

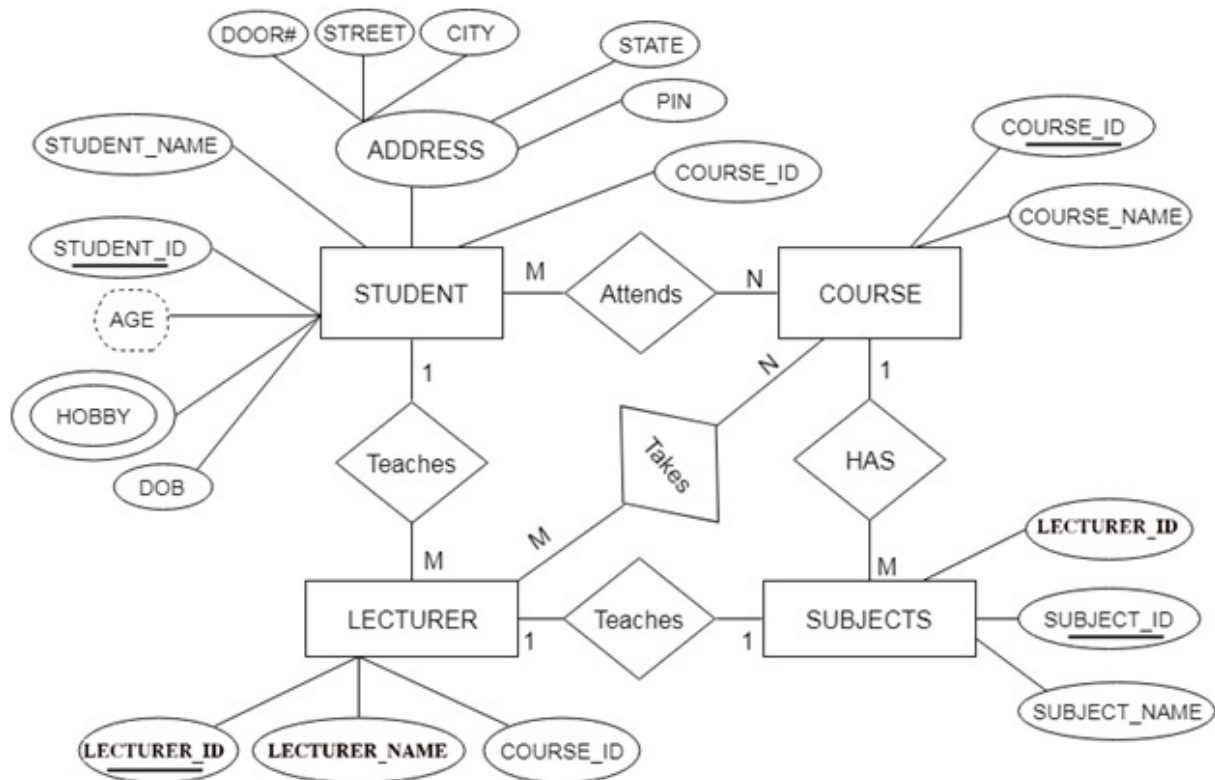
# Reduction of ER diagram into Table

javatpoint.com/dbms-reduction-of-er-diagram-into-table

Database can be represented using the notations and these notations can be reduced to collection of tables.

In the database, every entity set or relationship set can be represented in tabular form.

**The ER diagram is given below:**



There are some points for converting the ER diagram into table:

**Entity type becomes a table.**

In the given ER diagram, LECTURE, STUDENT, SUBJECT and COURSE forms individual tables.

**All single valued attribute becomes a column for the table.**

In the STUDENT entity, STUDENT\_NAME and STUDENT\_ID form the column of STUDENT table. Similarly COURSE\_NAME and COURSE\_ID form the column of COURSE table and so on.

**Key attribute of the entity type represented by the primary key.**

In the given ER diagram, COURSE\_ID, STUDENT\_ID, SUBJECT\_ID and LECTURE\_ID are the key attribute of the entity.

