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ID #6991

OBJECT ORIENTED ANALYSIS & DESIGN
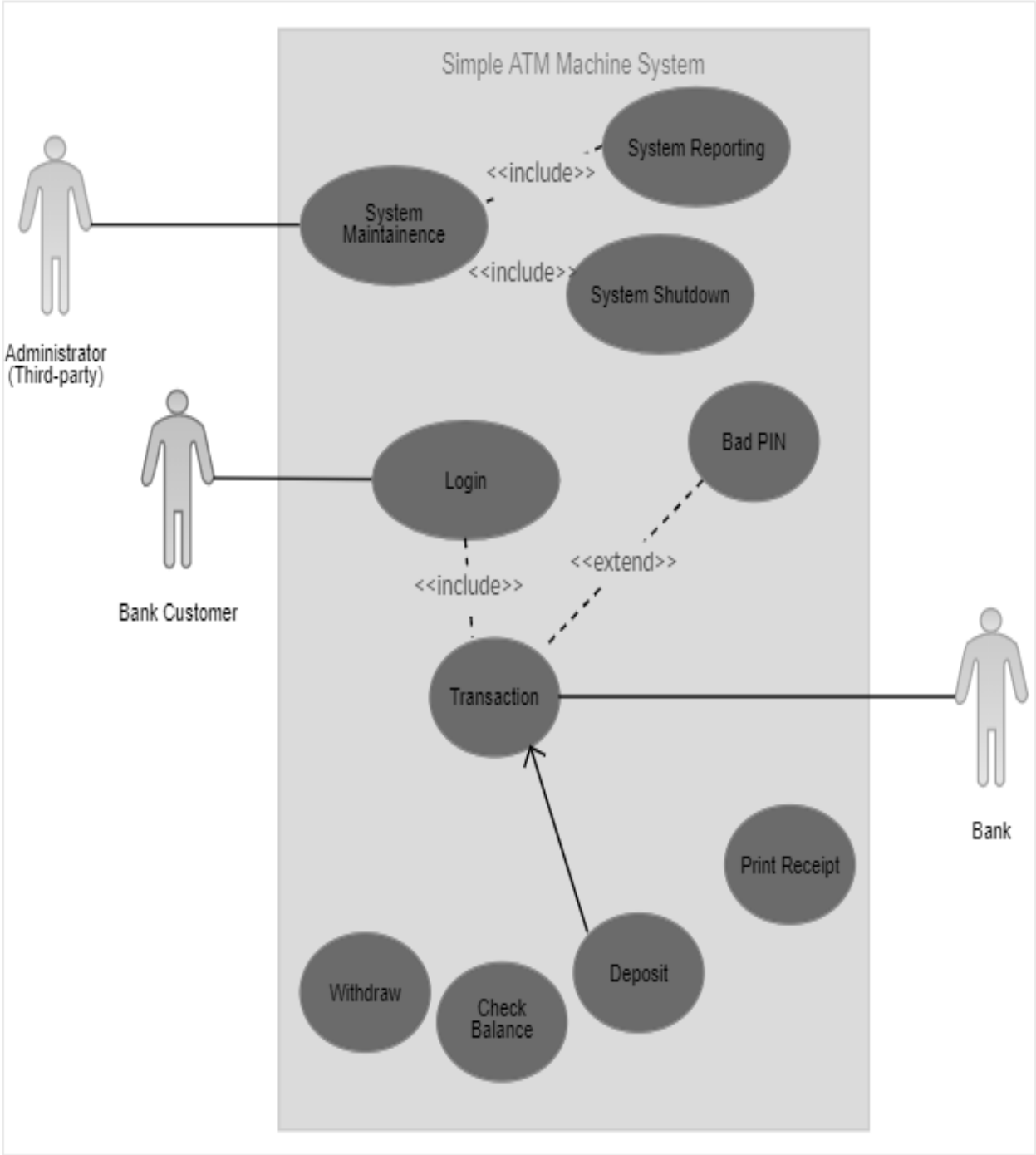
ASSIGNMENT NO: 02

Use Case Diagram

As the most known diagram type of the behavioral UML types, Use case diagrams give a graphic overview of the actors involved in a system, different functions needed by those actors and how these different functions interact.

It's a great starting point for any project discussion because you can easily identify the main actors involved and the main processes of the system.

