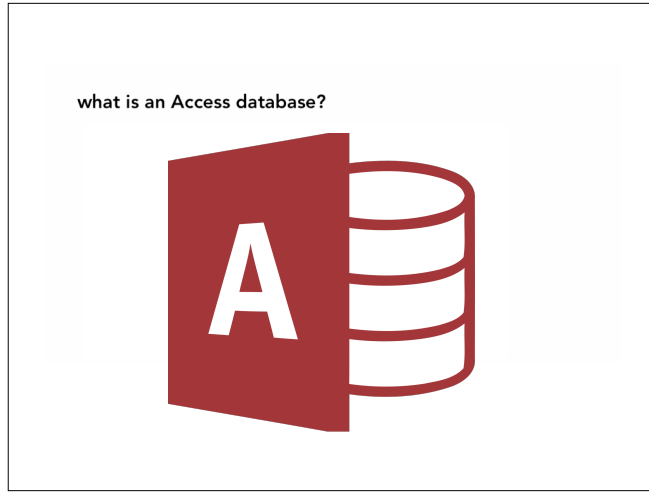
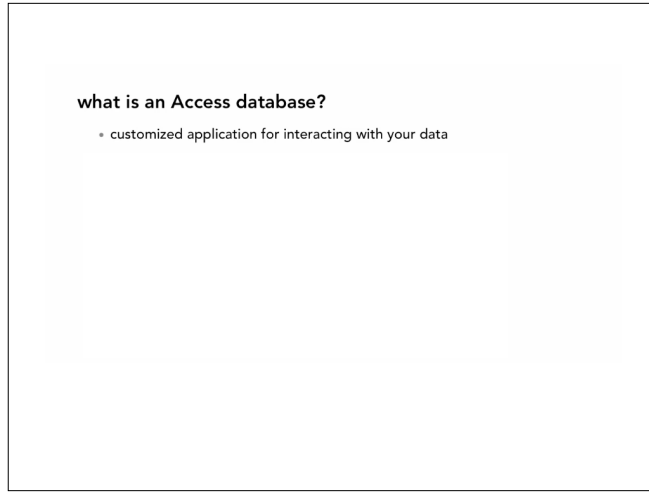
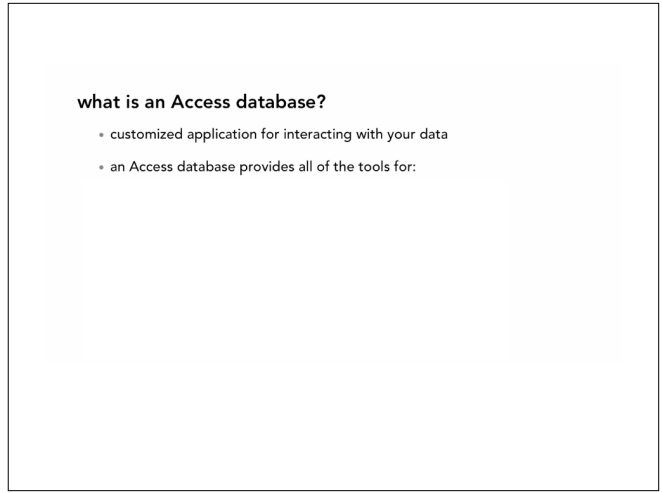


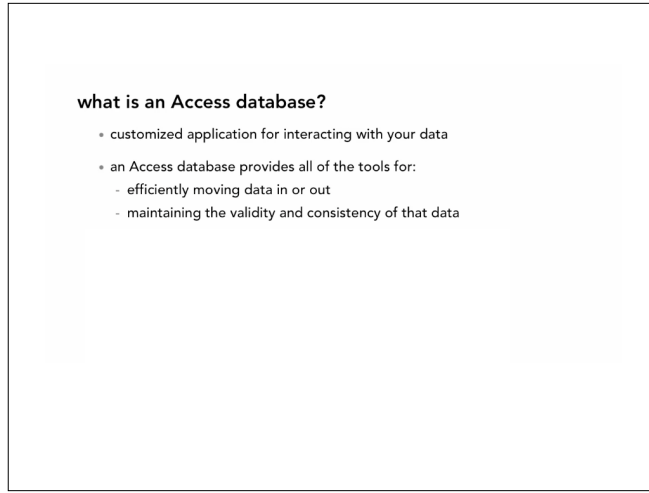
So what is an Access database? An Access database is not just a place you store your data;



