Stock Broker

Batch   : ESAD-CS/ACSL-M/43/01
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Scenario

A stock broker invest an investors money in stock market.

The Investor is able repeatedly to Place [an] Order Instruction to buy or sell shares, with each one of the order instructions being recorded in the Order Book. The Stock Broker performs the activity to Execute Orders from the Order Book.
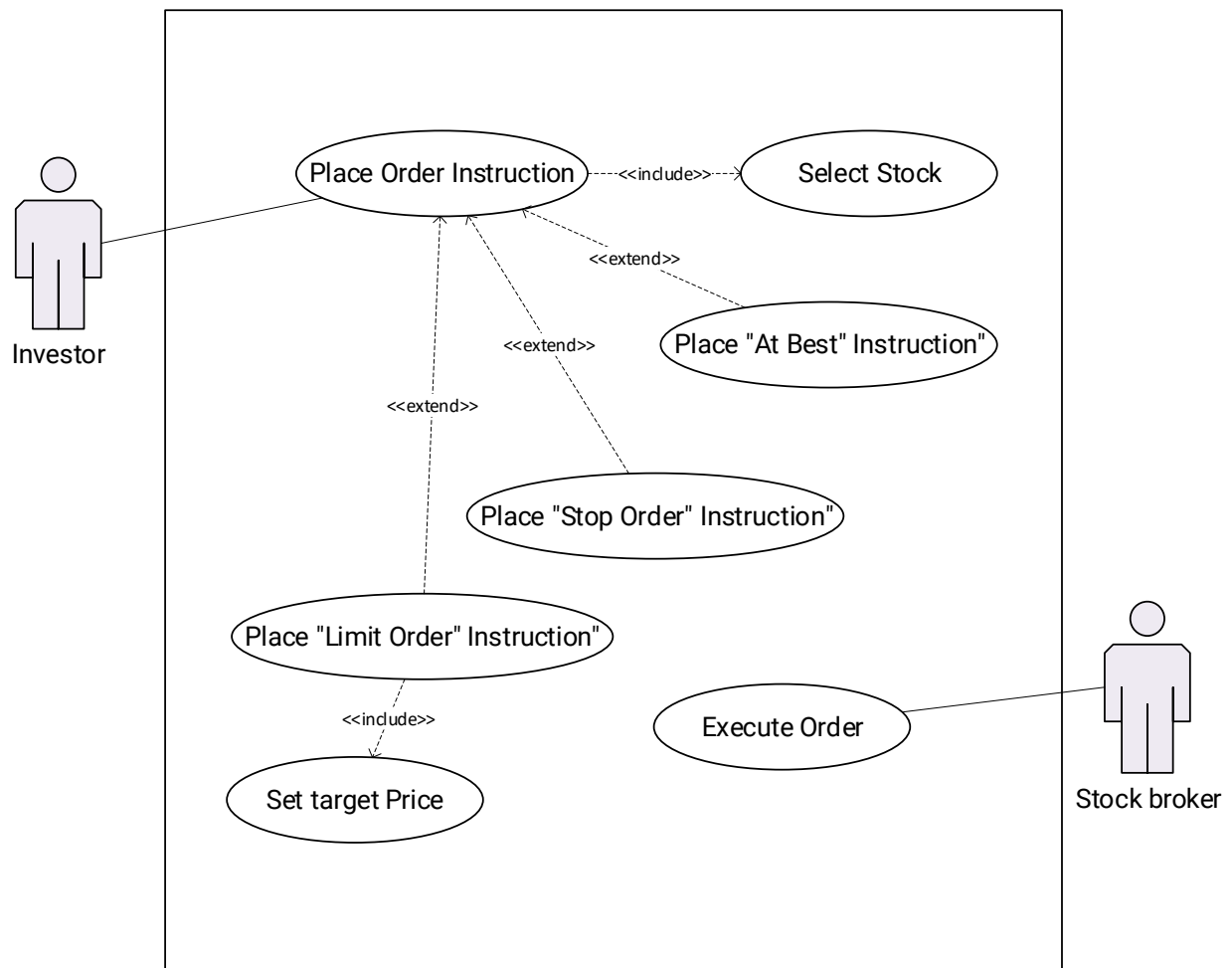
For note, Stockbrokers typically allow their clients to buy or sell stocks on the following conditions:

