Today: Synthesis and review. Approx. alg. for _set-cover_.
Next class: Preliminary term project submissions (electronic) due. Poster presentations.
Reminders: Term projects.

1. List the members of your group below. Underline your name.

2. We wish to find the smallest set of names, from the list below, that covers all letters of
   the alphabet (`a` through `z`, ignoring case). Map this problem instance to an instance
   to _set cover_.

   ```
   Swamy Tarquin Tex Umberto Vincenzo Vivek Wilmer Winston Wolfgang
   Woody Xavier Xuejia Yvette Yvonne Zaphod Zoe Zok
   ```

3. Trace the execution of the textbook's Greedy-Set-Cover algorithm (p. 1119) on
   the instance of Question 2.

4. (a) Is the solution computed in Question 3 optimal? Explain your answer briefly.

   (b) Describe the smallest change to the instance of Question 2 that will change the answer to Question 4a.

5. [Informal homework] Provide a procedure that, given a positive integer n, generates an instance of *set cover* of size n on which the GREEDY-SET-COVER algorithm produces a solution with approximation ratio $k \cdot \lg n$ for some constant k independent of n. [The answer is easily found on the Web, but try to figure it out yourself first.]

6. [Informal programming homework] Write a program to solve Questions 2, 3, and 4 for a cover of the alphabet (a through z, ignoring case) by the names of countries as listed by https://en.wikipedia.org/wiki/List_of_sovereign_states.