Homework06:

1. What is the difference between generalization in a domain model class diagram and generalization in a design class diagram (DCD)?

In a domain model class diagram, generalization implies that the superclass is a superset and the subclass is a subset. However, in a DCD, generalization implies OOPL inheritance from the superclass to the subclass, where instances of the subclass also inherit features from the superclass.

2. How are GRASP and GoF patterns related?

GRASP is used for basic patterns of assigning responsibilities, and GoF is for more advanced design ideas. Both can be applied during modeling and coding in OO design.

3. How can operation contracts be used in use case realizations?

For some complex system operations, contracts may add more analysis detail. In conjunction with contemplating the use case text, for each contract, we work through the postcondition state changes and design message interactions to satisfy the requirements.

4. What is the difference between Low Coupling and High Cohesion in the context of object design?

Low Coupling refers to assigning responsibilities in a way that minimizes the dependencies between objects, thereby reducing the impact of changes. High Cohesion, on the other hand, refers to assigning related responsibilities to a single object, making it focused and easier to understand and maintain.

5. Based on operation contracts in homework 5, apply GRASP to realize the operation with interaction diagrams.

The selectItem interaction diagram: