05.03 Getting Started with Objects

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05.03 Assignment Instructions

Instructions: In this assignment, you will use your pattern recognition abilities to further develop a basic OOP skill. Complete the following exercises:

Using the categories previously listed, follow the directions to complete each step.

1. Pick one of the listed categories and name three more objects that it might include.

   Category: **Personal Objects**

   Object 1: **Backpack**   Object 2: **Jacket**   Object 3: **Purse**

2. Think of an unlisted category and identify five objects that it might include.

   New Category: **Degree Objects**

   Object 1: **Bachelor's degree**   Object 2: **Master's degree**   Object 3: **Associate's degree**
   Object 4: **PhD** Object 5: **Transfer Degree**

3. Pick any object and make a list of five "sub-objects" the category might contain. For example, a dancer object is itself a category and could include a folk dancer, a Salsa dancer, a ballroom dancer, break dancer, and an ice dancer, etc.

   Object: **Engineer Object**

   Sub-Object 1: **Civil Engineer**   Sub-Object 2: **Systems Engineer**

   Sub-Object 3: **Mechanical Engineer**   Sub-Object 4: **Software Engineer**

   Sub-Object 5: **Aerospace Engineer**

4. Pick any object and list four of its physical characteristics (i.e. attributes) and two things it can do (i.e. behaviors). In terms of "behaviors," think in terms of actions (verbs). For

example, dancers can spin, dogs can bark, boats can sink. Don't be too literal with the term behavior; have some fun with it.

Object: **Strawberry object**

Attribute 1: **Red in color**   Attribute 2: **Has a calyx (the green leafy top)**

Attribute 3: **Has seeds (visible on the outside)**   Attribute 4: **Has tine little hairs (visible on the outside)**

Behavior 1: **can be grown**   Behavior 2: **can be eaten**

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5. **In your own words, given what you know now, how do you define an object?**

From my understanding, an object is an instance of a class. For example, a class specifies a data type (e.g primitive and reference types). Now, an *instance of a class* indicates an object of the data type (which exists in memory). Objects also hold characteristics and behaviors. For instance, A Student Object could have an ID, GPA, School Account, etc, or a Lawyer Object could be divided into other sub-objects such as Immigration Lawyer, Criminal Defense Lawyer, etc. which could then have their individual characteristics and behaviors. Overall, classes and objects are related because a class is a blueprint for creating and specifying an object's characteristics and behaviors.