Problem Set 1

These are practice problems on the subject of regular languages as related to the first five lectures of this course, which is the syllabus for Quiz 1. The relevant chapter in Sipser's book is Chapter 1. However you should also read Chapter 0.

Problems 1,2,3,4 pertain to the first week of class. The rest of the problems pertain to the second and third week.

Problem 1  Give the formal description of the machine $M_1$ pictured in Exercise 1.1, page 83 of the text.

Problem 2  Exercise 1.4 part (c), page 84 of the text.

Problem 3  Exercise 1.5 part (b), page 84 of the text.

Problem 4  Problem 1.41, page 90 of the text.

Problem 5  Problem 1.31, page 88 of the text.

Problem 6  Exercise 1.10 part (b), page 85 of the text.

Problem 7  Problem 1.24, page 88 of the text.
Problem 8  Problem 1.32, page 89 of the text.

Problem 9  Problem 1.23 part (a), page 88 of the text.

Problem 10  Exercise 1.17 part (c), page 86 of the text.

Problem 11  Problem 1.42, page 90 of the text.