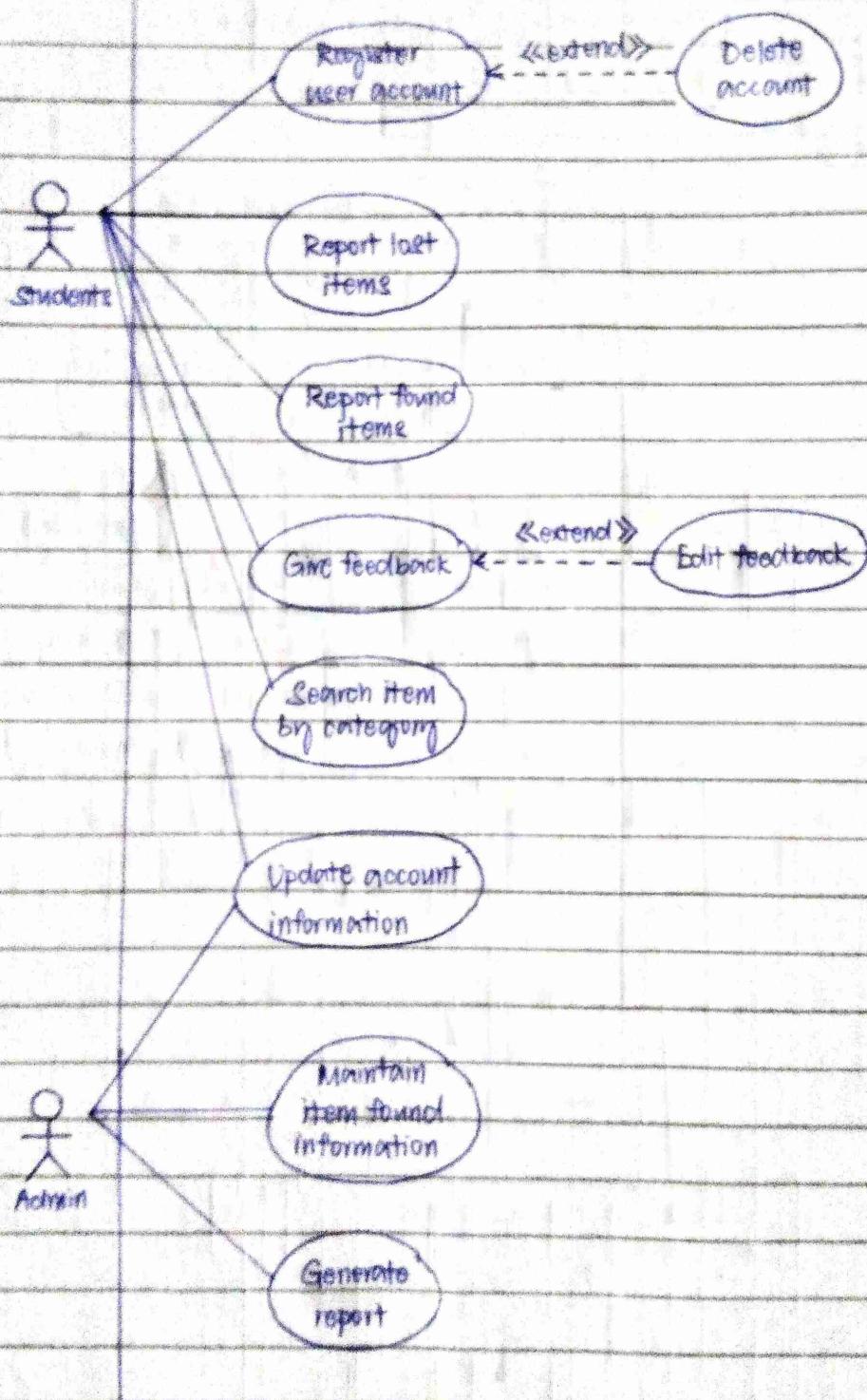


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