Lab 2-1: DNA Analysis

Due date: April 9.

About the Lab

Lab 2 consists of two parts: **Lab 2-1**, which will take place over the course of **April 9** lab period, and **Lab 2-2**, which will commence on Thursday, April 11 and will end on Tuesday, April 16.

This is your first software development lab in the course, and the first lab you are performing in your *permanent CSC 448/BIO 441* teams.

This lab illustrates the process of working on **multidisciplinary teams** in miniature. Because you only have one lab period to work on this lab, the timing is important.

Notice, that BIO 441 students will have started the discussion of the lab assignment prior to the joint lab period. By the time you come to the lab to meet your teammates, they will already have a draft of the requirements document for the software you need to build. Starting at that point, here is a rough breakdown of the lab period time for you.

Time	CSC 448	BIO 441
10 mins	Studying assignment and requirements	
10 mins	Discuss assignment/map out solution	
30 mins	Software development	Data collection
20 mins	Assembly, testing, modification, and use of software	
10 mins	Preparing and submitting deliverables	

Lab Assignment

Your assignment is to design and develop a program that satisfies the requirements of your BIO 441 partners, and deliver that program to them, ***all in the course of a single lab***.

While you may probably guess what you will be asked to do, *it is the job of your partners* to provide you the details of what is required. You should only know in advance the following:

- The assignment was created jointly by Dr. Goodman and myself.
- The program you have to develop needs to *perform a single computation*. That computation is something that we have already discussed in the class (no surprises here).
- The required computation is not very difficult.
- The difficulty of the assignment is in the combination of (a) short period of time in which you need to complete the task, and (b) the fact that this is the first time you are working with your partners on a real software development task, and (c) the fact that this is the first time your partners have developed real software requirements.

Note: Please pay attention to non-functional requirements that your partners develop — e.g., there may be some requirements that concern their ability to run the program. Make the right development choices.

Submission Instructions

There is only one CSC 448 deliverable that will be graded: the program that you develop and deliver to your partners. In order to properly evaluate your program though, we need you to submit two additional deliverables:

- The initial requirements document (as you see it at the beginning of the class);
- The final requirements document (as you modify it throughout the class);

(if your requirements document did not change, submit it twice and indicate that no changes were made).

Given the short length of the lab, the documentation requirements are minimal - we will just need a `README` file with compilation/running instructions. (In later labs, you will need to provide documentation on the use of your program for your BIO 441 partners. For this lab, you will simply need to train them to use the program on the spot).

Submission via handin. To ensure that we have access to your submission no matter what, please submit all deliverables, together with the `README` file using the following `handin` command:

```
$handin dekhtyar 448-lab2-1 <files>
```

Submission via Piazza. NOTE! this assumes that we configured Piazza to enable group collaboration and group sharing. We will let you know if Piazza submission is required. You also need to make your program available (as a downloadable, runnable binary) for your BIO 441 partners. We use the course Piazza page for this purpose. Each team has a team area which can be used for posting messages and uploading files. Upload the executable of your program, and the README file documenting how the program should be run to Piazza. (Your BIO 441 partners will, in turn, upload the initial and the final requirements documents).

Deadlines. The following are **hard deadlines**:

- `handin` **submission is due the end of the lab (6:00pm)!**
- Piazza **submission is due the end of the day (11:59pm)!** (to accommodate possible unfamiliarity with Piazza and its use - I do not want you to waste valuable lab time trying to figure out Piazza and its quirks.)