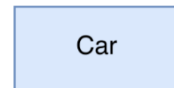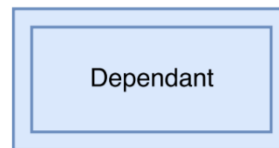# From ER to The Relational Model
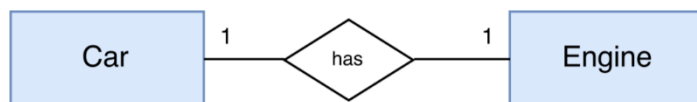
Step 1 – Strong Entities

- Create a table that includes all the simple attributes
- Include only the simple components of composite attributes
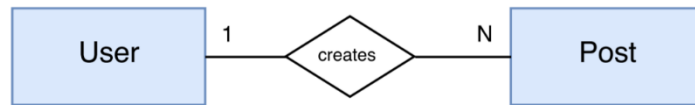- Choose a primary key

Step 2 – Weak Entities

- Create a table that includes all the simple attributes
- Include the primary key from the owner entity, this will become a foreign key
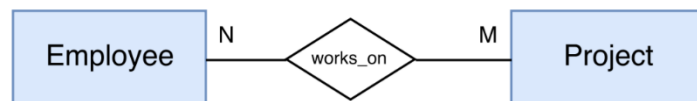

Step 3 – 1:1 Relations

- Copy the primary key from the first table into the second table – it becomes a foreign key in the second table
- Any attributes tied to the relationship goes to the table with the foreign key
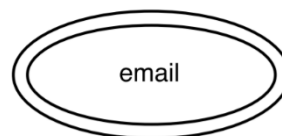
Step 4 – 1:N Relations

- Choose the entity on the n-side and include a copy of the primary key of the entity on the 1-side. This field becomes a foreign key in the table on the n-side
- Any attributes tied to the relationship goes to the table with the foreign key

Step 5 – N:M Relations

- Create a new table and include the primary keys from the two participating entities
- Both of these fields become foreign keys in the new table
- Any attributes tied to the relationship goes to the new table

Step 6 – Multivalued Attributes

- For each multivalued attribute (A) create a new table and move the attribute (A) to this table
- Include the primary key from the entity that originally had (A) as an attribute
- The combination of these attributes will be the primary key of the new table