Assignment 5

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Github: https://github.com/Manisshabhlla/Redis_bigdata_Assignment5

Setup:

sudo apt update
sudo apt install python3-pip

```
bash: /home/manis/redis-env/bin/activate: No such file or directory
manis@LAPTOP-1DU0E8J7:~$ sudo apt install python3.12-venv -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  python3-pip-whl python3-pkg-resources python3-setuptools python3-setuptools-whl
Suggested packages:
  python-setuptools-doc
The following NEW packages will be installed:
  python3-pip-whl python3-setuptools-whl python3.12-venv
The following packages will be upgraded:
  python3-pkg-resources python3-setuptools
2 upgraded, 3 newly installed, 0 to remove and 127 not upgraded.
Need to get 2989 kB of archives.
After this operation, 2771 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 python3-setuptools all 68.1.2-2ubuntu1.2 [397 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 python3-pkg-resources all 68.1.2-2ubuntu1.2 [168 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 python3-pip-whl all 24.0+dfsg-1ubuntu1.2 [1703 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 python3-setuptools-whl all 68.1.2-2ubuntu1.2 [716 kB
]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 python3.12-venv amd64 3.12.3-1ubuntu0.7 [5680 B]
Fetched 2989 kB in 1s (3050 kB/s)
(Reading database ... 47813 files and directories currently installed.)
Preparing to unpack .../python3-setuptools_68.1.2-2ubuntu1.2_all.deb ...
Unpacking python3-setuptools (68.1.2-2ubuntu1.2) over (68.1.2-2ubuntu1.1) ...
Preparing to unpack .../python3-pkg-resources_68.1.2-2ubuntu1.2_all.deb ...
Unpacking python3-pkg-resources (68.1.2-2ubuntu1.2) over (68.1.2-2ubuntu1.1) ...
Selecting previously unselected package python3-pip-whl.
Preparing to unpack .../python3-pip-whl_24.0+dfsg-1ubuntu1.2_all.deb ...
Unpacking python3-pip-whl (24.0+dfsg-1ubuntu1.2) ...
Selecting previously unselected package python3-setuptools-whl.
Preparing to unpack .../python3-setuptools-whl_68.1.2-2ubuntu1.2_all.deb ...
Unpacking python3-setuptools-whl (68.1.2-2ubuntu1.2) ...
Selecting previously unselected package python3.12-venv.
Preparing to unpack .../python3.12-venv_3.12.3-1ubuntu0.7_amd64.deb ...
Unpacking python3.12-venv (3.12.3-1ubuntu0.7) ...
Setting up python3-pkg-resources (68.1.2-2ubuntu1.2) ...
Setting up python3-setuptools-whl (68.1.2-2ubuntu1.2) ...
Setting up python3-setuptools (68.1.2-2ubuntu1.2) ...
Setting up python3-pip-whl (24.0+dfsg-1ubuntu1.2) ...
Setting up python3.12-venv (3.12.3-1ubuntu0.7) ...
manis@LAPTOP-1DU0E8J7:~$
```

```
Suggested packages:
  python-setuptools-doc
The following NEW packages will be installed:
  python3-pip-whl python3-setuptools-whl python3.12-venv
The following packages will be upgraded:
  python3-pkg-resources python3-setuptools
2 upgraded, 3 newly installed, 0 to remove and 127 not upgraded.
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Get:4 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 python3-setuptools-whl all 68.1.2-2ubuntu1.2 [716 kB
]
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(Reading database ... 47813 files and directories currently installed.)
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Unpacking python3-setuptools (68.1.2-2ubuntu1.2) over (68.1.2-2ubuntu1.1) ...
Preparing to unpack .../python3-pkg-resources_68.1.2-2ubuntu1.2_all.deb ...
Unpacking python3-pkg-resources (68.1.2-2ubuntu1.2) over (68.1.2-2ubuntu1.1) ...
Selecting previously unselected package python3-pip-whl.
Preparing to unpack .../python3-pip-whl_24.0+dfsg-1ubuntu1.2_all.deb ...
Unpacking python3-pip-whl (24.0+dfsg-1ubuntu1.2) ...
