This exercise is based on the paper describing *Lex*\(^1\) in the course readings.

1. List the members of your group below:

2. What is the smallest Lex program?

3. Write a Lex program that yields a lexer that removes all leading and trailing whitespace from each line of the input.

4. Depict a finite-state automaton that may be used internally by the lexer generated by Lex for the program of Question 3.

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5. Provide Lex code for a lexer that replaces all occurrences of ‘the Who’ with ‘The Who’ (note case).

6. Provide Lex code for a lexer that replaces all occurrences of ‘the Who’ with ‘The Who’ (as in Question 5) and also replaces all occurrences of ‘Who ever’ with ‘Whoever’ and ‘who ever’ with ‘whoever’; make your program as concise as possible.

7. Provide Lex code that produces a lexer that interprets its input as a regular expression and that outputs Lex code for a lexer that outputs the matches to that regular expression in its input.