

✓ Redis Assignment

In this assignment, you will access a redis server and user redis commands to find out answers. The redis server is at *lab.aimet.tech*. You also have to authenticate as username 'hw' with password 'hw'.

The populated data in the redis database is similar to the example "simple social network" in the class. Answer all questions in mycourseville assignment.

Note that this user can only use "read" commands e.g. "get", "lrange", "llen", "scan", etc.

```
# we will have to install redis in colab
import sys
IN_COLAB = 'google.colab' in sys.modules
if IN_COLAB:
    !pip install redis

Requirement already satisfied: redis in /usr/local/lib/python3.10/dist-packages (5.0.3)
Requirement already satisfied: async-timeout>=4.0.3 in /usr/local/lib/python3.10/dist-packages (from redis) (4.0.3)

import redis

rd = redis.Redis(host='lab.aimet.tech', charset="utf-8", decode_responses=True)
rd.auth(username='hw', password='hw')

True
```

✓ What is the username of user id "600"?

```
username = rd.get('user:600:name')

print("username of user id '600':",username)

username of user id '600': cautiousCrackers9
```

✓ What is the id of username "excitedPie4" ?

```
id = rd.get('username:excitedPie4')
print("id of excitedPie4:",id)

id of excitedPie4: 567
```

✓ How many users that "excitedPie4" follows ?

```
n = len(rd.smembers('user:567:follows'))
print(n,"users that excitedPie4 follows")

9 users that excitedPie4 follows
```

✓ How many users are there in the database?

```
n = len(rd.keys('user:*:name'))
print("There are",n,"users in the database")

There are 200 users in the database
```

✓ What is the average number of follows per user?

```

keys = rd.keys('user*:followed_by')
sum_followers = 0
for key in keys:
    sum_followers += len(rd.smembers(key))
print("Average number of followers:", sum_followers/len(keys))

Average number of followers: 8.605

```

✓ How many users follows between 5-10 users?

```

keys = rd.keys('user*:follows')
count = 0
for key in keys:
    if 5 <= len(rd.smembers(key)) <= 10:
        count += 1
print("Number of users following 5 to 10 users:", count)

Number of users following 5 to 10 users: 60

```

✓ Which account has the most followers?

```

most_followers_id = 0
max_followers = 0

keys = rd.keys('user*:followed_by')

for key in keys:
    followers = len(rd.smembers(key))
    if followers > max_followers:
        max_followers = followers
        most_followers_id = key.split(':')[1]

print("User with most followers:", most_followers_id, "with", max_followers, "followers")

➡ User with most followers: 630 with 17 followers

```