CS-250 Algorithms
Instructions for Implementation Assignment

Please follow these steps carefully:

1. If you don't have one, make an account on `http://codeforces.com` (You will need to verify your email, and you can use your personal email address if you prefer.)
2. Go to `https://codeforces.com/group/xCrFU3cJ98`.
3. Click "Join" on lower right, then go back to "Contests".
4. Click on the red "Register" button in front of "Implementation Assignment 2021".
5. Select "as individual participant" and "Register".
6. Click "Enter".
7. You should see three problems, first problem is worth 34 points, the last two are worth 33 points each. The total is 100 points. **To get points for any given problem, you must pass all its test cases. There are no partial grades.**
8. **Handling input/output:** Note that the input is given from the standard input as space separated values, and you should write your output to the standard output. For example, if you are using Python3, you can use `input()` to read lines of the input and `print()` to write your output (see `https://piazza.com/class/ktv41x9be4h2l?cid=9` for an example in Python). If you are using C++, you can use `std::cin` to read the input values and `std::cout` to write your output. You can use similar constructs in other languages as well. However, note that for Java, using `Scanner` can be slow when reading large inputs. Instead, please use `BufferedReader` with `StringTokenizer` as shown here in `https://codeforces.com/blog/entry/7018`. **When you print your outputs, make sure that it always ends with a new-line character.**
9. **Testing your code:** Before submitting, make sure you get correct solutions for all the sample test cases. Ideally, you should test your code by running it in your terminal with input redirected from a text file. For example, if you use Python3.x, you could run:
`python3 /path/to/your/solution.py < /path/to/tests/testcase1.txt`.
Then your program should output the answer on a new line and terminate. Even if your code gives the correct answer on your computer, it might be that your code does not pass all the tests on codeforces because it is too slow. See `https://piazza.com/class/ktv41x9be4h2l?cid=23` for an explanation on how to see if your algorithm is too slow.
10. **Submission language:** You can submit in any programming language that is accepted by codeforces. However, if you pick an exotic language, we might not be able to help you if we do not know the language. You can select the language when you submit on codeforces. If you are using Python2.x, select your submission language as PyPy2.7, and if you are using Python3.x select the submission language as PyPy3.6. These are runtime-efficient implementations of Python.
11. **Asking Questions:** If you have any questions, we would prefer that you ask on the piazza forum (`https://piazza.com/class/ktv41x9be4h2l`) of the course. If you have a question, probably someone else has the same question and would benefit from the answer as well. **Please mark your questions with the tag "implementation"** so that it is easier for us (and other students) to navigate.
12. **Do not forget to submit your CodeForces username (and only your username!) in the Moodle form once you finish the implementation problems.**

13. Happy coding!