Selecting previously unselected package python3-setuptools-whl.
Preparing to unpack .../python3-setuptools-whl_68.1.2-2ubuntu1.2_all.deb ...
Unpacking python3-setuptools-whl (68.1.2-2ubuntu1.2) ...
Selecting previously unselected package python3.12-venv.
Preparing to unpack .../python3.12-venv_3.12.3-1ubuntu0.7_amd64.deb ...
Unpacking python3.12-venv (3.12.3-1ubuntu0.7) ...
Setting up python3-pkg-resources (68.1.2-2ubuntu1.2) ...
Setting up python3-setuptools-whl (68.1.2-2ubuntu1.2) ...
Setting up python3-setuptools (68.1.2-2ubuntu1.2) ...
Setting up python3-pip-whl (24.0+dfsg-1ubuntu1.2) ...
Setting up python3.12-venv (3.12.3-1ubuntu0.7) ...
manis@LAPTOP-1DU0E8J7:~$ python3 -m venv redis-env
manis@LAPTOP-1DU0E8J7:~$ source ~/redis-env/bin/activate
(redis-env) manis@LAPTOP-1DU0E8J7:~$ pip install redis
Collecting redis
  Downloading redis-6.2.0-py3-none-any.whl.metadata (10 kB)
Downloading redis-6.2.0-py3-none-any.whl (278 kB)
   ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 278.7/278.7 kB 8.3 MB/s eta 0:00:00
Installing collected packages: redis
Successfully installed redis-6.2.0
(redis-env) manis@LAPTOP-1DU0E8J7:~$
```

pip install redis
pip install pandas

```
manis@LAPTOP-1DU0E8J7: ~                                              —   □   ✕

Unpacking python3.12-venv (3.12.3-1ubuntu0.7) ...
Setting up python3-pkg-resources (68.1.2-2ubuntu1.2) ...
Setting up python3-setuptools-whl (68.1.2-2ubuntu1.2) ...
Setting up python3-setuptools (68.1.2-2ubuntu1.2) ...
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Setting up python3.12-venv (3.12.3-1ubuntu0.7) ...
manis@LAPTOP-1DU0E8J7:~$ python3 -m venv redis-env
manis@LAPTOP-1DU0E8J7:~$ source ~/redis-env/bin/activate
(redis-env) manis@LAPTOP-1DU0E8J7:~$ pip install redis
Collecting redis
  Downloading redis-6.2.0-py3-none-any.whl.metadata (10 kB)
Downloading redis-6.2.0-py3-none-any.whl (278 kB)
                             ———————————— 278.7/278.7 kB 8.3 MB/s eta 0:00:00
Installing collected packages: redis
Successfully installed redis-6.2.0
(redis-env) manis@LAPTOP-1DU0E8J7:~$ pip install pandas
Collecting pandas
  Downloading pandas-2.3.1-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (91 kB)
                             ———————————— 91.2/91.2 kB 3.7 MB/s eta 0:00:00
Collecting numpy>=1.26.0 (from pandas)
  Downloading numpy-2.3.1-cp312-cp312-manylinux_2_28_x86_64.whl.metadata (62 kB)
                             ———————————— 62.1/62.1 kB 5.4 MB/s eta 0:00:00
Collecting python-dateutil>=2.8.2 (from pandas)
  Downloading python_dateutil-2.9.0.post0-py2.py3-none-any.whl.metadata (8.4 kB)
Collecting pytz>=2020.1 (from pandas)
  Downloading pytz-2025.2-py2.py3-none-any.whl.metadata (22 kB)
Collecting tzdata>=2022.7 (from pandas)
  Downloading tzdata-2025.2-py2.py3-none-any.whl.metadata (1.4 kB)
Collecting six>=1.5 (from python-dateutil>=2.8.2->pandas)
  Downloading six-1.17.0-py2.py3-none-any.whl.metadata (1.7 kB)
Downloading pandas-2.3.1-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (12.0 MB)
                             ———————————— 12.0/12.0 MB 43.0 MB/s eta 0:00:00
Downloading numpy-2.3.1-cp312-cp312-manylinux_2_28_x86_64.whl (16.6 MB)
                             ———————————— 16.6/16.6 MB 42.8 MB/s eta 0:00:00
