# Instance Variables: Adding data to your class

**The goal for this exercise** is to create your class, that has per-object memory (i.e., that has instance variables).

Within the provided starter project, there is already a class named Instance\_Variables. You should create a class named Refrigerator below it, in the space indicated.

Within the Refrigerator class, we will define some variables that describe the state of a particular refrigerator. For example, all refrigerators have a currentInternalTemperature, which is the temperature that the inside of the refrigerator is currently at (as opposed to the temperature of the outside surface of the refrigerator). It makes sense that all refrigerators have some minimumInternalTemperature, which is the lowest temperature that the refrigerator can achieve. Furthermore, any given refrigerator is either turned on (and actively drawing power, and refrigerating), or it’s not (perhaps it’s being defrosted). You should choose an appropriate name (and appropriate data type) to store this last piece of data.

For all of these attributes, you should define an instance variable (a.k.a. a data member) within the class to store the needed information. For now, just make everything public, so that you can get to it easily. For example, you might put

public double currentInternalTemperature;

inside the Refrigerator class (but OUTSIDE of any methods).

Once you’ve done that (and that all compiles), you should go back to Instance\_Variables.RunExercise, and create (at least) two instances of the Refrigerator class. We’re creating more than one specifically to make sure that you’re clear on the fact that instance variables are **per-object** memory: each instance that you create will have it’s own, individual copy of all of the instance variables that you’ve defined for the class. So your first refrigerator can have a minimum temperature of -10 degrees, a current temperature of +3 degrees, and is currently switched on, while the refrigerator next to it can have a minimum temperature of -30 degrees, a current temperature of 50 degrees, and it’s switched off.

So, you’ll need to set the values of all of the instance variables, for each of the instances that you’ve created. Once you’ve done that, you should then print them all out so the user can see those values, using a Print() method that you write.

**Summary of what you need to do for this exercise:**

1. Create the Refrigerator class.  
   1. Add the instance variables to it that are described above.
2. Within Instance\_Variables.RunExercise, create (at least) 2 instances of the Refrigerator class.  
   1. Remember that you will need to call the Instance\_Variables.RunExercise method from the Main function in the Program class.
   2. Within Instance\_Variables.RunExercise, assign reasonable values to each of the attributes on each of the instances that you’ve created
   3. Within Instance\_Variables.RunExercise, print out all of the attributes of each of the instances that you’ve created
   4. Within Instance\_Variables.RunExercise, call the Print() method on all the instances that you’ve created, which prints out all the instance variables to the Console.