**Assignment 1.**

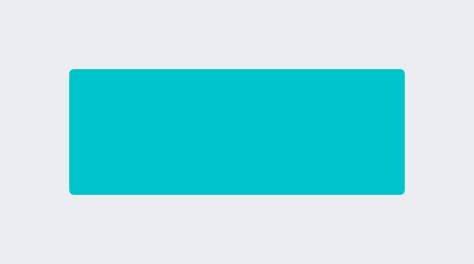
**ER DIAGRAM**

An entity relationship diagram or ERD helps different industries to visualize and find connections between objects and concepts to set up and structure their databases. It is vital in engineering, information systems, education, and research, where entity relationship modeling helps identify logic or design flaws that make production seamless and smoother. ER diagram designs also depend on the level of detail and scope of your data.

## **The History of ER diagrams**

In his search for a unified framework for database modeling, Peter Chen proposed an improved way of visualizing a database through entity relationship models. Before his 1976 paper titled "The Entity-Relationship Model: Toward a Unified View of Data," there were three data models: network, relational, and entity. He merged these existing models and solved the vagueness into ER diagrams or ERDs.

**Components of ER Diagram**



### **Entity**

It can be objects or concepts that collect information—often labeled as common and proper nouns.

### IMG_256

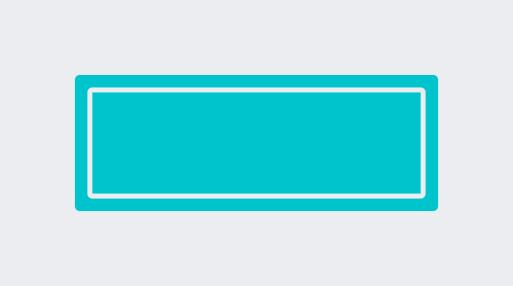
### **Relationship**

It depicts how two entities are connected to the same information in a database—often represented as a verb.



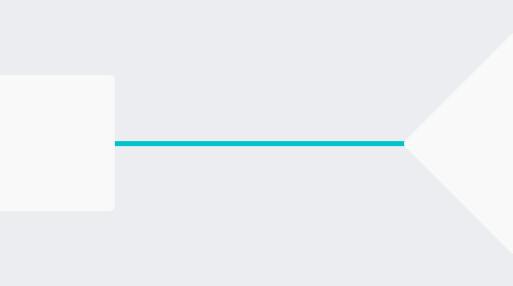
### **Attribute**

An aspect or information that’s unique to an entity that can be multivalued or derivative—often an adjective for entities and adverbs for relationships.



### **Weak entity**

An entity with a key relationship with another entity that is yet to be uniquely identified.



### **Connecting lines**

It connects everything in the diagram and establishes the relationships between entities and their attributes.



### **Cardinality**

It figures how many attributes are in a relationship between entities. It can be one-to-one, many-to-one, or many-to-many.

