----------DOCUMENTATION----------

----------SETUP1----------

1. Setup both the apps in eclipse.
2. Hard code the Excel path in the **LoadMaps.java** file.
3. Configure different ports for both apps in **application.properties** file.
4. On Server start, Make sure getStatistics API is hit only after ifscSearch API, as the **TreeMap<String, Date> statisticsMap = new TreeMap<String, Date>()** which stores the ifsc and timestamps would be initially empty.

----------Technical Guide----------

-> Flask app is App1 and Django App is App2. Used SpringBoot for its implementation.

-> Considered only 100 rows from the attached excel sheet due to Java out of memory error.

----------App1----------

-> Made this App run on 8090 port.

-> 2 Maps get loaded on start of the application namely -

HashMap<String, Integer> countMap = new HashMap<String,Integer>();(Map <BANK, count_of_bank>)

HashMap<String, IFSCObject> map = new HashMap<String, IFSCObject>();(Map<IFSC, IFSCObject>))

-> Excel Paths have been hardcoded.

-> 3 REST Web Services were created -

-> **ifscSearch(ifsc);**

-> **bankLeaderBoard**

-> **if(no inputs)**

then bankLeaderBoard() where sortOrder = "DESC" and fetchCount = 10

else

sortOrder and fetchCount passed as PathVariable

-> **getStatistics**

-> if(no inputs)

then getStatistics() where sortOrder = "ASC"

-> Sorting done based on IFSC code.

----------App2----------

-> Made this app run on 8091 port.

-> This App consumes the ifscSearch API from App1.

-> When the app is hit for the first time, it will check the cache. SInce the cache is empty, it will call the App1 and store the response in the cache.

-> Next time onwards if the same ifsc is hit, then it will pick it up from the cache and return the response.

-> **HashMap<String, Integer> countOfHitsToCache = new HashMap<String, Integer>();(Map<IFSC, count_of_hits>)**

-> This Map keeps a track of how many times the data was retrieved from the cache.

-> **HashMap<String, Integer> countOfHitsToApp1 = new HashMap<String, Integer>();(Map<API_URL, count_of_hits)**

-> This Map keeps track of how many times was App1 called.