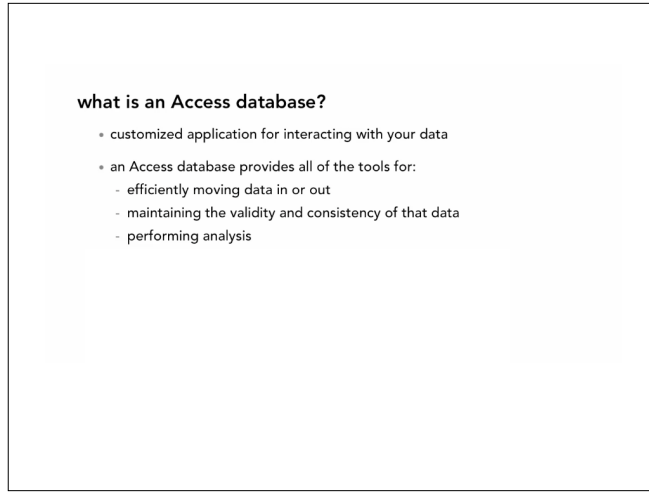
it’s a tool for creating custom application that wraps the entire interaction. Between you, potentially your team, and the data



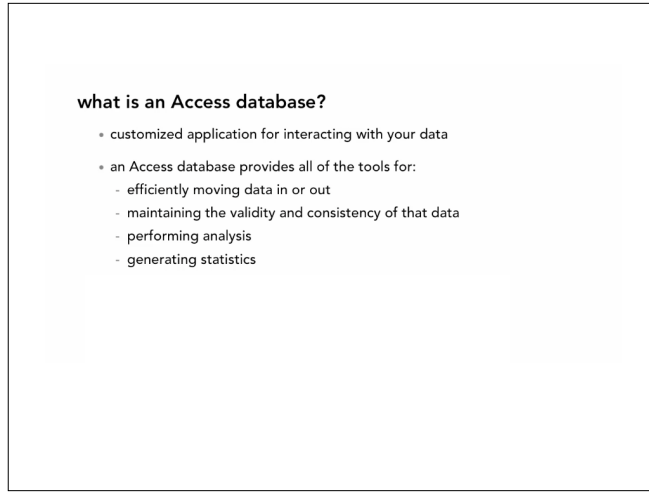
Access is a collection of tools that allow you to efficiently process data,



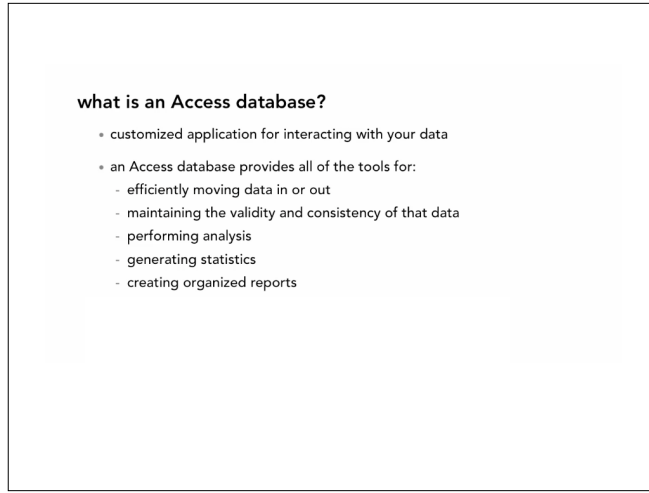
Moving it in and out of the database, maintain the quality of the data, and ensure that it remains consistently entered and valid.