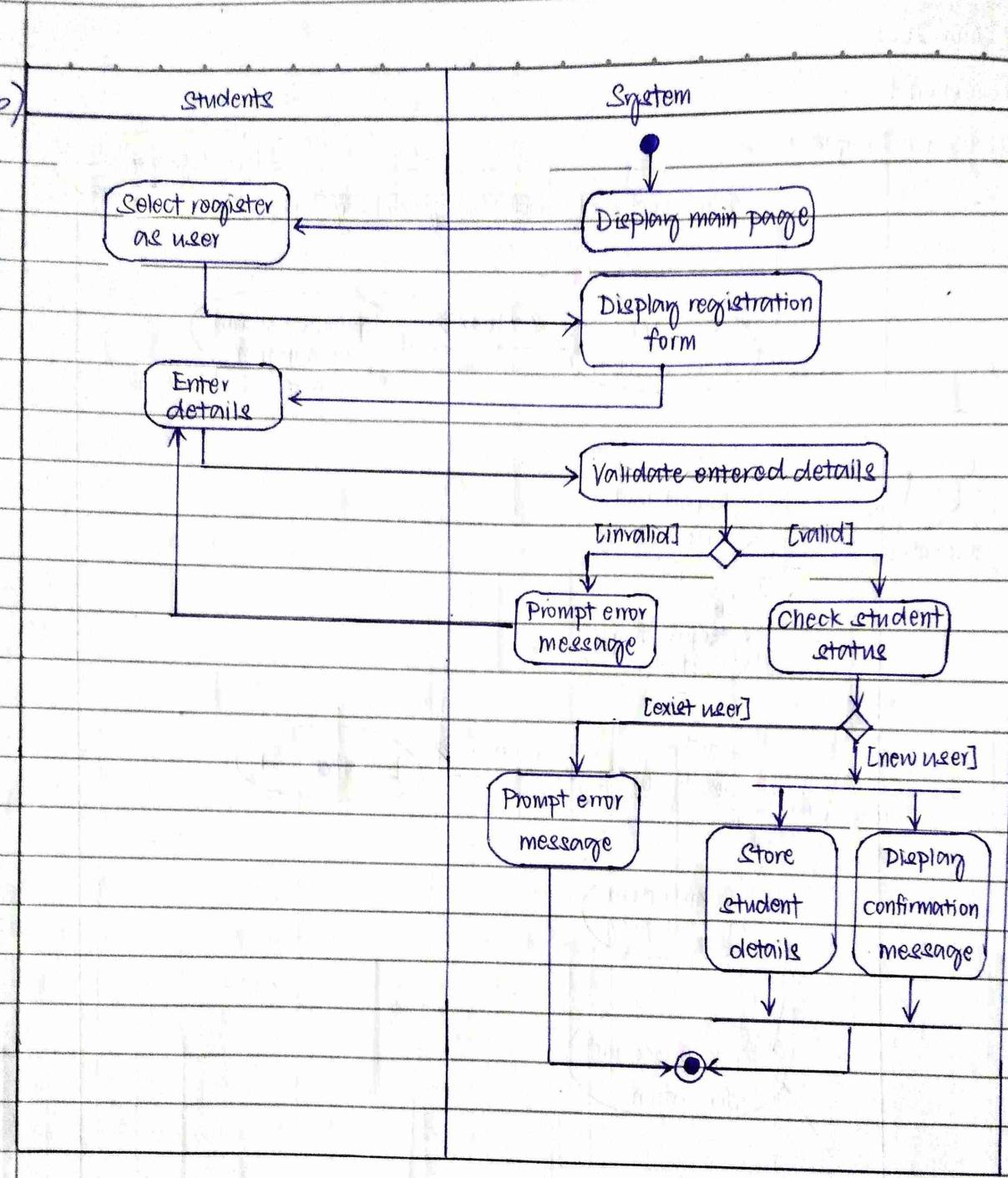
Question 1

