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OOA/D
Assignment 2

1. **What is the difference between a diagram and a model, and why do we need standards for the graphical elements of diagrams?**
   A model is an abstraction containing all elements needed to describe the intention of the system being modeled. They focus on communication. A diagram is a specific view of the system in a specific context. Diagrams are described in more detail than models are. We need standards for the graphical elements of diagrams because standards create less error. The diagrams can easily be read by anyone who knows UML notation.

2. **Answer the following questions based upon the diagram illustrated in slide 17 of B4.DomainModeling.pdf, and provide explanations when necessary:**

2a. What types of OOA artifacts are used in the use-case model to help understand a given problem and capturing software requirements?
There are many OOA artifacts used in the use-case model. These are use case diagrams, use case text, operation contracts, and system sequence diagrams. These artifacts are also supplemented by a glossary, vision document, and supplement specification.

2b. Suppose there are *N* use cases in a use case diagram, how many use case descriptions need to be created in total and how many of them need to be fully dressed descriptions?
Since there are N uses cases, there need to be N use case descriptions. Only a few (such as 10%) of the architecturally significant and high-value use cases need to be fully dressed.

2c. Suppose there are *M* use case descriptions (M_1 brief and M_2 fully dressed), how many system sequence diagrams have to be created?
Only M_2 system sequence diagrams have to be created since they are created from the fully dressed descriptions.

2d. For each of the operation contracts, which item in a system sequence diagram is used to provide details?
The prime inputs to the contracts are the system operations identified in the SSD.

2e. What other diagram can also be used to help creating fully-dressed use case descriptions?
Activity diagram can also be used with use case diagram to help create fully-dressed use case descriptions.