Assignment 1
Class Presentation

Due date: Tuesday, November 15 – Thursday, December 1

Assignment

Each student will participate in researching, presenting and writing up lecture notes for a topic of interest within the field of bioinformatics algorithms. The research, writing and presentation will be done in groups of two-three people per topic.

Topics for presentation. There are two ways in which you can obtain your research topic: (a) volunteering for topics proposed by the instructor and (b) suggesting a topic of your own.

Volunteering for a topic. On most of the lecture days, I will propose one research topic that extends the material we are currently discussing in class. First three people to volunteer get this topic assigned to them.

Topics already assigned include *approximate string matching* and *applications of suffix trees*. Some other topics to be assigned in the near future include *advanced palindrome detection techniques*, *advanced global alignment methods*, *advanced local alignment methods* ("advanced" means, "methods not covered in class"). Other topics will be offered as the course proceeds.

Suggesting a topic. You are welcome to come up with a topic of interest for yourself. Once you decide on a topic, contact me. If you contact me as a group of two or three people, I will discuss the topic briefly with you and provide some feedback. If you are proposing a topic as a group of one person, I will announce your topic during the next class period and solicit one-two volunteers to join you in the study of the topic. I hope that your peers in the class will support your topic choice.

What to prepare

Each group is responsible for preparing the following artifacts:

1. **Bibliography.** A list of materials studied jointly by the group. The list should be in the form of an academic bibliography and include full academic citations for each source you've studied. The initial list is going to be your early deliverable (see assignment timeline below). The final list will be attached as bibliography to the written materials you submit. I may also organize paper collection and ask you to submit electronic copies of any materials you were able to procure (this will help us construct a decent literature repository of bioinformatics papers).

2. **Presentation.** We reserve a few class periods at the end of the course for the presentations. Tentatively, we will have three-four presentations per class period with the appropriate time allottment. You will have between 25 and 35 mins to deliver your presentation. All team members should find a way to participate in the presentation - the separation of duties is up to individual teams. I prefer the presentations to be lecture-style, but you may choose any appropriate means of delivering the presentation: use of the white board, use of slides, etc...

   You will study and document more information than you are able to present in the time alotted to you. So, please, be careful when preparing your presentation, and make sure you balance the material you present in a way that allows the audience to judge it on it merits, against the time constraints you are under.

3. **Lecture notes.** Each group will prepare detailed lecture notes to accompany the presentation. An early draft of the notes shall be distributed to the audience *at the time of the presentation.* The final version of the notes is due on the last day of classes.

   The lecture notes is the main report of your study. They will document the algorithms you study and include any notes, examples, formal statements (e.g., theorems) the reader needs to know in order to learn the topic.

   The lecture notes shall be prepared using the LaTeXpackage. I will provide a simple template to ensure uniformity of style. The final bibliography shall accompany your lecture notes.

Deliverables and Timeline

Topic sign-up is throughout the quarter. I will try to make sure that most of topics are handed out at least two weeks prior to starting the presentations. Notice that this gives you somewhat uneven times to complete your work - those who acquire topics late in the course will have about 2-3 weeks less to complete the task than those who already have their topics. It is in your interest to volunteer early and if you are not able to volunteer for one of the instructor-proposed topics, you can always be proactive about choosing a topic for yourself.

Presentation schedule will, in general, be set according to the order in which topics were acquired: teams that had more time to prepare will go first. Due to this, we have three deadlines for a variety of assignment deliverables.

- **November 15.** This is, potentially, the first classroom period with presentations. Due this day are:
  - Team and topic assignments. Every student must have a topic[1].
  - Initial bibliography. Submit as hard copy during the class. One submission per team, please. Must have the topic you are studying, list the names of all team members, and list all sources you are using with proper academic citations. May be done in LaTeX, but not required (unlike the final version).
- **Day of your presentation: November 15 – December 1.** This is a sliding deadline: each team must deliver these on their presentation day:
  - The presentaion (duh!).
  - Draft lecture notes. Distributed in hardcopy to everyone in the class. I will make copies for any notes submitted to me as a Postscript or PDF file the night before (I should have the files emailed to me by 8:30am on the day of the class). Otherwise, you are responsible for providing the copies.
- **December 1.** Last class period. For everyone, except for the teams presenting on that day. The deadline for teams presenting on December 1 is December 6 (final exam). Final deliverable deadline. Deliverables:
  - Final lecture notes. Submit to me in both hardcopy and softcopy. Softcopy must include both the Postscript/PDF file, and all the source LaTeXfiles and figures/supplemental files used. Softcopy submission instructions will be provided during the last week of classes.
  - Final bibliography. As part of the final lecture notes. You may use `bibtex`, in which case you will submit the appropriate `.bib` files with your softcopy submission, or simply use built-in bibliography (in which case your references will be in the `.tex` file itself).
  - Any supplemental materials you used for your presentation. If you used slides and/or other materials distinct from the lecture

[1] In fact, every student must have a topic by about the first week of November.

notes, submit them in softcopy together with the softcopy submission of lecture notes.

- Electronic copies of source materials in your references. Submission instructions will be provided later.

Good luck!