Simple ATM Machine System

Administrator (Third-party)

System Reporting

<<include>>

System Maintainence

<<include>>

System Shutdown

Bank Customer

Login

Bad PIN

<<include>>

<<extend>>

Transaction

Bank

Print Receipt

Withdraw

Check Balance

Deposit

Activity Diagram

Activity diagrams represent workflows in a graphical way. They can be used to describe the business workflow or the operational workflow of any component in a system. Sometimes activity diagrams are used as an alternative to State machine diagrams.
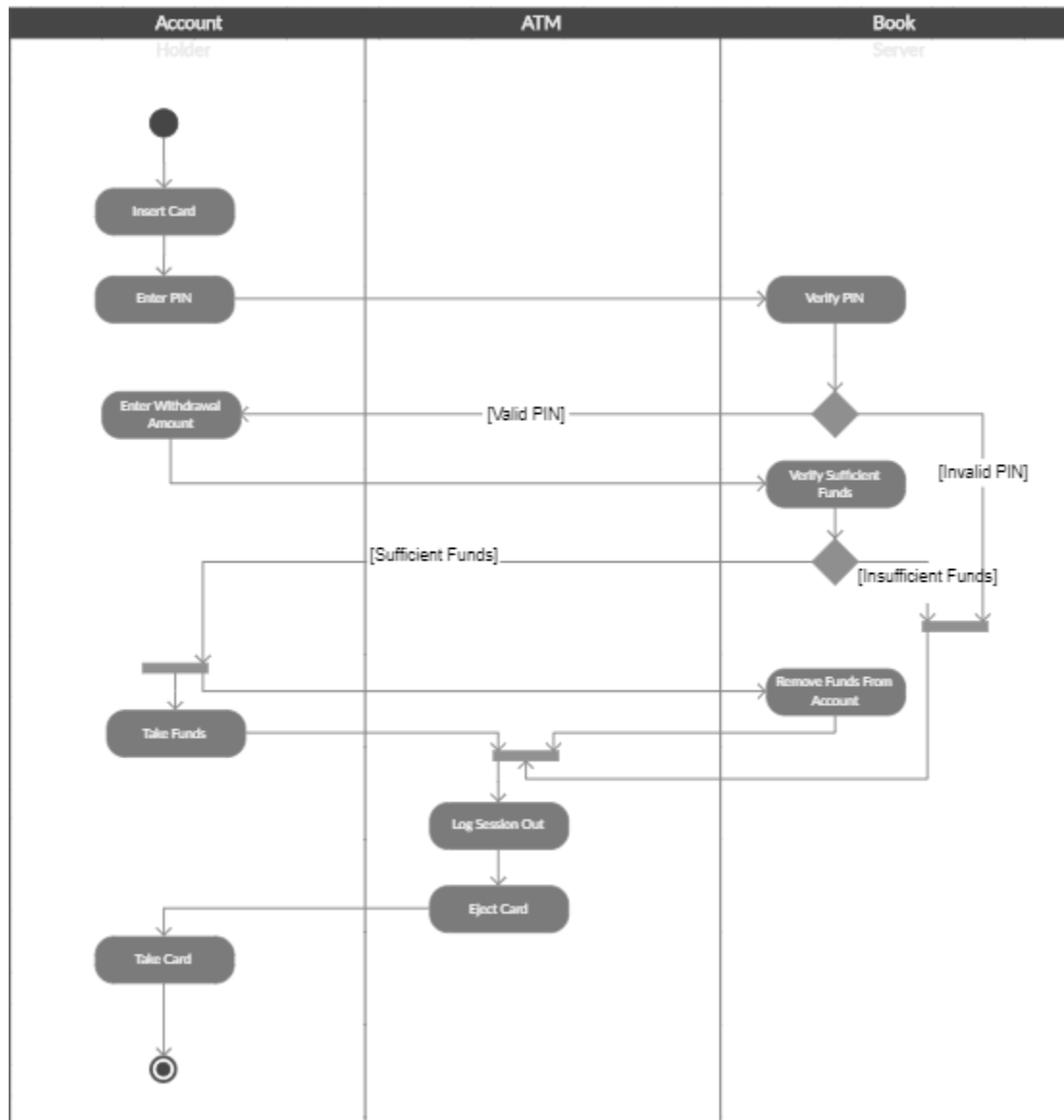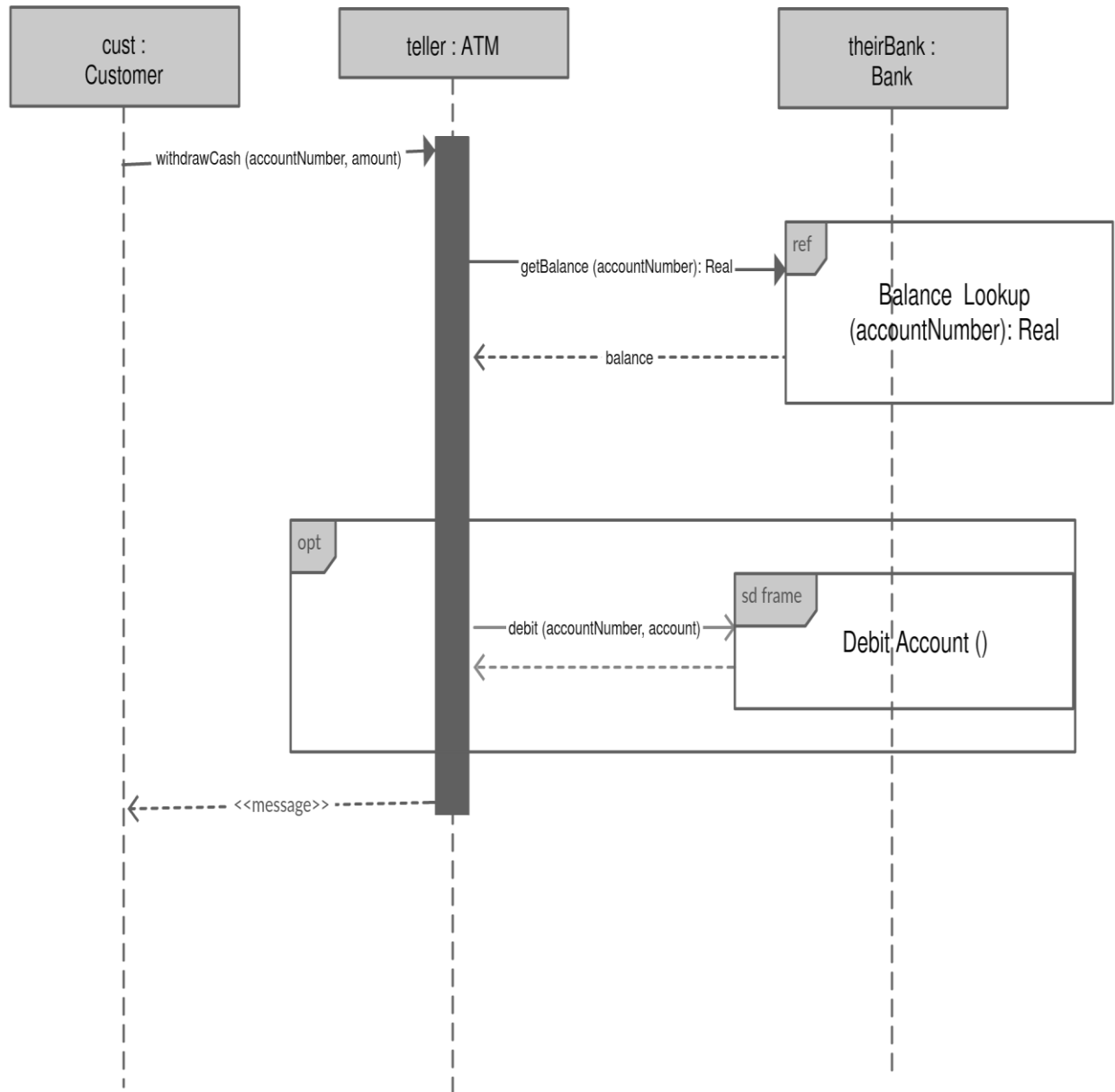

