

DBMS FIRST TASK

1. Please create simple database (**RELATIONAL**) it should consists 6 tables so far in **MS ACCES**.

Example table

Some Common Relational Model Terms

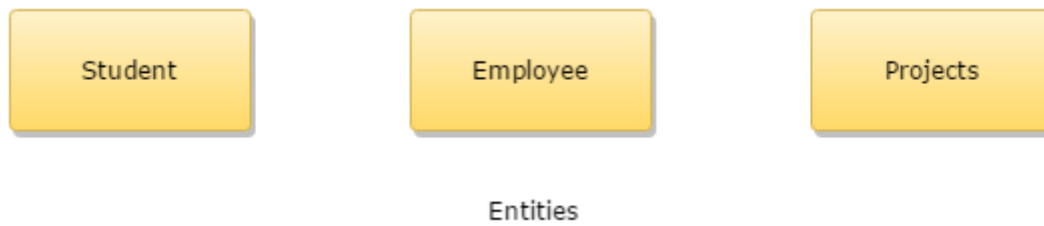
The diagram shows a table with the name 'students' above it. The table has three columns: 'RollNo', 'Name', and 'Phone'. The first row contains the values '1', 'Alex', and '444123'. The second row contains '2', 'Aryan', and '421456'. The third row contains '3', 'Parker', and '414259'. The fourth row contains '4', 'Jhon', and '456785'. Annotations with arrows point to various parts of the table: 'Table name' points to 'students'; 'Column name' points to the 'Name' header; 'Tuple / Row' points to the first data row; 'Table / Relation' points to the entire table; and 'Attribute / Column' points to the 'Name' header.

students		
RollNo	Name	Phone
1	Alex	444123
2	Aryan	421456
3	Parker	414259
4	Jhon	456785

Relational Model Terms

- Relation: A relation is a table with columns and rows.
- Attribute: An attribute is a named column of a relation.
- Domain: A domain is the set of allowable values for one or more attributes.
- Tuple: A tuple is a row of a relation.

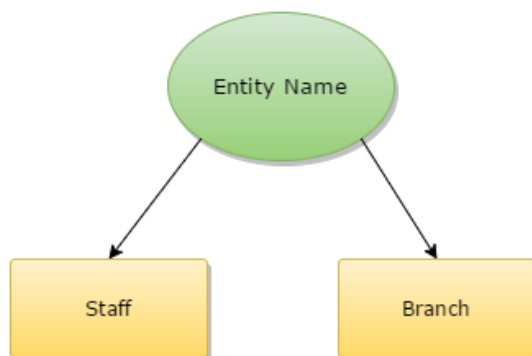
ER-Diagram – ENTITY RELATIONSHIP DIAGRAM



- Entity type: It is a group of objects with the same properties that are identified by the enterprise as having an independent existence. The basic concept of the ER model is the entity type that is used to represent a group of 'objects' in the 'real world' with the same properties. An entity type has an independent existence within a database.
- Entity occurrence: A uniquely identifiable object of an entity type.

Diagrammatic Representation of Entity Types

Each entity type is shown as a rectangle labeled with the name of the entity, which is normally a singular noun.

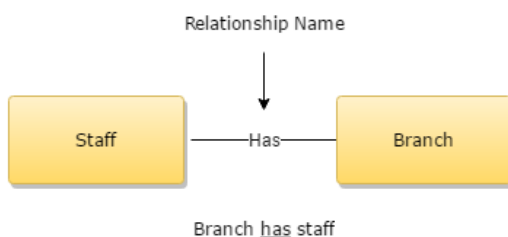


Diagrammatic representation of the Staff and Branch entity types.

What is Relationship Type?

A relationship type is a set of associations between one or more participating entity types. Each relationship type is given a name that describes its function.

Here is a diagram showing how relationships are formed in a database.



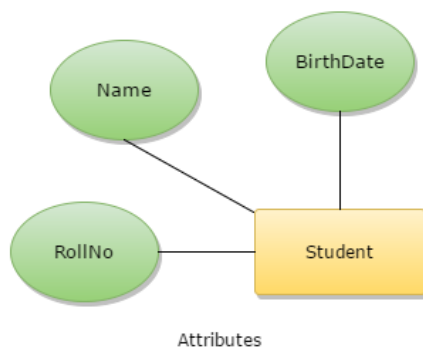
What is a degree of Relationship?