**Multivalued attribute are represented by separate table.**

In the student table, a hobby is a multivalued attribute. So it is not possible to represent multiple values in a single column of STUDENT table. Hence we create a table STUD\_HOBBY with column name STUDENT\_ID and HOBBY. Using both the column, we create a composite key.

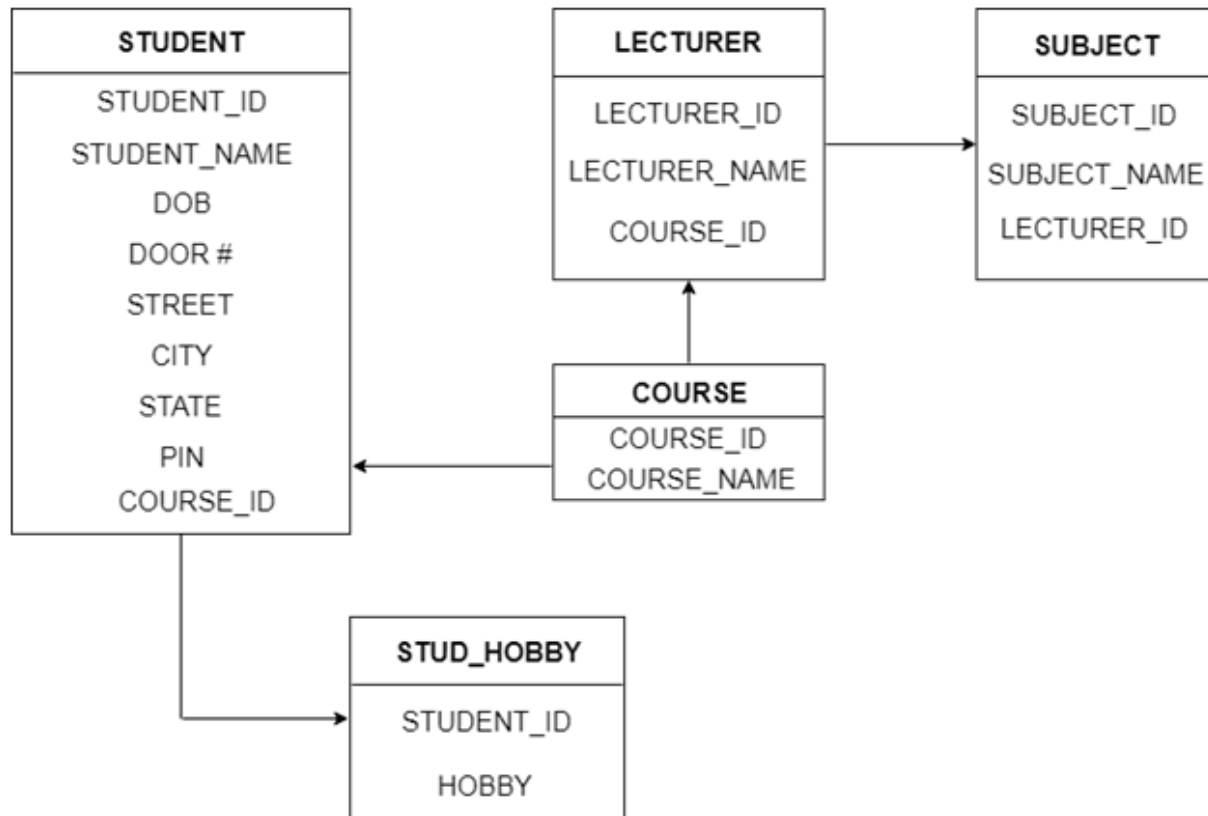
**Composite attribute represented by components.**

In the given ER diagram, student address is a composite attribute. It contains CITY, PIN, DOOR#, STREET and STATE. In the STUDENT table, these attributes can merge as individual column.

**Derived attributes are not considered in the table.**

In the STUDENT table, Age is the derived attribute. It can be calculated at any point of time by calculating the difference between current date and Date of Birth.

Using these rules, you can covert ER diagram into tables and columns and assign the mapping between the tables. Table structure for the given ER diagram is as below:



**Figure: Table structure**