**Q#1: Relationships in given Use Case?**

**Actor 1: Operator**

1. The Operator has access to the **StartUp** function of the ATM.
2. The Operator controls the ATMs basic function of system Shutdown.

**Actor 2: Customer**

1. The customer has front end access to the system i.e. ATM.
2. The customer is given controlled access to the ATM database.
3. The customer can only access his account in the ATM.
4. The customer can access session provided to him.
5. The session **includes** the process of **Transaction**.
6. The customer can **Log In** by entering his credentials.
7. The customer can enter **PIN** in Transaction **3** times.
8. The customer can select any of the following option after Log In:

* Withdrawal
* Deposit
* Transfer
* Inquiry

**Actor 3: Bank**

1. Bank is the main system that the customer is accessing.
2. The bank verifies the Customer.
3. The bank verifies whether the entered PIN is invalid.
4. The Transaction extends the **Invalid PIN** function.

**Q#3: Descriptive Use Case for Withdrawal Use Case?**

|  |  |
| --- | --- |
| Use Case Name | Cash Withdrawal |
| Participating Actors | Primary: Customer  Secondary: Bank |
| Goal | Customer need to withdraw cash from his account |
| Trigger | The customer selects the Withdraw option in the Transaction Menu. |
| Precondition | The customer is logged in his account |
| Post condition | The customer has withdrawn cash. |
| Basic Flow | 1. The user selects the Withdraw Option 2. The user selects the type of accounts he has 3. The user enters the amount of cash he wants to withdraw. 4. The Bank checks if he has more than entered amount in his account. |
| Exceptions | 1. User is not logged in his account. 2. A glitch occurs in his transaction. 3. The ATM machine has no cash in it. |
| Constraints | 1. The PIN number should be valid. |

Q#2; Modification:

1. System termination Option.