STEPS FOR WRITING ER DIAGRAM

Shapes

ENTITY   **ATTRIBUTE**   **RELATIONSHIP**

1. Place table names in rectangle.   (Aka: ENTITY) Singular.
   2. Place Table columns in Oval.   (Aka: ATTRIBUTES) Singular.
   3. Create name of the description between two tables.
      - Put name Description in Diamond.   (Aka: RELATIONSHIP)

LINES FOR ENTITY AND ATTRIBUTE

1. Draw normal line from entity to attribute that participates 0 or more times.
2. Draw **bold line** from entity to attribute that participates 1 or more times.

ARROWS OR LINES FOR ENTITY AND RELATIONSHIP

1. If ENTITY requires a relationship to exist 0 or more times: Draw ARROW from ENTITY to RELATIONSHIP.
   If ENTITY requires a relationship to exist 1 or more times: Draw **BOLD ARROW** from ENTITY to RELATIONSHIP <>

2. IF it isn't required for a relationship to exist, USE Lines as stated above.

UNDERLINES

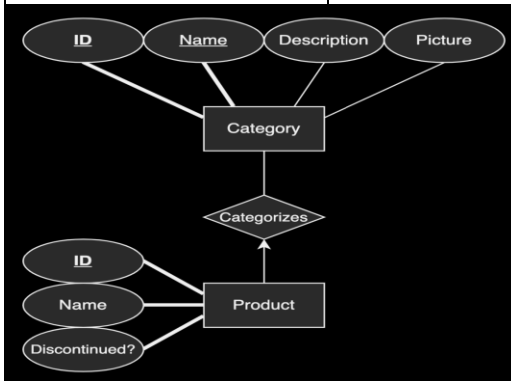1. Underline Words of ATTRIBUTES if it needs to be <u>a unique name</u> or <u>number</u>.

STEP 2 CLASSIFY RELATIONSHIPS

Determine which entity is the parent. Meaning it can exist without the other. That will be the first Entity to list in the relationship. Determine relationship type based on Arrows

Relationship Types	ONE TO ONE (Rare)	ONE TO MANY (common)	MANY TO MANY
EXAMPLE	EX. Spouse to Spouse	EX. One Department has many of employees	
ARROWS	Two Pointed from both entities toward the relationship	ONE	NONE

1. Fill out form based on that information.

RELATIONSHIP (Entity to Entity)	TYPE One-to-one, One-to-Many, Or Many-to-Many	DESCRIPTION (Describe how often something happens)
EX: Product - Category	One to Many	0 or more products can go in many different categories

Example how to fill out next section

2.   IDENTIFY The Following

TABLE NAME:	CATEGORY	Type: CHILD	
COLUMN NAME (LIST ALL OVAL ATTRIBUTES)	DATA TYPE (Select Appropriate type) Google if unsure.	NOT NULL ("Required "meaning cannot be empty)	UNIQUE ("Must be Unique value") ("Underlined in ER diagram)
id	SERIAL	X	X
name	TEXT	X	X
description	TEXT		
picture	TEXT		

3. Place id reference of child table in Parent Table as seen below.

TABLE NAME:	PRODUCT	Type: Adult	
COLUMN NAME	DATA TYPE	NOT NULL	UNIQUE
id	SERIAL	X	X
name	TEXT	X	
discontinued	TEXT	X	
category_id	INT		

STEP 3 WRITE SQL CODE

1. add PRIMARY KEY (id) to each table to use as reference as PRIMARY KEY (ID)
2. add column of an attribute of the child table to reference both tables ex: category_id INT
3. Write Child table first so you can have reference of the ID before writing adult table.

CODE EXAMPLE:

```
CREATE TABLE categories (
  id SERIAL,
  name TEXT NOT NULL UNIQUE,
  description TEXT,
  picture TEXT,
  PRIMARY KEY (id)
);

CREATE TABLE products (
  id SERIAL,
  name TEXT NOT NULL,
  discontinued BOOLEAN NOT NULL,
  category_id INT,
  PRIMARY KEY (id)
);
```

STEP 4 ADD RESTRAINTS
('Can be added w code above)
https://learn.nucamp.co/mod/book/view.php?id=5136&chapterid=5735