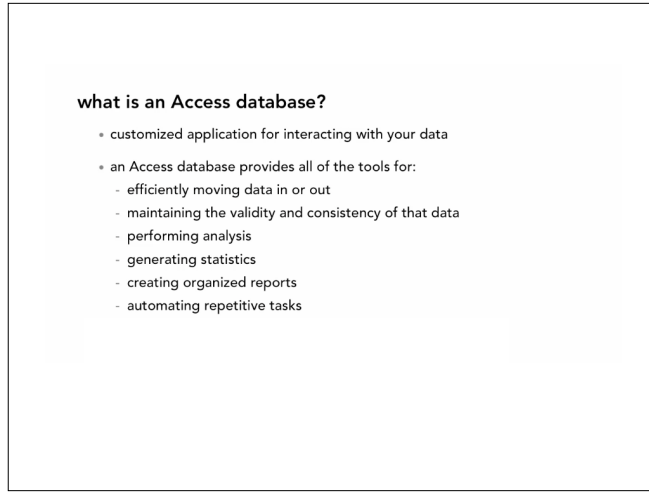
Gain insight into the trends, areas of opportunities and performance metrics.



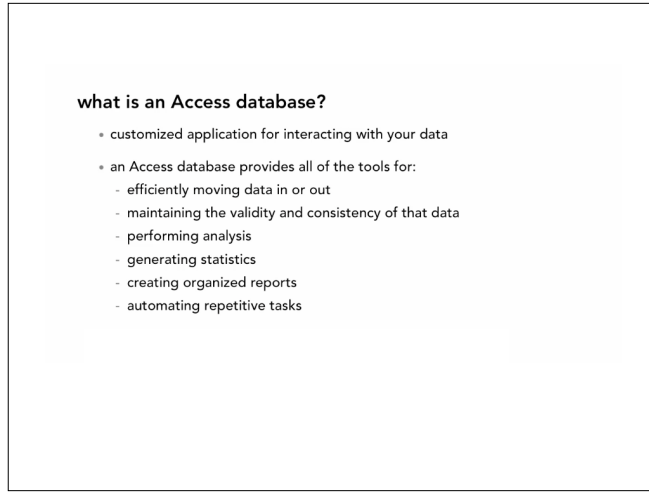
Through a series of analytical processes, construct



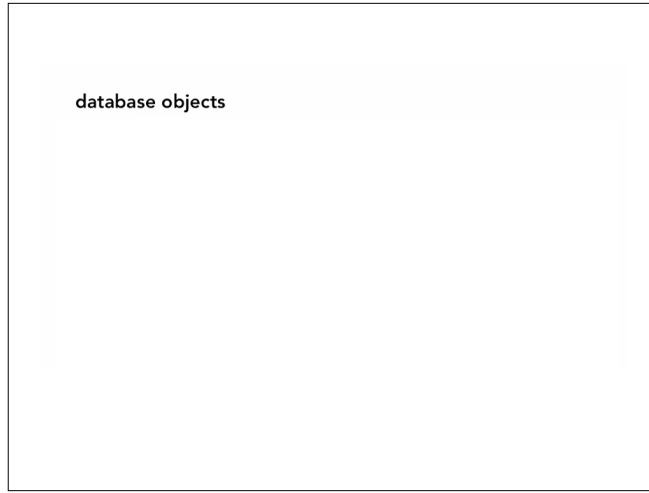
organized and detailed reports to help guide informed decisions,



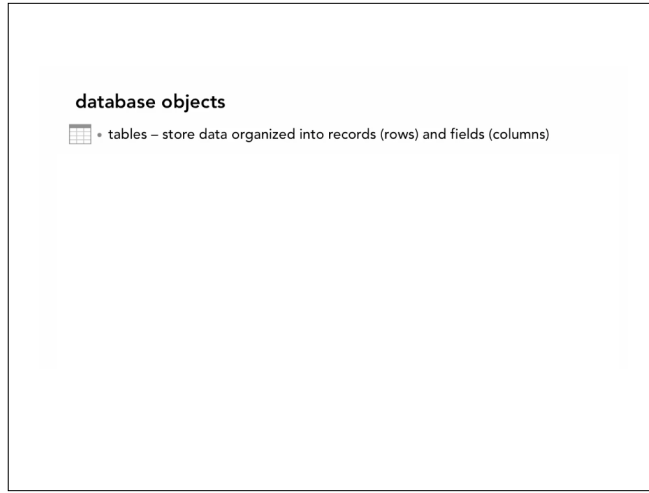
and automate tasks to help prevent processing errors and speed up workflows.