Class Diagram

Class diagrams are the main building block of any object-oriented solution. It shows the classes in a system, attributes, and operations of each class and the relationship between each class.

In most modeling tools, a class has three parts. Name at the top, attributes in the middle and operations or methods at the bottom. In a large system with many related classes, classes are grouped together to create class diagrams. Different relationships between classes are shown by different types of arrows.

Class Diagram for ATM System
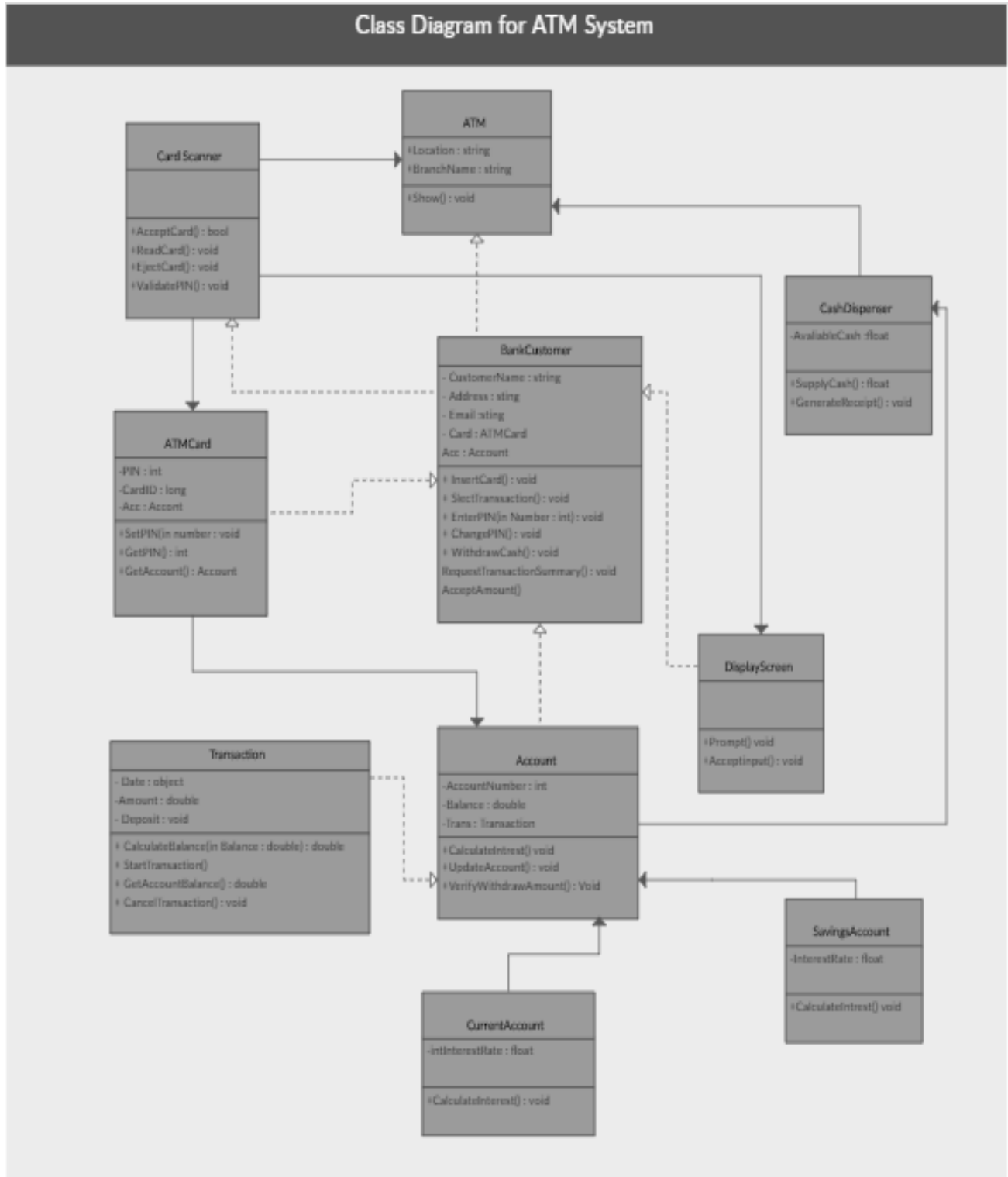
Sequence Diagram

Sequence diagrams in UML show how objects interact with each other and the order those interactions occur. It's important to note that they show the interactions for a particular scenario. The processes are represented vertically and interactions are shown as arrows. This article explains the purpose and the basics of Sequence diagrams.

cust : Customer	teller : ATM	theirBank : Bank

withdrawCash (accountNumber, amount)

ref

getBalance (accountNumber): Real

Balance Lookup (accountNumber): Real

balance

opt

sd frame

debit (accountNumber, account)

Debit Account ()

<<message>>

State chart Diagram

State machine diagrams are similar to activity diagrams, although notations and usage change a bit. They are sometimes known as state diagrams or state chart diagrams as well. These are very useful to describe the behavior of objects that act differently according to the state they are in at the moment. The State machine diagram below shows the basic states and actions.