At Best instructs the broker to execute the buy or sell instruction at the next available market price.
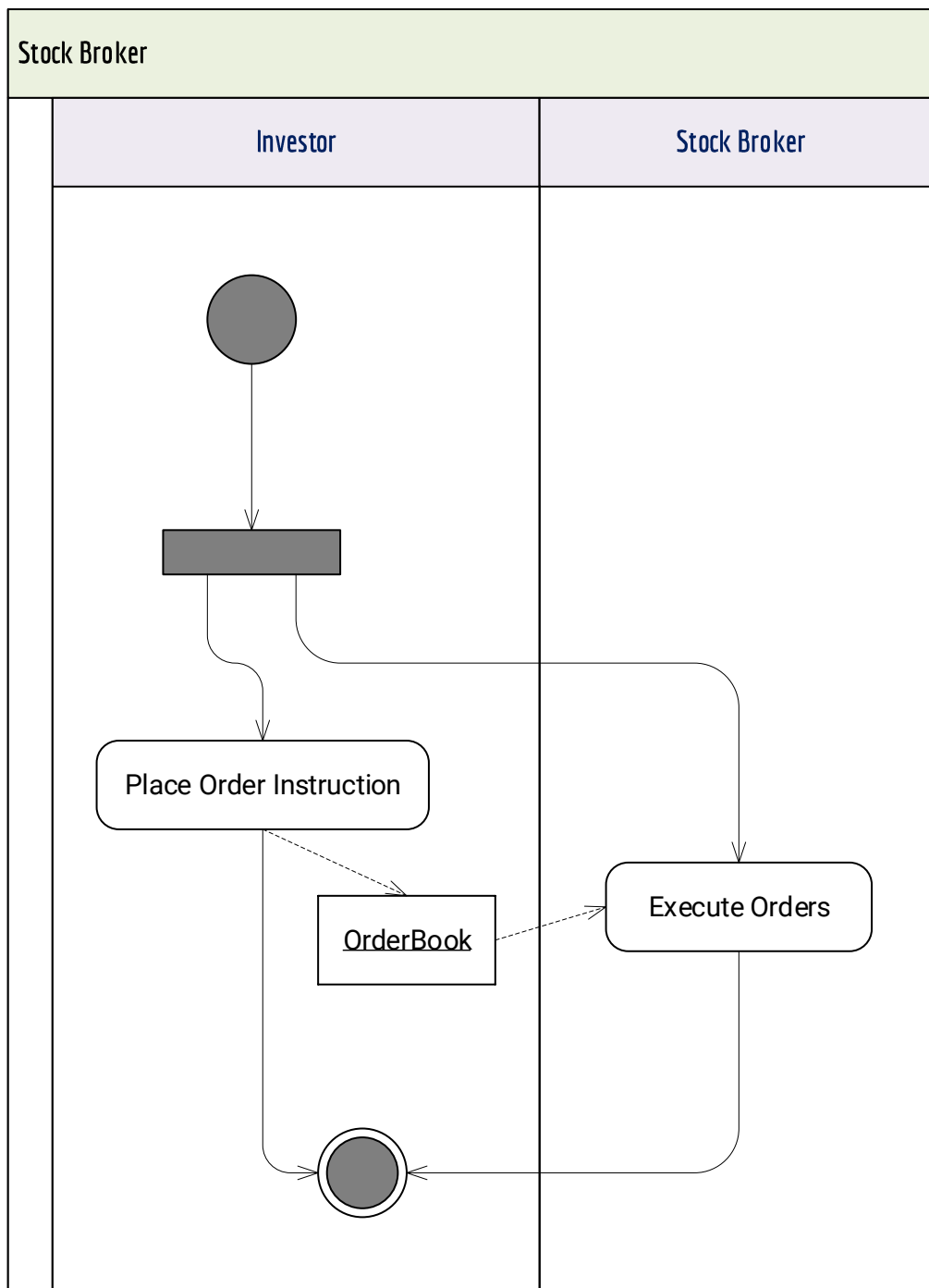
Stop Order instructs the broker to buy when the price rises to a specified level, or to sell (the more common case) when the price falls to a specified level.

