

Part 1: Intersections and Unions of Sets (4 pts)

This is one program (just broken down into steps):

1. Fill an ArrayList with a random number (between 3 and 8) of HashSets that each hold exactly 10 random numbers between 1 and 30. All of the sets must have sizes equal to 10. Print each set.
2. Make a method that will receive two sets and return a **set** of the intersection of the sets. The intersection will consist only of the common values contained within all sets.
- Method calls must eventually build the complete intersection of all of the sets.
3. Make a method that will receive two sets and return a **set** of the union of the sets. The union will consist only of the unique values contained within all sets. Method calls must eventually build the complete union of all of the sets.
4. Use the methods created in step 2 & 3 to create and print the intersection and union sets for all of the sets in the ArrayList

SAMPLE OUTPUT

Set 1 => [1, 20, 21, 23, 25, 10, 26, 27, 11, 28]

Set 2 => [16, 1, 17, 5, 22, 6, 7, 8, 27, 28]

Set 3 => [17, 1, 19, 3, 20, 22, 24, 26, 14, 15]

Intersection => [1]

union => [1, 3, 5, 6, 7, 8, 10, 11, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28]

NOTE: When you have a lot of sets your intersection will often be empty. Try to run until you get a non-empty intersection.

Part 2: CodeWars

Login / Create Account on this website: <http://www.codewars.com>

You must do the following tasks on CodeWars: **(2 pts each)**

These three must be solved using sets:

[Twice linear](#), [80's Kids #7: She's a Small Wonder](#), [Detect Pangram](#)

Plus, two more options among these 8 choices which don't necessarily require sets to solve(**1 pt each**)

[intTunes](#)

[Catching Car Mileage Numbers](#)

[Sum by Factors](#)

[Feed Kahumolings!](#)

[Escape with your booty!](#)

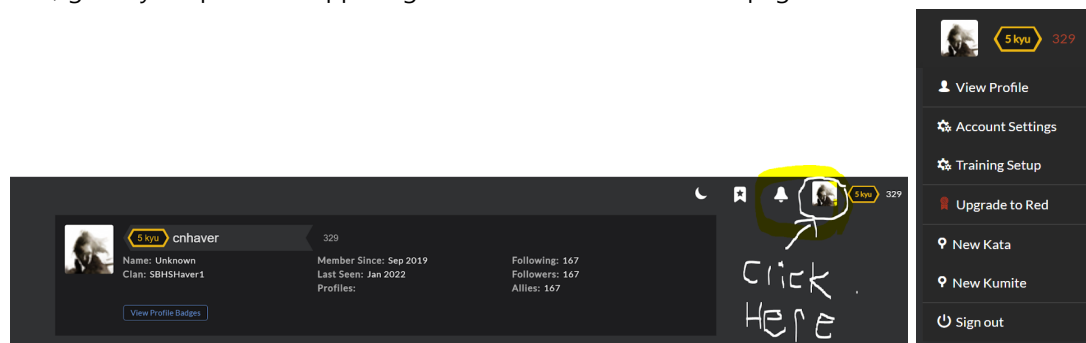
[Longest Strict Bouncy Subarray](#)

[Which are in?](#)

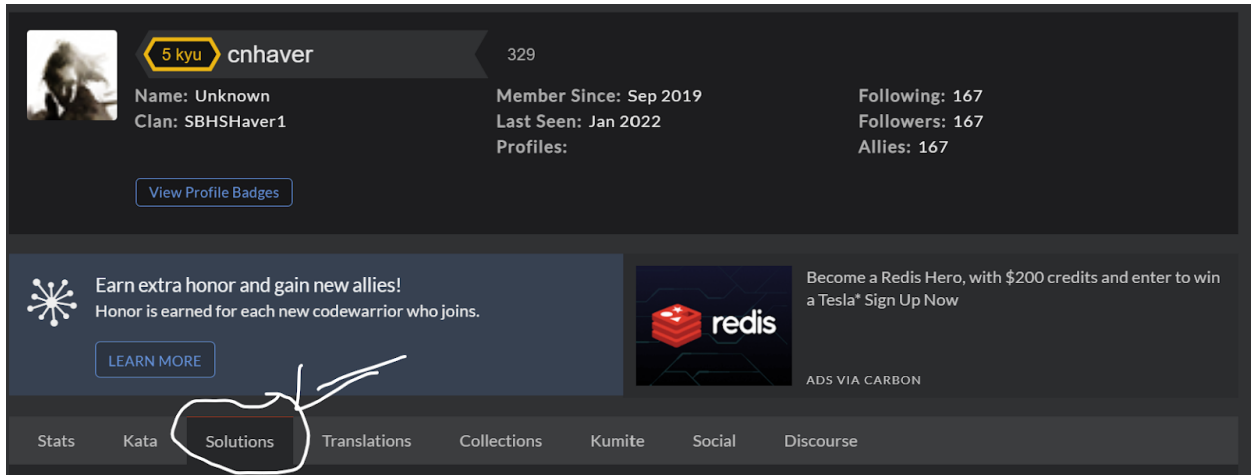
[Your order, please](#)