a) Use Case Diagram

Online Lost and Found Management System

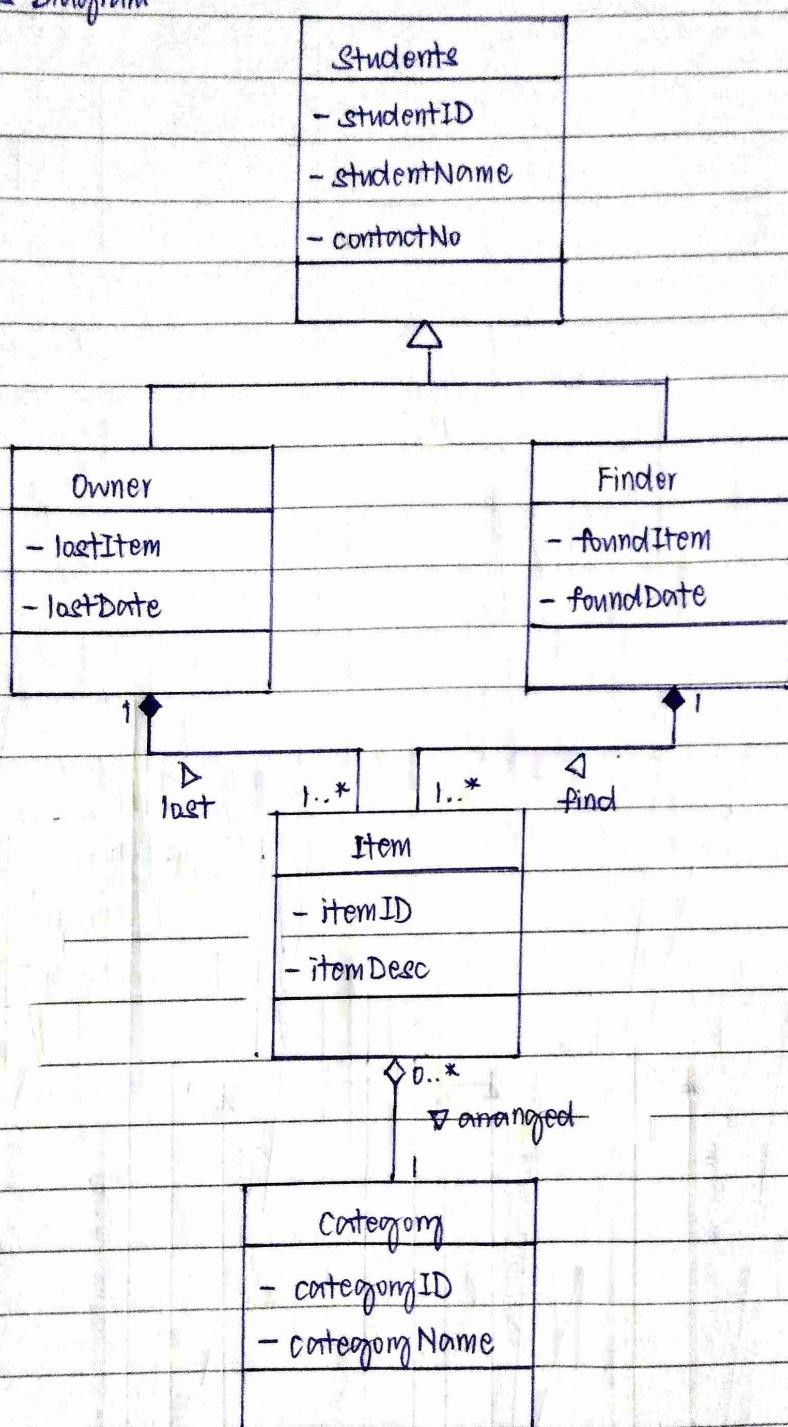


b)
Activity
Diagram

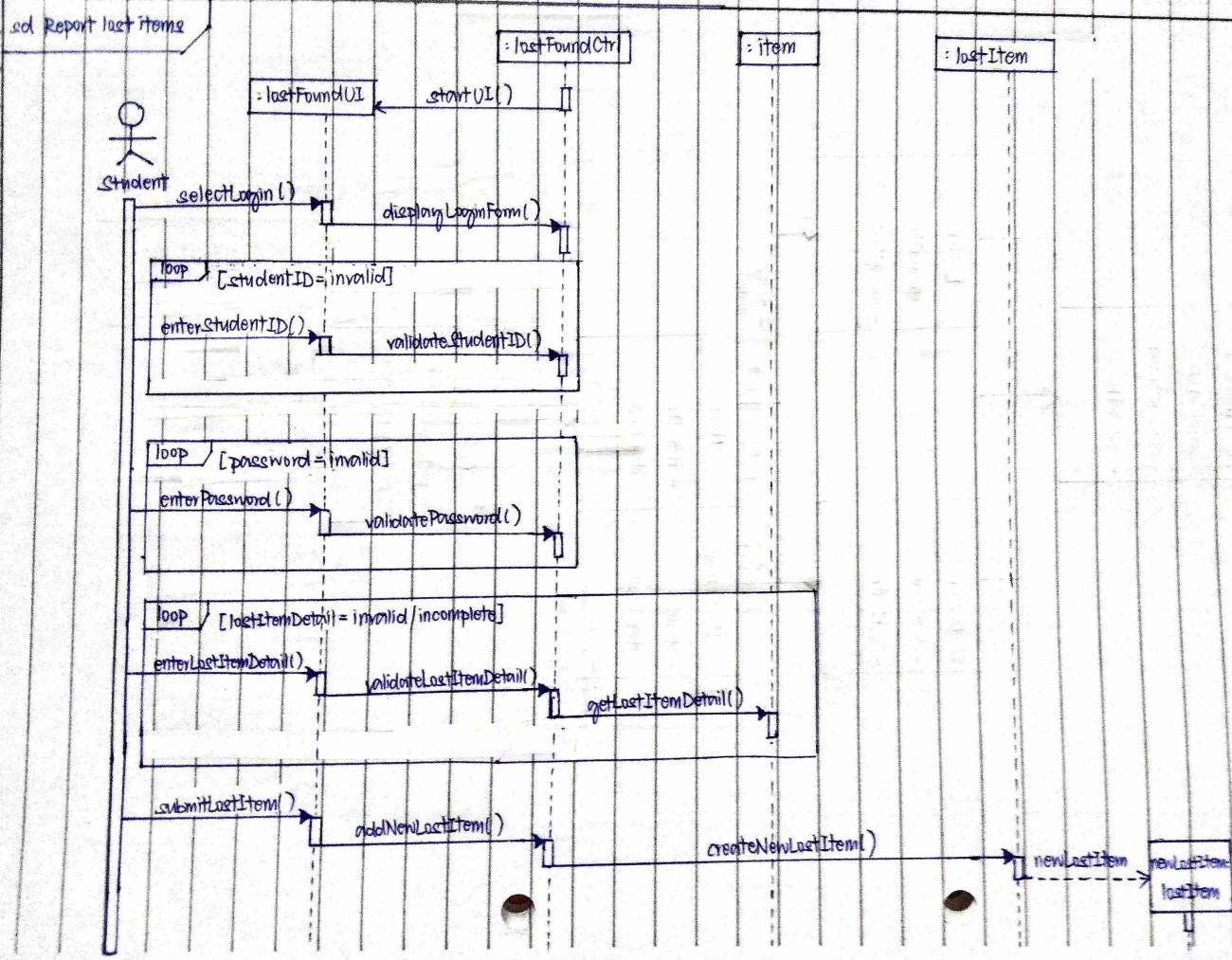


Question 2

a) Analyse Class Diagram



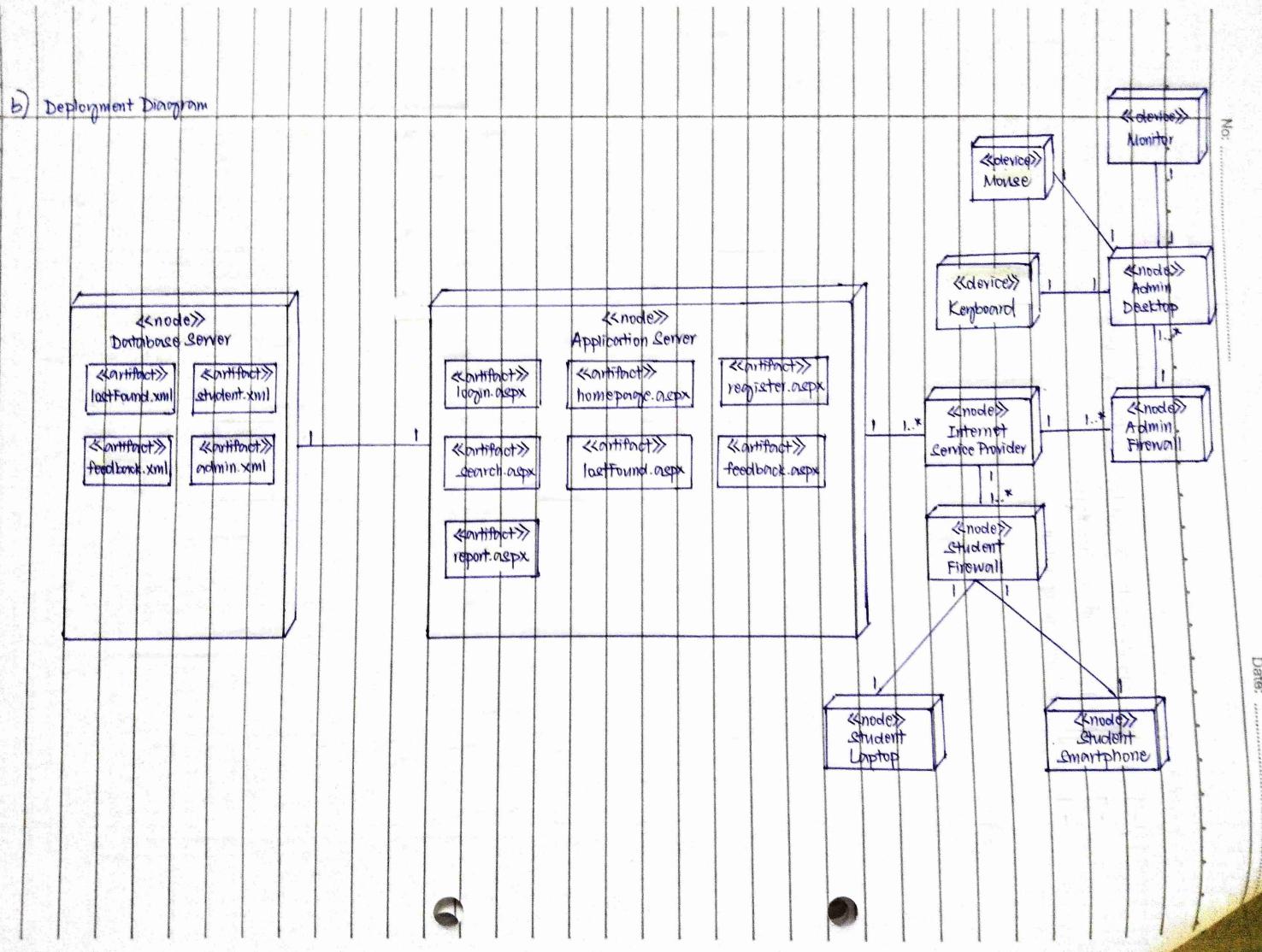
b) Sequence Diagram



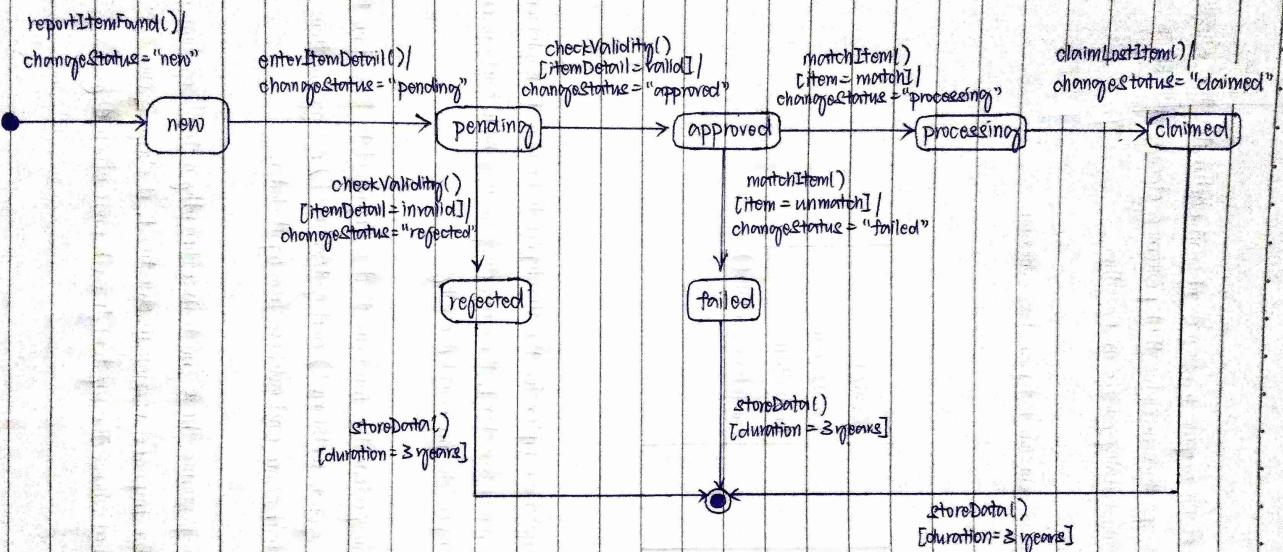
Question 3

- a) - To specify invariants on classes and types in the class model.
- To specify type invariant for Stereotypes.
- To specify constraints on operations.

b) Deployment Diagram



c) State Chart Diagram



Question 4

- a) Cohesion is a measure of the degree to which an element contributes to a single purpose.
 Maximize cohesion can produce modules that perform a clearly defined process / a group of processes that are functionally related to 1 another.

Figure 1 has good operation cohesion but poor class cohesion.

Improved version:

Student		Course	
StudentName		CourseCode	
Address		CourseTitle	
ContactNo		validateCourseTitle()	
getStudentName()			
getAddress()			

- b) Buildable - Design is not too complex for the developer to be able to implement it. Based on the scenario given in Question 1, the class diagram is simple and understandable. This allows developer to implement it easily.

Functional - System will perform the functions that is required to. Based on the scenario given in Question 1, `getStudentName()` and `getAddress()` are the functions that are need to obtain student name and address from input data.

Efficient - The system performs those functions efficiently in terms of time and resources.
 Based on the improved version in Question 1, it shows good operation and class cohesion that allows the system to work more efficiently.

o)

Logical Design

Independent of the implementation language and platform.

Physical Design

Based on the actual implementation platform and the language that will be used.

Some design of the user interface classes can be done without knowing whether it is to be implemented in Java, C++ or some other language - types of fields, position in windows.

Some design can only be done when the language has been decided upon - the actual classes for the types of fields, the layout managers available to handle window layout.