CSci 3501 Assignment 8
Due Wedn., Nov. 8 in class

Problem 1 (2 points). Sipser, exercise 2.1 a, d p. 128.

Problem 2 (10 points). Sipser, exercises 2.4 b, c, f and 2.5 b, c, f. pp. 128-129.

Problem 3 (4 points). Consider the following ambiguous grammar:

$$S \rightarrow SaS \mid aS \mid \epsilon$$

- Prove that the grammar is ambiguous by showing a string generated by the grammar that has two (or more) parse trees, draw the parse trees.

- What language does this grammar generate?

- Is it possible to generate the same language by an unambiguous grammar? If yes, please show the grammar and explain why it is unambiguous. If not, please explain why.

Problem 4 (2 points). Sipser, exercise 2.6 b p. 129.

Problem 5 (10 points). Sipser, exercises 2.11, 2.12 p. 129.

Problem 6 (6 points). Sipser, exercise 2.14 p. 129.