How to show completion of Code Wars problem:

First, go to your profile in upper right hand corner of codewars page:



From your profile, click on solutions to bring up solutions of ones you have solved



The screenshot shows a user profile for 'cnhaver' with a 5 kyu rank. The profile includes a name, clan (SBHSHaver1), member since date (Sep 2019), last seen date (Jan 2022), and statistics (329 points, 167 following, 167 followers, 167 allies). A 'View Profile Badges' button is present. Below the profile is a banner for 'Earn extra honor and gain new allies!' with a 'LEARN MORE' button. To the right is a Redis advertisement. At the bottom is a navigation bar with links: Stats, Kata, Solutions, Translations, Collections, Kumite, Social, and Discourse. The 'Solutions' link is circled in white with an arrow pointing to it.


5 kyu cnhaver 329


Name: Unknown
Clan: SBHSHaver1

Member Since: Sep 2019
Last Seen: Jan 2022
Profiles:

Following: 167
Followers: 167
Allies: 167

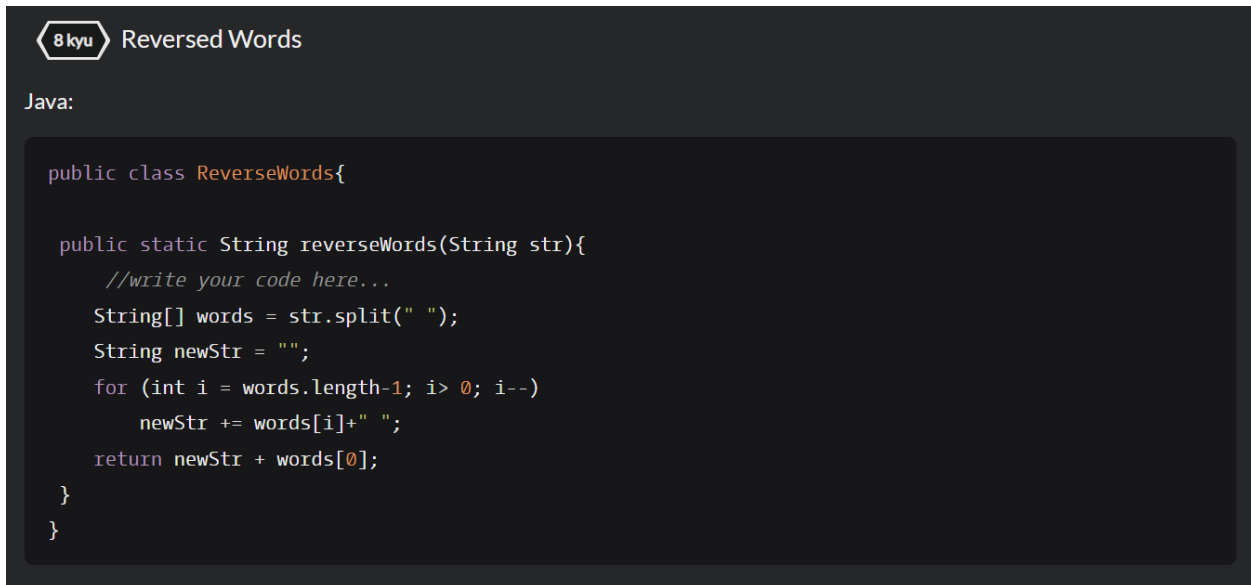
[View Profile Badges](#)

 Earn extra honor and gain new allies!
Honor is earned for each new codewarrior who joins.
[LEARN MORE](#)

 Become a Redis Hero, with \$200 credits and enter to win a Tesla* Sign Up Now
ADS VIA CARBON

Stats Kata **Solutions** Translations Collections Kumite Social Discourse

Take screenshots of your solutions to problems as in this example



The screenshot shows a solution for the 'Reversed Words' problem (8 kyu). The code is written in Java and is displayed in a dark-themed editor. The code defines a class 'ReverseWords' with a static method 'reverseWords' that takes a string 'str' and returns a new string with the words in reverse order.

8 kyu Reversed Words

Java:

```
public class ReverseWords{

    public static String reverseWords(String str){
        //write your code here...
        String[] words = str.split(" ");
        String newStr = "";
        for (int i = words.length-1; i > 0; i--)
            newStr += words[i] + " ";
        return newStr + words[0];
    }
}
```