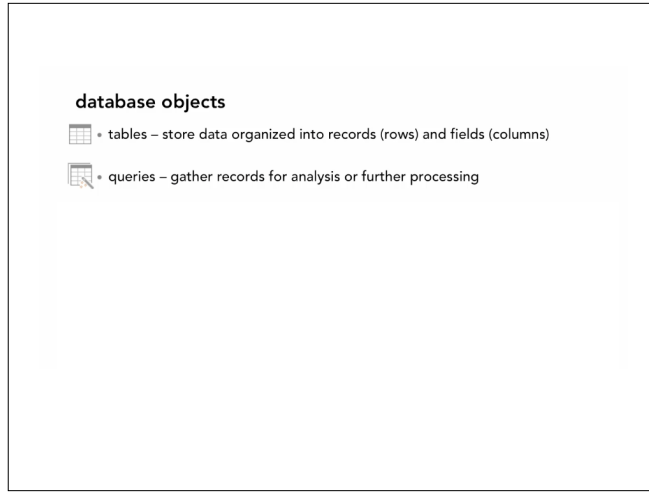
and automate tasks to help prevent processing errors and speed up workflows. A well-crafted Access database can give you way more than you put into.



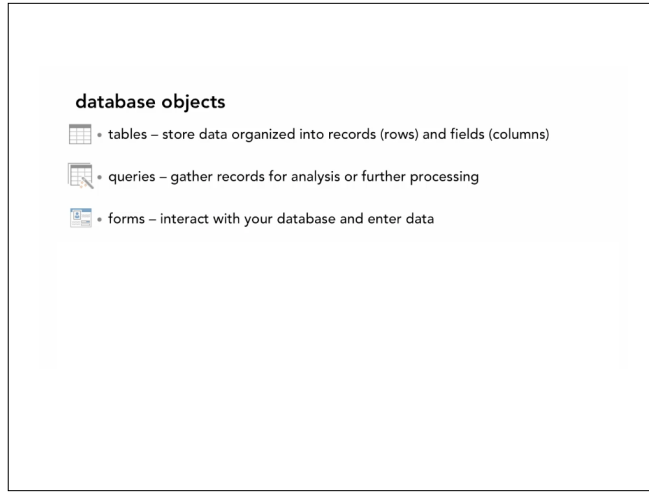
To do all of that, an Access database uses five main components. These components are collectively called database objects, and each has a unique role to play in managing your data.



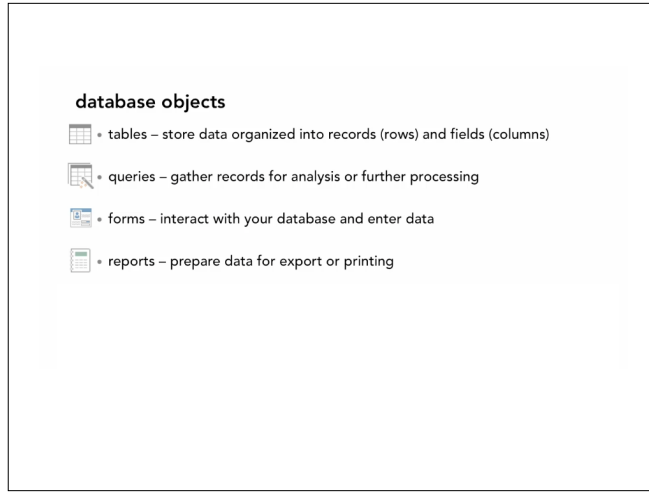
The first object is a table. Tables are were data lives. They provide a structured home organized into fields and records.