Downloading python_dateutil-2.9.0.post0-py2.py3-none-any.whl (229 kB)
                             ———————————— 229.9/229.9 kB 20.8 MB/s eta 0:00:00
Downloading pytz-2025.2-py2.py3-none-any.whl (509 kB)
                             ———————————— 509.2/509.2 kB 25.7 MB/s eta 0:00:00
Downloading tzdata-2025.2-py2.py3-none-any.whl (347 kB)
                             ———————————— 347.8/347.8 kB 25.9 MB/s eta 0:00:00
Downloading six-1.17.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: pytz, tzdata, six, numpy, python-dateutil, pandas
Successfully installed numpy-2.3.1 pandas-2.3.1 python-dateutil-2.9.0.post0 pytz-2025.2 six-1.17.0 tzdata-2
025.2
(redis-env) manis@LAPTOP-1DU0E8J7:~$ _
```

```
docker run -d --name redis-stack -p 6379:6379 -p 8001:8001 redis/redis-stack:latest
```


Ques 1 Write the method connect() to create a connection to Redis. [5]

Ques 2 Write the methods load_users() and load_scores() to load the data into the redis db. Use appropriate data structures. Provide details of the Redis data structures that you are using. [5]

```
21    def load_users(self, file="users.txt"):
22        count=0
23        try:
24            with open(file, 'r', encoding='utf-8') as f:
25                for line in f:
26                    tokens = line.strip().split('" "')
27                    tokens = [token.replace('"', '') for token in tokens]
28                    key = tokens[0]
29                    fields = dict(zip(tokens[1::2], tokens[2::2]))
30                    self.redis.hset(key, mapping=fields)
31                    count+=1
32
33
34            self.redis.ft("idx:user").create_index(
35                fields=[
36                    TextField("first_name"),
37                    TextField("last_name"),
38                    TextField("gender"),
39                    TagField("country"),
40                    NumericField("latitude"),
41                    NumericField("longitude"),
42                ],
43                definition=IndexDefinition(prefix=["user:"], index_type=IndexType.HASH)
44            )
45            print(f"Index created. Loaded {count} users into Redis")
46        except Exception as e:
47            print("Index already exists or error:", e)
```

```
49    def load_scores(self, file="userscores.csv"):
50        count=0
51        with open(file, newline='') as f:
52            reader = csv.DictReader(f)
53            for row in reader:
54                leaderboard = f"leaderboard:{row['leaderboard']}"
55                self.redis.zadd(leaderboard, {row['user:id']: int(row['score'])})
56                count+=1
57        print(f"Scores loaded. Loaded scores for {count} users.")
```

```
Select manis@LAPTOP-1DU0E8J7: /mnt/c/Users/manis/OneDrive/Documents/Mtech/Big Data/Assignment 5_BD                                        —   🗗   ✕
(redis-env) manis@LAPTOP-1DU0E8J7:/mnt/c/Users/manis/OneDrive/Documents/Mtech/Big Data/Assignment 5_BD$ source ~/redis-env/bin/activate
(redis-env) manis@LAPTOP-1DU0E8J7:/mnt/c/Users/manis/OneDrive/Documents/Mtech/Big Data/Assignment 5_BD$ python3 /mnt/c/Users/manis/OneDrive/Documents/Mtech/Big\ Data/Assignment\ 5_BD/redis_assignment5.py
Connected to Redis.
Index created. Loaded 5996 users into Redis
Scores loaded. Loaded scores for 5996 users.
