Hello everyone, I’m Liu Yuxi, come from institute of future network. My undergraduate school is Hebei university of telechology. My super advisor is Wang Yi.

This week’s task is to create an example of set cover problem.

Here are seven subsets and twelve elements. We could divide these elements into five groups. The group1,2,3,4,5. The subset1 3 5 6 7, each contains one group. As for the other subset, half of each group is contained by the subset2 4, and the weight of subset 2 4 is a little bigger than other subset.

Let first see the greedy result. We first select subset 1, then 3 5 6 7, we sum up the weight of subset 1 3 5 6 7 the w© is 5.

As for the optimal result, we just need to select subset 2 4 which have already covered all elements with the w(c\*) is 2.2. So in this example, we get the optimal result 2.27 times than greedy algorithm which is more than double.