

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.

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

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"?

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

'cautiousCrackers9'
```

What is the id of username "excitedPie4" ?

```
cursor = 0
cursor, keys = rd.scan(cursor=cursor,
                        match='user:*')

while cursor > 0:
    for key in keys:
        if 'name' in key:
            name = rd.get(key)
            if name == 'excitedPie4':
                id = key.split(':')[1]
                print('id is', id)
    cursor, keys = rd.scan(cursor=cursor,
                           match='user:*')

id is 567
```

How many users that "excitedPie4" follows ?

```
follower = rd.smembers('user:567:followed_by')  
  
print(f"has {len(follower)} followers")  
  
has 8 followers
```

How many users are there in the database?

```
member_set = set()  
  
cursor = 0  
cursor, keys = rd.scan(cursor=cursor,  
                        match='user:*')  
  
while cursor > 0:  
    for key in keys:  
        id = key.split(':')[1]  
        member_set.add(id)  
        cursor, keys = rd.scan(cursor=cursor,  
                                match='user:*')  
  
print(f"total {len(member_set)} users in DB")  
  
total 200 users in DB
```

What is the average number of follows per user?

```
follows_count = dict()  
  
cursor = 0  
cursor, keys = rd.scan(cursor=cursor,  
                        match='user:*')  
  
while cursor > 0:  
    for key in keys:  
        id = key.split(':')[1]  
        if 'follows' in key:  
            print('searching id', id)  
            if id not in follows_count:  
                follows_set = rd.smembers(key)  
                follows_count[id] = follows_set  
            else:  
                follows_count[id] =  
follows_count[id].union(follows_set)  
        cursor, keys = rd.scan(cursor=cursor,  
                                match='user:*')
```

searching id 547
searching id 569
searching id 534
searching id 611
searching id 638
searching id 669
searching id 504
searching id 592
searching id 510
searching id 555
searching id 539
searching id 617
searching id 662
searching id 516
searching id 695
searching id 640
searching id 537
searching id 546
searching id 590
searching id 654
searching id 501
searching id 614
searching id 700
searching id 530
searching id 519
searching id 571
searching id 691
searching id 604
searching id 616
searching id 521
searching id 580
searching id 559
searching id 568
searching id 646
searching id 666
searching id 587
searching id 596
searching id 593
searching id 518
searching id 606
searching id 563
searching id 686
searching id 572
searching id 542
searching id 541
searching id 623
searching id 625
searching id 668
searching id 599
searching id 503

searching id 598
searching id 557
searching id 552
searching id 641
searching id 586
searching id 520
searching id 655
searching id 658
searching id 526
searching id 562
searching id 676
searching id 579
searching id 567
searching id 578
searching id 576
searching id 585
searching id 514
searching id 551
searching id 633
searching id 649
searching id 699
searching id 540
searching id 577
searching id 507
searching id 637
searching id 620
searching id 560
searching id 628
searching id 690
searching id 621
searching id 543
searching id 575
searching id 618
searching id 588
searching id 671
searching id 533
searching id 624
searching id 584
searching id 605
searching id 684
searching id 678
searching id 681
searching id 515
searching id 660
searching id 642
searching id 607
searching id 554
searching id 663
searching id 545
searching id 685

searching id 647
searching id 524
searching id 680
searching id 538
searching id 564
searching id 548
searching id 644
searching id 645
searching id 610
searching id 589
searching id 613
searching id 570
searching id 566
searching id 675
searching id 664
searching id 679
searching id 544
searching id 591
searching id 630
searching id 674
searching id 506
searching id 632
searching id 602
searching id 612
searching id 513
searching id 687
searching id 657
searching id 688
searching id 597
searching id 615
searching id 531
searching id 523
searching id 536
searching id 505
searching id 525
searching id 603
searching id 594
searching id 667
searching id 573
searching id 561
searching id 529
searching id 665
searching id 512
searching id 651
searching id 608
searching id 502
searching id 582
searching id 682
searching id 656
searching id 696

```
searching id 648
searching id 627
searching id 629
searching id 595
searching id 631
searching id 549
searching id 693
searching id 634
searching id 694
searching id 528
searching id 626
searching id 639
searching id 517
searching id 508
searching id 652
searching id 692
searching id 565
searching id 643
searching id 659
searching id 511
searching id 697
searching id 619
searching id 636
searching id 558
searching id 601
searching id 581

acc_follows = 0
for key, value in follows_count.items():
    n_follows = len(value)
    acc_follows += n_follows

print(f"avg. follows is {acc_follows/200:.3}")

avg. follows is 8.6
```

How many users follows between 5-10 users?

```
n_users = 0
for key, value in follows_count.items():
    n_follows = len(value)
    if 5 <= n_follows <= 10:
        n_users += 1

print('has', n_users, 'users')

has 60 users
```

Which account has the most followers?

```
max_followers = float('-inf')
user_id = None

cursor = 0
cursor, keys = rd.scan(cursor=cursor,
                        match='user:*')

while cursor > 0:
    for key in keys:
        id = key.split(':')[1]
        if 'followed_by' in key:
            follower = rd.smembers(key)
            if len(follower) > max_followers:
                max_followers = len(follower)
                user_id = id

    cursor, keys = rd.scan(cursor=cursor,
                           match='user:*')

user_name = rd.get(f"user:{user_id}:name")
print(f"most follower is (id={user_id}, name={user_name})")

most follower is (id=630, name=decimalGatoradel)
```