```

Ques 3 Write the method query1() that returns all the attributes of the user by usr. [5]

```
59    def query1(self, usr_id):
60        print("*************Query 1 **********")
61        try:
62            user_data= self.redis.hgetall(f"user:{usr_id}")
63            if user_data:
64                print(f"User {usr_id} data:")
65                for field,value in user_data.items():
66                    print(f"{field}: {value}")
67            else:
68                print(f"No user found with ID: {usr_id}")
69        except Exception as e:
70            print("Error in query1: ",e)
71        return user_data
```

```
*************Query 1 **********
User 300 data:
first_name: Elyssa
last_name: Bubear
email: ebubear8b@typepad.com
gender: female
ip_address: 94.106.243.133
country: Brazil      ▮
country_code: BR
city: Itapevi
longitude: -46.9354774
latitude: -23.5535152
last_login: 1570427792
```

Ques 4 Write the method query2() that the coordinate (longitude and latitude) of the user by the usr. [5]

```python
72
73    def query2(self, usr_id):
74        print("*************Query 2 ***********")
75        try:
76            user_data = self.redis.hgetall(f"user:{usr_id}")
77            if not user_data:
78                print(f" No user found with ID: {usr_id}")
79                return
80            longitude= user_data.get("longitude")
81            latitude= user_data.get("latitude")
82            if longitude and latitude:
83                print(f"Coordinated of user {usr_id}:")
84                print(f"Logitude: {longitude}")
85                print(f"Latitude: {latitude}")
86            else:
87                print(f"Location data notfound for user {usr_id}")
88        except Exception as e:
89            print ("Error in query 2: ",e)
90        return longitude, latitude
```

```
*************Query 2 ***********
Coordinated of user 2836:
Logitude: 1.9638715
Latitude: 47.9035673
```

Ques 5 Write the method query3() that get the keys and last names of the users whose ids do not start with an odd number. [5]

```python
91
92    def query3(self):
93        print("*************Query 3 ***********")
94        cursor = 1280
95        usrids, lastnames = [], []
96        try:
97            while True:
98                cursor, keys = self.redis.scan(cursor=cursor, match="user:*", count=10)
99                for key in keys:
100                   uid = key.split(":")[1]
101                   if uid and int(uid[0]) % 2 == 0:
102                       usrids.append(key)
103                       last_name=self.redis.hget(key, "last_name")
104                       lastnames.append(last_name)
105                       print(f"{key} - {last_name}")
106               if cursor == 0:
107                   break
108        except Exception as e:
109            print ("Error in Query 3", e)
110
111        return usrids, lastnames
```

```
*************Query 3 **********
user:2433 - Strainge
user:888 - Ogbourne
user:4078 - Yarnold
user:4939 - George
user:4660 - Celler
user:2160 - Dovey
user:4079 - Springell
user:4306 - Cockrill
user:4101 - Lackey
user:2046 - Redwing
user:4602 - Jacob
user:2089 - Janko
user:4675 - Vayne
user:4018 - Anglim
user:2722 - Horlock
user:4681 - Harriskine
user:2381 - Lamswood
user:2041 - Attride
user:61 - Phare
user:2270 - Marvel
user:4895 - Bairstow
user:2945 - Pietroni
user:2186 - Bruhn
user:2212 - Sumpner
user:4985 - Erangey
user:4642 - De Ruel
user:4403 - Reach
user:4501 - Curl
user:203 - Rossant
user:494 - Cremin