The entities occupied in a particular relationship type are referred to as participants in that relationship. The number of participants involved in a relationship type is termed as the degree of that relationship.

In the above-figured example "Branch has staff", there is a relationship between two participating entities. A relationship of degree two is called binary degree (relationship).

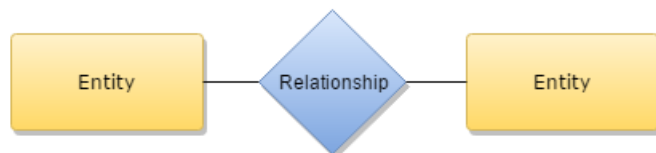
What are Attributes?

Attributes are the properties of entities that are represented using ellipse shaped figures. Every elliptical figure represents one attribute and is directly connected to its entity (which is represented as a rectangle).



Relationships

A diamond-shaped box represents relationships. All the entities (rectangle shaped) participating in a relationship gets connected using a line.



There are four types of relationships. These are:

- **One-to-one:** When only a single instance of an entity is associated with the relationship, it is termed as '1:1'.
- **One-to-many:** When more than one instance of an entity is related and linked with a relationship, it is termed as '1:N'.
- **Many-to-one:** When more than one instance of an entity is linked with the relationship, it is termed as 'N:1'.
- **Many-to-many:** When more than one instance of an entity on the left and more than one instance of an entity on the right can be linked with the relationship, then it is termed as N:N relationship.

DATA TYPES IN MS ACCES

Type of Data	Description	Size
Short Text	Text or combinations of text and numbers, including numbers that do not require calculating (e.g. phone numbers).	Up to 255 characters.
Long Text	Lengthy text or combinations of text and numbers.	Up to 63, 999 characters.
Number	Numeric data used in mathematical calculations.	1, 2, 4, or 8 bytes (16 bytes if set to Replication ID).
Date/Time	Date and time values for the years 100 through 9999.	8 bytes
Currency	Currency values and numeric data used in mathematical calculations involving data with one to four decimal places.	8 bytes
AutoNumber	A unique sequential (incremented by 1) number or random number assigned by Microsoft Access whenever a new record is added to a table.	4 bytes (16 bytes if set to Replication ID).
Yes/No	Yes and No values and fields that contain only one of two values (Yes/No, True/False, or On/Off).	1 bit.

Data Types	Description	Size
Attachment	Files, such as digital photos. Multiple files can be attached per record. This data type is not available in earlier versions of Access.	Up to about 2 GB.
OLE objects	OLE objects can store pictures, audio, video, or other BLOBs (Binary Large Objects)	Up to about 2 GB.
Hyperlink	Text or combinations of text and numbers stored as text and used as a hyperlink address.	Up to 8,192 (each part of a Hyperlink data type can contain up to 2048 characters).
Lookup Wizard	<p>The Lookup Wizard entry in the Data Type column in the Design view is not actually a data type. When you choose this entry, a wizard starts to help you define either a simple or complex lookup field.</p> <p>A simple lookup field uses the contents of another table or a value list to validate the contents of a single value per row. A complex lookup field allows you to store multiple values of the same data type in each row.</p>	Dependent on the data type of the lookup field.
Calculated	You can create an expression that uses data from one or more fields. You can designate different result data types from the expression.	You can create an expression that uses data from one or more fields. You can designate different result data types from the expression.

WARNING!! ALL TASKS MUST BE DOCUMENTED SCREENSHOTS WITH SOME TEXT {STEP BY STEP}

2. Task for ambitious

In your consists tables please do all types of relationships {1:1, 1: N, N: 1, N: N}

ALSO YOU SHOULD DOCUMENTED THIS WITH SCREENSHOTS!!

PLEASE SAVE ALL DATABASES IN DEFAULT ACCES FORMAT AND SEND TO ZIP FORMAT NAMED {TECHNIKUM,KLASA,IMIE,NAZWISKO,DATA,PRACA NA LEKCJI} THE SAME GOES IN EMAIL TOPIC.

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