Data Structures and Algorithms

Programming Assignment #5

Topics : String Manipulation with **STL**

Instructions for Submission

1. **Register on Codeforces** and link your account to *a2oj*.
2. Register on spoj.com and a2oj.com. Link your *spoj* account to *a2oj*
3. Go to the front page of *a20j* and search for the contest titled **Crash Course (DS & Algo**. The contest code is **40614**.
4. Register for the contest. You'll see a pop-up with some problems. Before submitting the problems, make sure that you're logged into your spoj account. Click on any problem and it should redirect you to the spoj page. Submit your question on **this** page. After submission, your ranking should be updated withing 5 minutes.

Note

These questions are independent of the other programming assignments. Hence, you can attempt these even if you haven't attempted the previous ones. This assignment is just to give you some practice on the *string* container. Remember that your code shouldn't be longer than 10-15 lines else you're not utilizing the power of C++.

Problems

1. **Petya and Strings** : The problem should be self explanatory from the description. Make sure that you don't do manual work by yourself. Use as many string functions as possible.
   Hint : How do you convert from lowercase to uppercase using string library?
2. **Letters Rearranging** : The problem should be self explanatory from the description.
   Hint : Use *sort, front, back*
3. **Ohana Cleans Up** : The solution is just 4-5 lines if you use STL properly.
   Hint : *Hashing, Range Based For Loops*
4. **String Transformation** : Apply a Greedy strategy as we need a subsequence. Note that you can change a character multiple times.

5. **PolandBall and Game** : Again, the solution is less than 10 lines.
   Hint : Think of the common words. Can you find their counts effectively? Moreover, can you guess who wins when there are no common words. So now, what should strategy be when there are common words. What if there are odd number of common words? What if there are even number of common words?