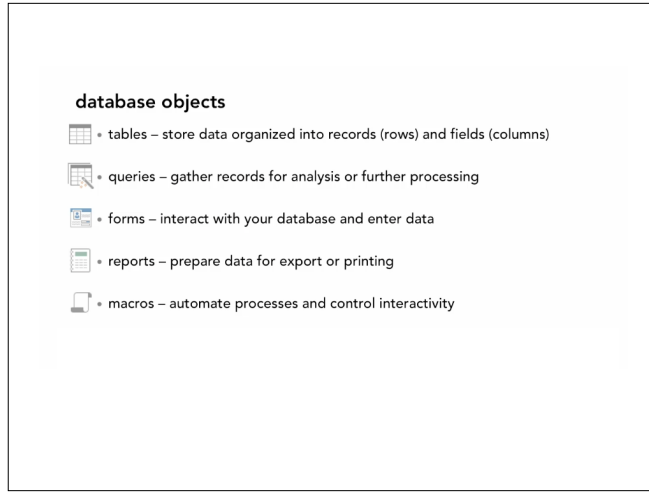
The next objects are queries. Queries are literally the questions you ask about the data. Queries scour through your data tables to find the answer to a question and then return an answer as filtered or calculate a list of records that look function just like a table.



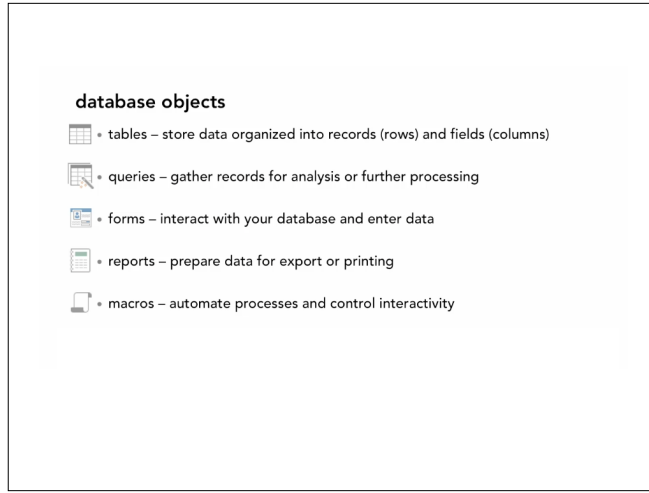
Forms provide interactive framework for your database. They hold buttons for moving from task to task, text entry fields, to help you enter data into your tables and input areas to help you define the parameters for query or report.



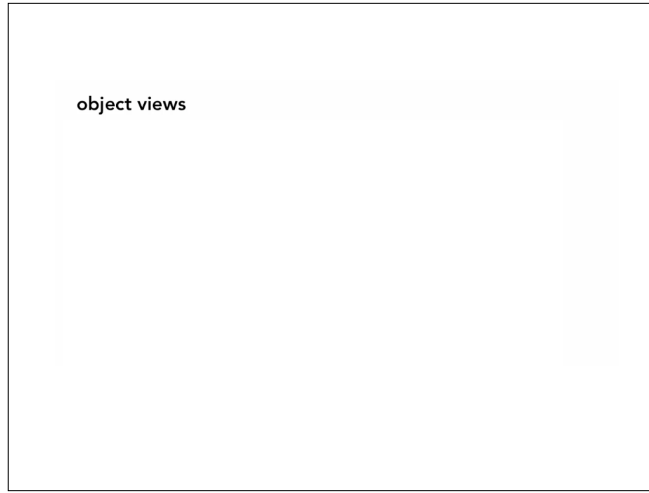
Reports gather information from a table or query and then format them for a standardized page layout to ready to be printed exported, or emailed to colleagues.