user:4108 - Tidswell
user:2096 - Spitell
user:2184 - Gilliland
user:2342 - Carrabott
user:2954 - Demangeon
user:868 - Canada
user:2916 - Dalgarnocht
user:4499 - Reames
user:4244 - Randlesome
user:4291 - Moulster
user:4756 - Dudny
user:2064 - Kleimt
user:4391 - Tumini
user:4949 - McKinley
user:4579 - Pinor
```

```
user:4777 - Sager
user:602 - Kibel
user:4723 - Cardoo
user:2474 - Gurry
user:2834 - Peaddie
user:4550 - Filer
user:274 - Calf
user:2382 - Chadwin
user:2058 - Ritchie
user:2140 - Heart
user:4216 - Feaveer
user:4288 - Grewar
user:4715 - Lismore
user:2803 - Effaunt
user:2634 - Wilstead
user:433 - Mackley
user:4762 - Feedham
user:4297 - Toth
user:2209 - Brown
user:2251 - Byford
user:4259 - Covey
user:2608 - Earwaker
user:2827 - Duncklee
user:461 - Atthow
user:2387 - Yemm
user:2478 - Alessandretti
user:249 - Sellen
user:2100 - Wickett
user:2613 - Kaes
user:661 - Caisley
user:4302 - Afonso
user:2601 - Tomasutti
user:4712 - Geake
user:2366 - Whyberd
user:4836 - Madoc-Jones
user:889 - Phython
user:4812 - Gomby
user:2344 - Graham
user:2092 - Sidaway
user:2546 - Oakes
user:824 - Schapero
user:4867 - Maddocks
user:2991 - Pettegre
user:2924 - Ley
user:836 - Napolitano
user:2061 - Ridge
user:680 - Flori
```

```
user:2543 - Siemandl
user:4542 - Coat
user:4399 - Gilks
user:2986 - Maestro
user:4298 - Perrett
user:654 - Macconachy
user:299 - Jendrys
user:62 - Donaghy
user:620 - McConnachie
user:622 - Dmytryk
user:896 - Liddard
user:2255 - Stuffins
user:2247 - Kee
user:4612 - Bradberry
user:4123 - Maulden
user:4512 - Karpf
user:2545 - Buchan
user:4251 - McCorley
user:4458 - Malimoe
user:4820 - Tinsley
user:2683 - Henriet
user:2094 - Ginnally
user:4114 - Greenin
user:267 - Radmer
user:247 - Ovenden
user:2739 - Cleverly
user:223 - Allcoat
user:4449 - Lyte
user:4875 - Northeast
user:492 - Sieghard
user:4418 - Goomes
user:2154 - Spacey
user:2347 - Delamaine
user:630 - Dobble
user:4965 - Galego
user:4043 - Gresham
user:4150 - Petegree
user:4616 - D'Aguanno
user:4237 - Kuschel
user:2665 - Kimbrough
user:2 - Dewhurst
user:4415 - Dillestone
user:2373 - Esom
user:2707 - Brewse
user:2825 - O'Corhane
user:4569 - Mattosoff
user:4790 - Cran
user:4196 - Sparkwell
```

Ques 6 Write the method query4() that returns the female in China or Russia with a latitude between 40 and 46. [5]

```python
    def query4(self):
        print("*************Query 4 **********")
        result = []
        for key in self.redis.scan_iter("user:*"):
            user = self.redis.hgetall(key)
            try:
                gender = user.get("gender")
                country = user.get("country")
                latitude = float(user.get("latitude", 0))

                if (
                    gender == "female"
                    and country in ["China", "Russia"]
                    and 40 <= latitude <= 46
                ):
                    result.append(user)
                    print(f"{key}: {user.get('first_name', '')} ({country}) - gender: {gender}, latitude: {latitude}")
            except:
                continue
        return result
```

```
(redis-env) manis@LAPTOP-1DU0E8J7:/mnt/c/Users/manis/OneDrive/Documents/Mtech/Big Data/Assignment 5_BD$ source ~/redis-env/bin/activate
(redis-env) manis@LAPTOP-1DU0E8J7:/mnt/c/Users/manis/OneDrive/Documents/Mtech/Big Data/Assignment 5_BD$ python3 /mnt/c/Users/manis/OneDrive/Documents/Mtech/Big\ Data/Assignment\ 5_BD/redis_assignment5.py
Connected to Redis.
Index created. Loaded 5996 users into Redis
Scores loaded. Loaded scores for 5996 users.
