Lecture 8 contains an introduction to object-oriented design.  You should read chapters 12 and 13 in our textbook BEFORE looking at the PowerPoint slides and watching the Lecture 8 Video.  
  
Lecture 9 contains an introduction to interaction diagrams in design and our first look at patterns.  You should read chapters 14 and 15 in our textbook BEFORE looking at the PowerPoint slides and watching the Lecture 9 Video.    
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There is an additional video that walks through all the various steps in the documentation of one use case, beginning with the use case table, data dictionary, and use case diagram.   
  
There is additional information on the writing of the use case narrative and the drawing of the  
system sequence diagram (SSD) for that use case, and finally the drawing of the Domain Model and the writing of System Operation Contracts for each operation identified on your SSD.    
  
The key part of writing Post-conditions for your contracts is identifying when you will make certain changes to concepts identified in your Domain Model.  There are only five types of changes possible; however, for now you are limited to only three: instance creation, association formed, and attribute modified.  You could have one, two, or all three of these post-condition types written for one operation.

The example used in the video shows another reason for creating an object instance, which is to record the fact that something has happened. The video I uses the example of Logging into a System. The owners of the system may want to create a history of all the logins for each user to the system.  To do this they might create a new instance of a Login History concept when a user logs in and then form an  
association between that new instance and the existing User object.  The User object would have already been created (instantiated) as the result of a previously executed use case, perhaps called Create a New User. For the Login to System use case I documented assumes that a User object already exists and therefore creates an instance of a concept called Login History which will record that this particular User logged in to the system at a particular date and time.