Assignment 1

(Please work in groups of two or three and submit one answer sheet for the group.)

1. Give an FA for each of the following languages:
   (a) All binary strings with at least three 1’s
   (b) All binary strings with an odd number of 1’s
   (c) All binary strings without 111 as a substring
   (d) All binary strings where every odd position is a 1

2. Draw a DFA for all binary strings ending in 10110.

3. Explain in English what the following FA accepts:

   ![Diagram of a DFA](image)

4. For the alphabet \{a, b, c\}, draw an FA that accept all nonempty strings such that the last character of the string does not appear anywhere else in the string. For example, accab and bbc should be accepted, but babba should not.

Due: Thursday January 20