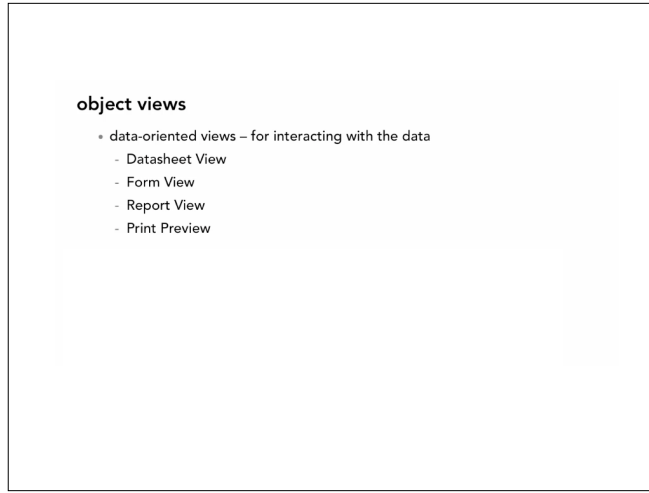
Additionally there are macros objects which are a series of programmatic instructions that you can create to tell the database how to function when you click on a button or interact with a form or other object. They can automate some fairly complex tasks. Its the interaction of theses five components that make a high level functioning Access database.



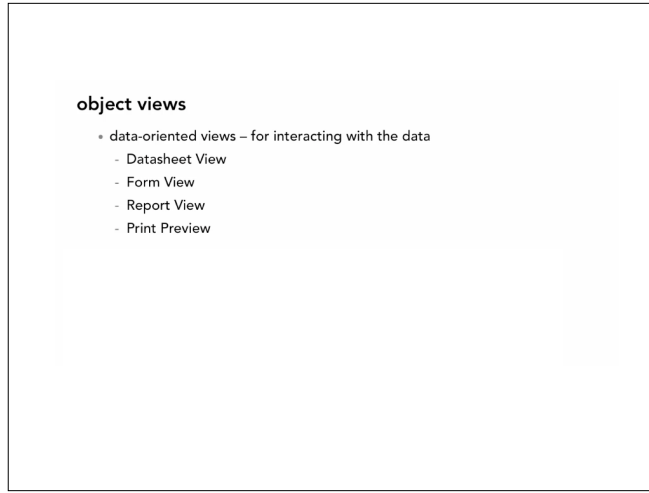
For example a form might help you enter data into a table, a query will then filter those records to a specific subset, and then report will format that subset of records for printing.



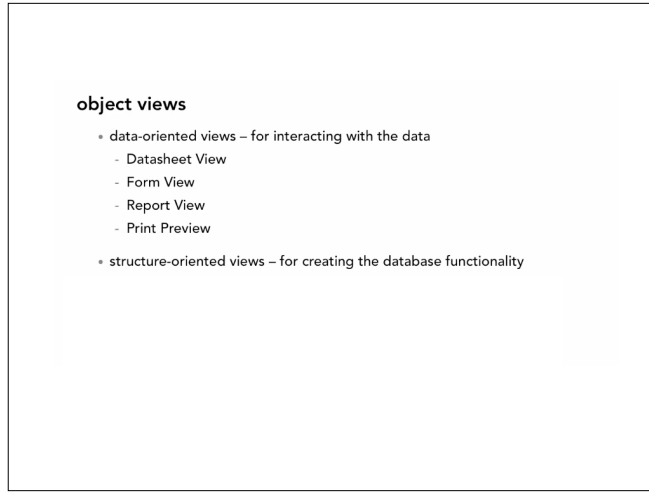
To crate objects in Access we will be using multiple working modes called Views. These can be grouped into two categories.



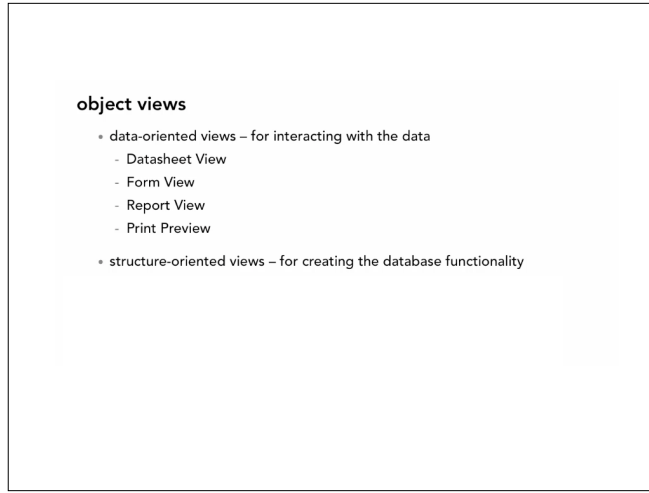
The standard view is the one you will use when you are working with your data. Depending on what part of a project you are working with you could use the; Datasheet, Form, Report or Print Preview Views.



