# Project Details – Requirements - Volcker Rule Inventory Aging

## DefinitioN & Regulator Expectation

* Inventory aging is defined as how long positions are held by a firm.
* In order to calculate inventory aging, we need to also implement FIFO based closeouts (https://www.investopedia.com/terms/f/fifo.asp)
* The Inventory aging should report positions that are between

0-30 days

30-60 days

60-90 days

90-180 days

180-360 days

> 360 days

* Inventory aging must include two schedules, an asset-aging schedule and a liability-aging schedule.
* Therefore we will have the same buckets for Assets and Liabilities
* Assets are positions that have a positive value
* Liabilities are positions that have a negative value
* Data has to be reported at the Desk Level
* You have to report data for every day of the month

## Output Format

The format of the output is given below. The detailed specs are here (https://www.sec.gov/files/FRVV1\_20180605\_XML\_Specification\_draft.pdf). See Page 33

* Section Name (7A or 7B)
* Desk ID
* Business Date
* Value held 0-30
* Value held 30-60
* Value held 60-90
* Value held 90-180
* Value held 180-360
* Value held GT360

**Note**: The data should be shown for both sections even if the value held is 0.

## Input Feeds

You are part of a large firm where trading happens across different trading desks

There are 3 different feeds you will pull the data from

These feeds can be sent multiple times during the day and only the latest one should be finally reported.

There are additional supporting feeds that also get sent

### FEED 1

This desk does its own FIFO calculation and it sends a daily feed of data in the following format

* Date
* Desk ID
* Product ID
* Quantity
* Amount

Here Amount is the MV

### FEED 2

This desk does not do the FIFO calculations. Hence it provides a feed with all the trades done. You will need to implement the FIFO based calculations. You will get this following data

* Trade Date
* Product ID
* Buy/Sell
* Quantity

In order to calculate the Current MV, you will need to multiply Quantity with the Current Price

### FEED 3

This desk also does it’s own FIFO calculation but the format of the feed is different from Desk1

* Date
* Desk ID
* Product Id
* Quantity held 0-30
* Quantity held 30-60
* Quantity held 60-90
* Quantity held 90-180
* Quantity held 180-360
* Quantity held GT360

Note, that you will need to report at the Desk level in the Final Report. You will need to calculate the MV as before.

### Price Feed – SUpporting feed

You get a daily pricing feed

* Business Date
* Product Id
* Price

### Desk Feed - Supporting feed

You will get a daily deed containing desk information.

* Desk ID
* Desk Name

## Project expectationS

1. Generate data for the input feeds. Validate the inputs from your instructor. You would need to create files that are having a few hundred thousand rows on a daily basis.
2. Come up with the database design. Validate the design.
3. The Desk Name can be updated and you would need to ensure that you pick the right name of the desk as on the date that the feed is run
4. You feeds should be re-runnable i.e. if any load fails it should be handled properly
5. Output format is what the regulator is asking for.
6. We should also report an audit trail when the feed changes i.e. I should be able to run the report with an older feed of the day if required.
7. Transaction Handling and Exception Handling to be done. The feed can have nulls/zeroes
8. Think about indexes – Your implementation should be very performant.
9. Design for allowing overrides to be done on the final data.