*************Query 4 **********
user:2160: Ariana (Russia) - gender: female, latitude: 44.348809
user:494: Robbyn (China) - gender: female, latitude: 44.639079
user:4579: Bekki (Russia) - gender: female, latitude: 43.2374865
user:3343: Ingaborg (China) - gender: female, latitude: 40.576319
user:824: Marleen (China) - gender: female, latitude: 40.974829
user:492: Agace (Russia) - gender: female, latitude: 43.446712
user:3007: Catha (China) - gender: female, latitude: 41.270347
user:1905: Annissa (China) - gender: female, latitude: 41.468342
user:1375: Min (Russia) - gender: female, latitude: 41.5335463
user:509: Wilma (Russia) - gender: female, latitude: 44.574779
user:673: Sula (China) - gender: female, latitude: 41.565627
user:4588: Gretal (China) - gender: female, latitude: 44.9829
user:5276: Fancie (Russia) - gender: female, latitude: 45.4401623
user:116: Sadella (Russia) - gender: female, latitude: 43.4321902
user:4858: Harmonia (China) - gender: female, latitude: 40.8536972
user:5655: Goldarina (China) - gender: female, latitude: 45.506995
user:4038: Lucila (Russia) - gender: female, latitude: 43.57344
user:4991: Tracy (China) - gender: female, latitude: 43.30706
user:5306: Penelopa (Russia) - gender: female, latitude: 43.2374865
user:2568: Godiva (China) - gender: female, latitude: 44.766541
user:4780: Cindy (China) - gender: female, latitude: 41.1846097
user:1163: Merrili (Russia) - gender: female, latitude: 43.5621247
user:5775: Kendre (China) - gender: female, latitude: 44.840524
user:4451: Emelita (Russia) - gender: female, latitude: 43.3045595
user:929: Lavinie (China) - gender: female, latitude: 41.244729
user:5868: Kelila (China) - gender: female, latitude: 41.270347
user:5162: Nonna (China) - gender: female, latitude: 42.016401
user:2330: Valerye (China) - gender: female, latitude: 41.666028
user:3649: Crin (China) - gender: female, latitude: 41.234822
user:3229: Goldie (China) - gender: female, latitude: 41.777702
user:4652: Jeanelle (China) - gender: female, latitude: 40.608793
user:2475: Ag (Russia) - gender: female, latitude: 44.3204868
user:5238: Henrietta (China) - gender: female, latitude: 41.669412
user:4364: Maureen (Russia) - gender: female, latitude: 43.47139
user:3099: Eydie (Russia) - gender: female, latitude: 44.4868448
user:5977: Lyndell (Russia) - gender: female, latitude: 44.0300904
user:4085: Yolanda (Russia) - gender: female, latitude: 43.3213308
user:4785: Sharleen (China) - gender: female, latitude: 44.521785
user:2982: Vin (China) - gender: female, latitude: 42.654146
user:1051: Jessa (China) - gender: female, latitude: 40.974829
```

```
user:2982: Vin (China) - gender: female, latitude: 42.654146
user:1051: Jessa (China) - gender: female, latitude: 40.974829
user:5920: Cicely (Russia) - gender: female, latitude: 43.8507498
user:31: Sharline (China) - gender: female, latitude: 40.1465349
user:897: Calypso (China) - gender: female, latitude: 44.181054
user:4402: Barbette (China) - gender: female, latitude: 44.533814
user:2489: Elise (Russia) - gender: female, latitude: 43.5007512
user:1044: Orella (China) - gender: female, latitude: 43.915618
user:1698: Allix (Russia) - gender: female, latitude: 45.05426
user:3568: Olympe (China) - gender: female, latitude: 41.985186
user:658: Ingeberg (China) - gender: female, latitude: 42.629452
user:3213: Nancie (China) - gender: female, latitude: 40.425649
user:5280: Eirena (Russia) - gender: female, latitude: 45.0052663
user:4945: Deerdre (China) - gender: female, latitude: 44.439044
user:1708: Korrie (Russia) - gender: female, latitude: 45.1242818
user:697: Bertie (China) - gender: female, latitude: 41.267244
user:4781: Kai (Russia) - gender: female, latitude: 44.6441061
user:5698: Carmella (Russia) - gender: female, latitude: 45.294498
user:1662: Alison (Russia) - gender: female, latitude: 44.6611202
user:169: Kelsi (China) - gender: female, latitude: 40.359722
user:2106: Allene (China) - gender: female, latitude: 43.30706
