**Ormuco Technical Test:** Nicholas Gravel – April 4th 2019

**Question A:**

Implementation:

1. Check if both the submitted lines are tuples
2. Check if there are exactly two positions in the tuple
3. Check if the positions are integers
4. Sort each tuple for consistency
5. Check to see if the lines intersect

**Question B:**

Implementation:

1. New Class for Versions
2. Validate Version is not None and a String with the proper version format
3. Utilize a tuple created from the splitting the version by each “.”
4. Override Comparison operators
5. Compare these tuples appropriately

**Question C:**

Implementation:

1. Entry Class with value, expiry time and expiry flag
2. isEntryExpired class function to return if entry is now expired based on expiry time
3. Cache Class with Capacity and ordered Dictionary
4. Set
   1. Try if Key already exists
   2. If Key does not exist check if new Key will exceed capacity
   3. If it does, pop oldest Key
   4. Add Entry to Key
5. Get
   1. Try if Key already exists, if not raise Key not found error
   2. If the Entry is expired, raise error
   3. Add Entry to Key
   4. Return Entry Value
6. Clean
   1. Loop through ordered dict
   2. If Entry is expired, pop.

Missing Functionalities:

1. Clean should not have to loop through whole dict. If it is ordered then when reading from oldest to newest, once reaching the first non-expired Entry theoretically the rest should also be non-expired. Assuming each entry is given the same expiry length.
2. No real time testing.
3. No Threading or Locks to ensure object is not already being modified during read/write