1. On the exam, there was a true/false statement that there is an effective procedure to decide whether or not the language accepted by a TG has at least 100 words. The statement is true. Describe an effective procedure for solving this decision problem. Remember that it must stop with a yes/no answer for all possible TGs.

2. On the exam, there was a true/false statement claiming that there is an effective procedure to decide, given two regular expressions r_1 and r_2, whether or not the number of strings that they *do not have in common* is finite. There is such a procedure. Describe it.

3. Describe a decision procedure to determine whether or not a FA with alphabet {a,b} accepts any words that contain the substring "aaa" or the substring "bbb".

4. Take FA_1 of problem 3 on page 217 and FA_1 of problem 4 and write a regular expression for the set of all words accepted by both machines. Do it however you like but show your work.