Limit Order instructs the broker to buy when the price falls to a specified level, or to sell when the price rises to a specified level.
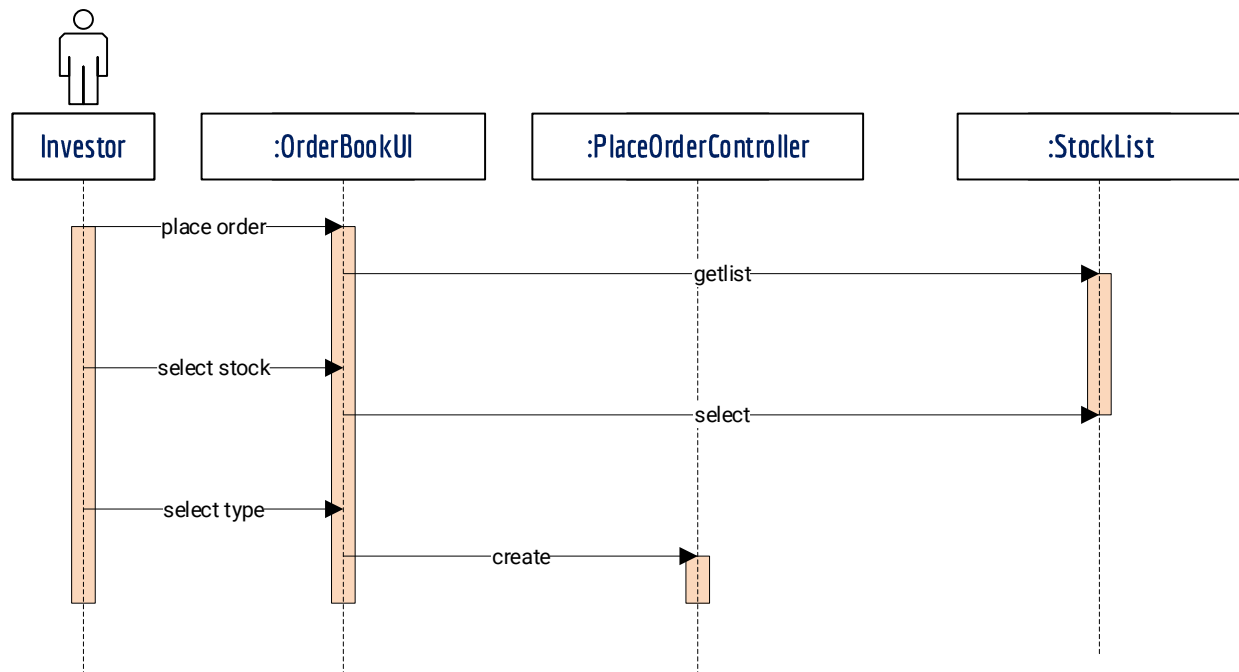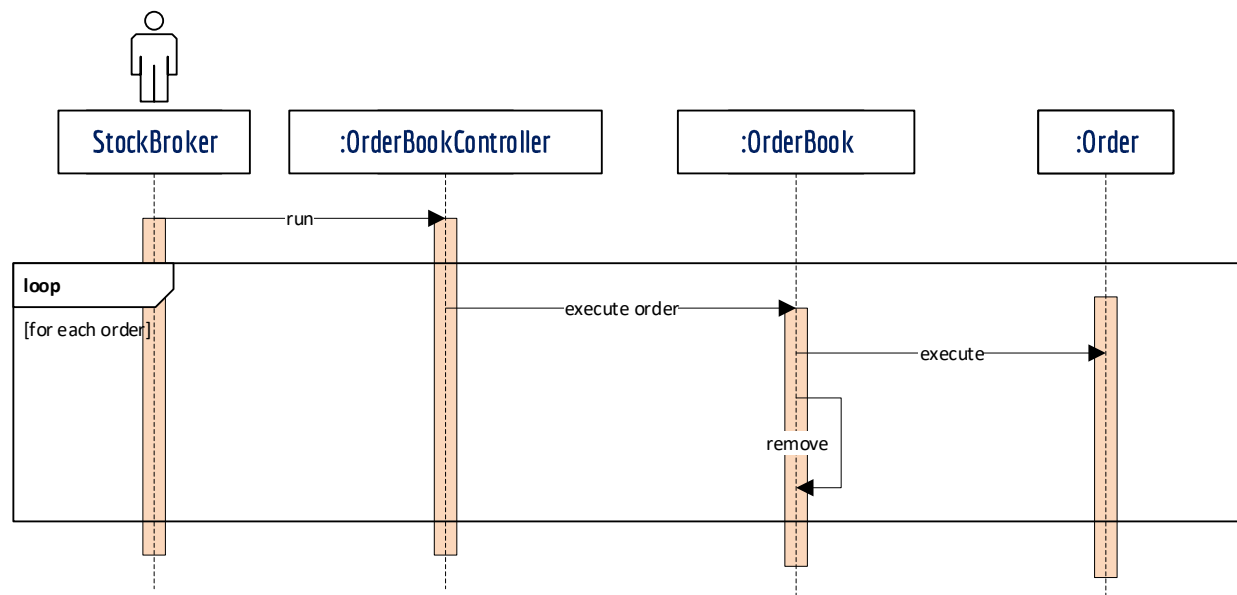
1. Use Case Diagram

2. Activity Diagram

3. Sequence Diagram (Investor)

```
   Investor      :OrderBookUI    :PlaceOrderController    :StockList

      |  place order  |                 |                    |
      |-------------->|                 |                    |
      |               |            getlist                   |
      |               |------------------------------------->|
      |               |                 |                    |
      | select stock  |                 |                    |
      |-------------->|                 |                    |
      |               |             select                   |
      |               |------------------------------------->|
      |               |                 |                    |
      | select type   |                 |                    |
      |-------------->|                 |                    |
      |               |    create       |                    |
      |               |---------------->|                    |
```

3.1 Sequence Diagram (StockBroker)

4. Class Diagram

OrderBook

-stock

-type

+addOrder()

+removeOrder()

+executeOrder()

LimitOrder

-stock

-targetPrice

+setTarget()

AtBestOrder

-stock

+gainOrLoss()

StopOrder

-stock

-target

+stopOrder()

Order

-stockSysmbol

-numberOfShares

-buyOrSell

+execute()

5. State Chart OrderList

Empty

Populated

addOrder()

addOrder()

executeOrder() [order cout = 0] /removeOrder()

executeOrder() [order cout > 0] /removeOrder()