

# CECS 323 LAB: FIRST CLASSES

**OBJECTIVE:** Give you some experience with individual design and definition of classes.

**INTRODUCTION:** It is important that you have a deep understanding of the distinction between classes and instances of classes, tables and rows within those tables, and how to properly define your classes. We will get considerably more formal about class design, but for now, always remember that you want your classes to be cohesive. That is, a given class should represent a collection of some specific thing, and nothing else. That thing could be tangible, like a human person, or intangible, like a purchase order. Either way, if you have a hard time defining it in English, that probably means that you do not have a true class.

Points to remember about class definitions:

- Use vocabulary and sentence structure that is no more advanced than what you would find in a typical newspaper. That works out to be about 6<sup>th</sup> grade reading level.
- Do **not** tell me things about the class that I can immediately tell from the model.
- Tell me what it means to be a member of the class. For instance, a definition for automobile might be “a for-wheeled vehicle used to transport one or more people and optional cargo from one place to another on land. An automobile is not used for commercial shipment of large amounts of cargo.”
  - The definition tells me that automobile is a specialization of vehicle. It only travels on land, it has four wheels, not two or three or more, and it has to have at least one person in it.
  - An automobile is not a semi-truck.
  - Admittedly, one could argue that pickup trucks might be classified as an automobile. Depending on the context, we might say something more definitive like “a vehicle that requires a class C DL driver’s license” but if the application is not for the sake of the DMV, this definition might not help much.
- Do not include physical details such as the primary key or any candidate keys.

**PROCEDURE:** Design classes to represent the following "things" in the given enterprises. For each one, describe the class in English, then draw the class diagram.

- A student at a university.
- A faculty member at a university.
- A work of art that is displayed in a gallery or museum.
- An automobile that is registered with the Motor Vehicle Department.
- A pizza that is on the menu at a restaurant.
- Household furniture.

**WHAT TO TURN IN:**

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- You can put all the classes into one model if you like. **Do not worry about any associations** between the classes. We will get to that very soon.
- Put your definitions into a separate document file and include that into the dropbox as well.
- Your team's filled out collaboration document. You can find a template for that [here](#).