

- Insert—Inserts an element at given index
- Get—Returns the element at given index
- Delete—Deletes an element at given index
- Size—Get the total number of elements in array

users	
id	int
unserName	int
password	varchar
fName	varchar
lName	varchar
access	varchar
roomName	varchar

rooms	
id	int
roomName	varchar
classRoomId	int

supplies	
id	int
itemName	varchar
classRoomId	int

bathroom	
id	int
bathroomStatus	varchar

student	
id	int
fName	varchar
mName	varchar
lName	varchar
classRoomId	int

foodLevel	
id	int
amount	varchar