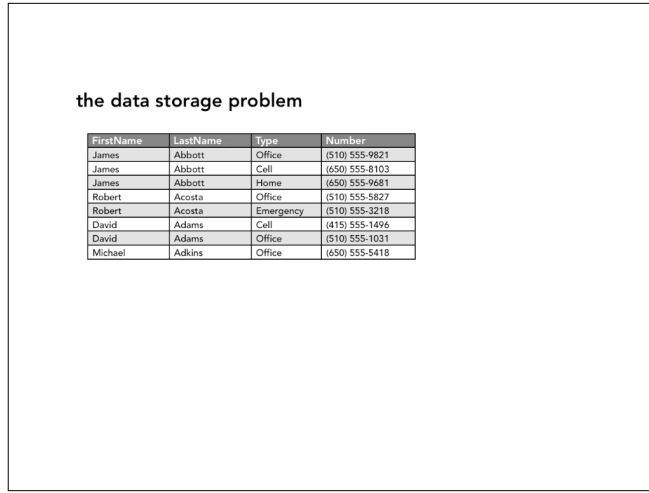
These will display our objects when we are working with the information contained within the database.



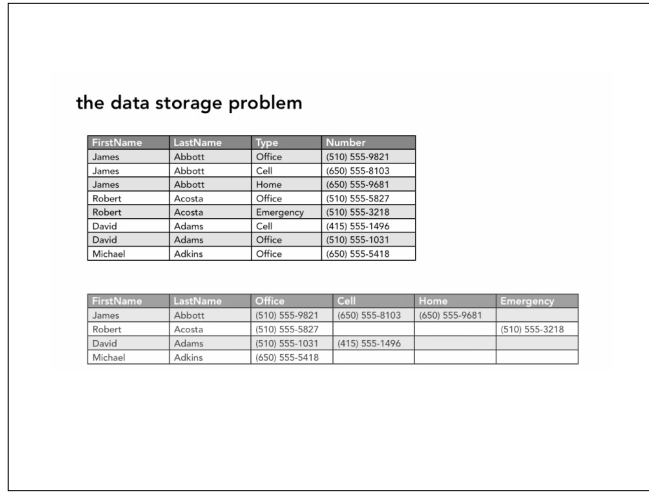
The other views are used when creating or modifying the structure of the objets.



The Design, Layout, and SQL Views all allow you to define how the database functions

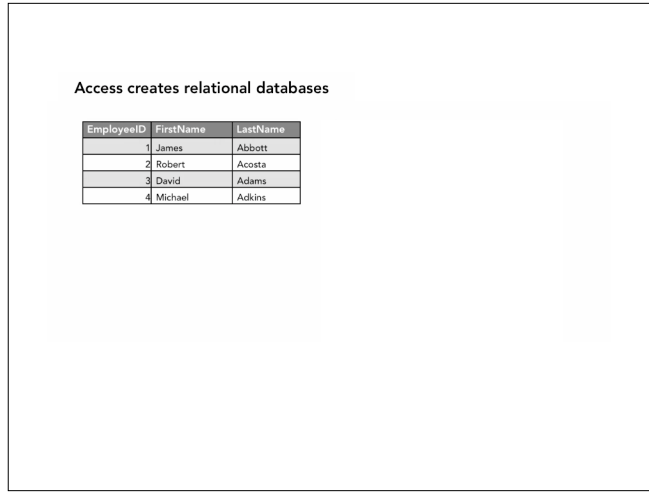


Finally, it's important to understand the relational structure of an Access database. Take a look at this problematic table of contact phone numbers. In this table, you will notice that the first and last names are repeated. Over-and-over again every time if there is an additional contact phone number.