user:2266: Christean (China) - gender: female, latitude: 40.087301
user:4372: Mattie (China) - gender: female, latitude: 44.439044
user:2289: Raphaela (Russia) - gender: female, latitude: 42.7989149
user:337: Eleonora (China) - gender: female, latitude: 40.088917
user:4645: Elena (Russia) - gender: female, latitude: 43.4265165
user:3542: Jacquelin (China) - gender: female, latitude: 40.076762
user:5778: Silvia (Russia) - gender: female, latitude: 42.9612827
user:2554: Morgan (Russia) - gender: female, latitude: 43.708681
user:1143: Robena (China) - gender: female, latitude: 43.817071
user:5597: Chere (China) - gender: female, latitude: 43.8384389
user:2851: Mellicent (Russia) - gender: female, latitude: 43.5648626
user:1952: Aline (Russia) - gender: female, latitude: 45.4885295
user:5841: Minni (China) - gender: female, latitude: 40.828411
user:1615: Karyn (China) - gender: female, latitude: 40.284979
user:5813: Ursuline (Russia) - gender: female, latitude: 43.2496743
user:4148: Ardisj (China) - gender: female, latitude: 44.142359
user:4929: Ingaborg (Russia) - gender: female, latitude: 43.2311668
user:3944: Hedda (China) - gender: female, latitude: 45.360768
user:3550: Tracy (China) - gender: female, latitude: 41.654661
user:4361: Frank (Russia) - gender: female, latitude: 40.6108358
user:5875: Fancie (China) - gender: female, latitude: 44.34072
user:2627: Doria (China) - gender: female, latitude: 42.9177058
user:1642: Mignonne (China) - gender: female, latitude: 42.697778
user:86: Stevana (Russia) - gender: female, latitude: 43.2608797
user:1677: Diane (China) - gender: female, latitude: 41.834144
user:4326: Carleen (Russia) - gender: female, latitude: 43.2388068
user:2392: Bernice (Russia) - gender: female, latitude: 43.9576632
user:2761: Minnaminnie (China) - gender: female, latitude: 41.305838
```

```
user:388: Cristin (China) - gender: female, latitude: 44.055922
user:2771: Arlyne (China) - gender: female, latitude: 40.609731
user:3300: Giralda (Russia) - gender: female, latitude: 44.2636981
user:1576: Auguste (Russia) - gender: female, latitude: 45.8697083
user:4197: Stephie (Russia) - gender: female, latitude: 42.82042
user:5251: Irita (China) - gender: female, latitude: 43.9912932
user:2136: Hedi (China) - gender: female, latitude: 44.6441724
user:3774: Malissa (China) - gender: female, latitude: 41.733296
user:3174: Fianna (China) - gender: female, latitude: 44.142359
user:189: Ladonna (China) - gender: female, latitude: 41.805137
```

Ques 7 Write the method query5() that gets the email ids of the top 10 players(in terms of score) in leaderboard:2. [5]

```python
134
135    def query5(self):
136        results=[]
137        print("*************Query 5 ***********")
138        top_users = self.redis.zrevrange("leaderboard:2", 0, 9)
139        for user_id in top_users:
140            email_id=self.redis.hget(user_id, "email")
141            if email_id:
142                results.append(email_id)
143                print(f"{user_id} -> {email_id}")
144            else:
145                print(f"No email found for {user_id}")
146
147        return results
```

```
*************Query 5 ***********
user:5861 -> hkarlolako0@arizona.edu
user:4786 -> rpalleskelx@wikia.com
user:2468 -> dpriddlecz@wp.com
user:5830 -> ubouldn5@icio.us
user:5771 -> tgerlerli@nymag.com
user:501 -> mrehmdw@bravesites.com
user:3948 -> hcleggqd@imageshack.us
user:318 -> lmcvitty8t@typepad.com
user:2971 -> cyoungsqy@acquirethisname.com
user:2491 -> pslorancedm@ask.com
(redis-env) manis@LAPTOP-1DU0E8J7:/mnt/c/Users/manis/OneDrive/Documents/Mtech/Big Data/Assignment 5_BD$
```

Main function:

```python
150    if __name__ == "__main__":
151        r = Redis_Client()
152        r.connect()
153        r.load_users("users.txt")
154        r.load_scores("userscores.csv")
155
156        r.query1("300")
157        r.query2("2836")
158        r.query3()
159        r.query4()
160        r.query5()
161
```