02-714: Project Deliverable #1
Due: Oct. 31 at the start of class

(1) Select a project group. Your group should consist of 3 people. There are 12 people in the class, so we should end up with 4 groups. You should try to get a varied set of skills in your group. If you need help finding a group, email me.

(2) Write a $\approx$ 2-page project proposal (1-inch margins, not a huge expanse of whitespace, page limits do not include references). The project proposal should address the following questions:

1. What is the problem you are trying to solve, or the question you are trying to answer?

   This should be stated succinctly, clearly, and directly. A busy manager should be able to understand the problem in under a minute.

2. Why is this problem or question important?

   This and item 1 are the two most important parts of this proposal. You must argue why what you want to do is worthwhile. Avoid using "interesting" as a justification.

3. What have others done to address this problem? Why isn't this sufficient or why haven't they answered it?

   A significant portion of your project grade will be based on novelty, which can be communicated in the answer to this question and to question 5 below.

4. What will be your general approach for solving the problem, and why is this a reasonable approach?

   The project proposal is not the placed to get mired in technical details. Some technical details may be necessary in order to answer some of these questions, but you should stick to a high-level description of a framework you will use to solve the problem or answer the question and say why that framework makes sense to use. E.g. "We will use a wavelet trees on the BWT string. This let us quickly answer queries of the form. . . ".

5. What is novel and innovative about this proposed project?

   You must argue why what you are proposing brings something new to the world.

6. What are the challenges and difficulties you expect to encounter during the project? What are the hard parts of the project?

   Don't shy away from talking about the challenges. You should be able to gauge the difficulty of your project by the answer to this question. If your answer is "we don't expect any problems" then you project is too easy. Of course, if your main challenge is, e.g., to optimally solve some NP-hard problem then your project may be too hard.

Your project proposal should be a serious document. It should contain evidence that you have really thought through the project. You can take more than 2 pages if they are well written and tightly focused. Rambling, unorganized project proposals will get a low grade. (Good and short > Good and long > Bad and short > Bad and long.)