

✓ Redis Assignment

In this assignment, you will access a redis server and use 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.

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

🔄 Requirement already satisfied: redis in /usr/local/lib/python3.11/dist-packages (5.2.1)

```
1 import redis
```

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

🔄 True

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

```
1 rd.get('user:600:name')
```

🔄 'cautiousCrackers9'

✓ What is the id of username "excitedPie4" ?

```
1 rd.get('username:excitedPie4')
```

🔄 '567'

✓ How many users that "excitedPie4" follows ?

```
1 rd.scard('user:'+rd.get("username:excitedPie4")+':follows')
```

🔄 9


✓ How many users are there in the database?

```
1 user_list = {user for key in rd.keys("user:*:follow*") for user in rd.smembers(key)}
2 number_of_users = len(user_list)
3 print(number_of_users)
```

🔄 200

✓ What is the average number of follows per user?

```
1 followers = [rd.scard(key) for key in rd.keys('user:*:follows')]
2 print(sum(followers)/number_of_users)
```

 8.605


✓ How many users follows between 5-10 users?

```
1 followers_count = [rd.scard(key) for key in rd.keys('user*:follows')]
2 count = 0
3 for num_followers in followers_count:
4     if 5 <= num_followers <= 10:
5         count += 1
6 print(count)
```

 60

✓ Which account has the most followers?

```
1 max_followers = 0
2 max_user_id = None
3 cursor = 0
4
5 while True:
6     cursor, keys = rd.scan(cursor, match='user*:followed_by')
7     for key in keys:
8         followers = rd.scard(key)
9         if followers > max_followers:
10             max_followers = followers
11             max_user_id = key.split(":")[1]
12     if cursor == 0:
13         break
14
15 print(f"User ID: {max_user_id}")
```

 User ID: 630