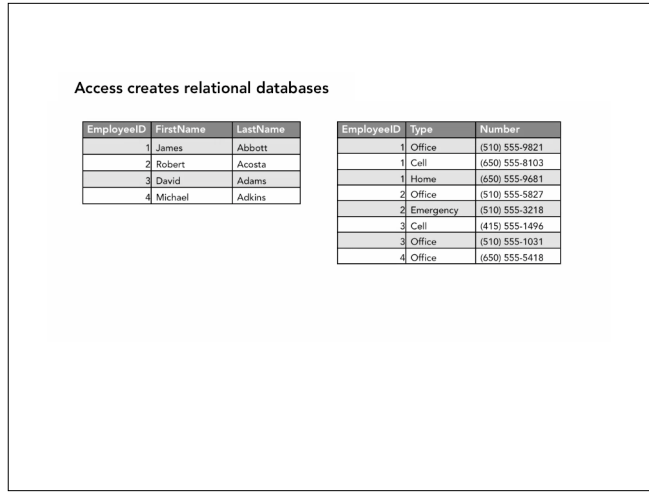


We can structure this data differently but that introduces a new problem. Now we have lots of blank cells where individuals don't have a contact number of each types. Further this table won't grow very well.

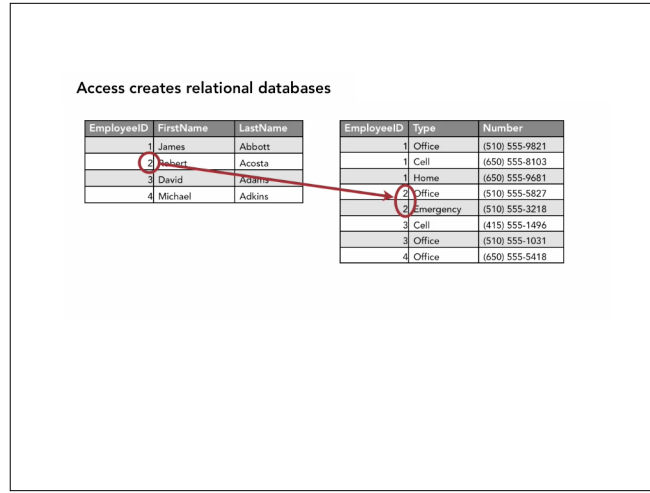
What if we wanted to add a fax number for on individual or a second office number? We would have to alter the structure of the table to add an additional column to accommodate those types of changes. A relational damages solves both problems.



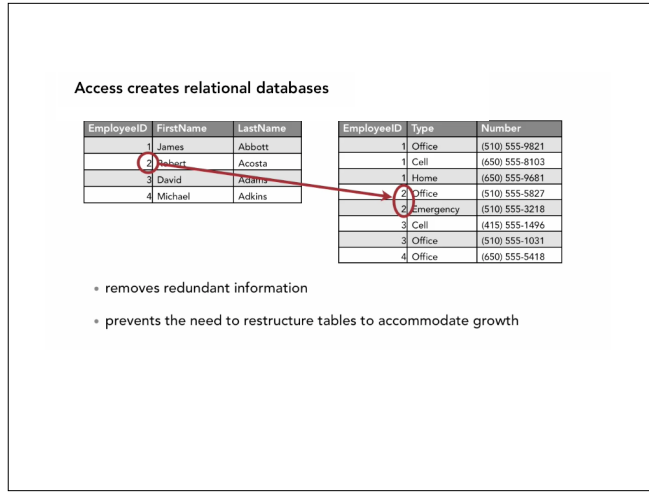
Unlike a flat file database such as an Excel spreadsheet, Access organizes data into multiple tables that connect to each other through common fields called keys. Using the exact same data, we can organize our phone numbers like this where we have one table that's just about people,



and another table that's just about phone numbers. By linking the two tables together with a key, in this case an employee ID,



We can accommodate growth and prevent inefficiencies in our storage.



We can easily add new people or additional types of contact numbers without altering the structure of our tables. We will expand in all of these concepts through this course and we will be different types of objects and hooking them together to build a relational database that will efficiently store data, return answer to our questions, perform analysis, and generate reports.