CW #9.1

Match each item in column A with one, or more items in Column B by drawing a line between items.

Column A	Column B
animal	bird
	car
vehicle	mammal
	apartment
dwelling	truck
	house
	bus

When creating **classes**, it is helpful to organize objects with similar properties according to how they are related. If objects have common attributes and common behaviors, it is helpful to group them to share these attributes and objects. For instance, a Shape class could be written having perimeter and area attributes (instance variables) with the need to calculate their perimeter and area (methods). If you wanted object classes for Square and Triangle, it would be helpful to let the Square and Triangle classes share the things from the Shape class because they are Shapes.

We can write these relationships in what is called an **"IS-A" relationship**:

A square IS A shape.   A triangle IS A shape.

1) Choose one of the items from Column A and write the "IS-A" relationship with the items you connected it with from Column B:

2) What are some attributes (instance variables) you could use to describe the Column A item you chose which the Column B items could share:

3) What are some actions (methods) your Column A item does or things that could be computed about your Column B item which could be shared by your Column B items?

These relationships are described as INHERITANCE. We name the Column A items as a SUPERCLASS and the Column B items as a SUBCLASS. We say that a subclass "extends" a superclass and, therefore, "inherits" the instance variables and methods of the superclass.