Homework 3:

Q1:

Given Σ = {a; b} and the language L = {w belongs to ∑ | w starts with ‘a’ followed by at least one ‘b’ (maybe more)}. Examples in language (ab, abb, abbbb), Examples not in the language (a, aba, bb, abab)

1. Create a NFA that accepts L and give its graph and transition table.
2. Run your NFA on four inputs of your choice using the extended transition function.

Q2:

Give DFA that accepting the following language L over the alphabet {0, 1}, The set of all strings with three consecutive zeros (000) (not necessarily at the end).

1. Create a NFA that accepts L and give its graph and transition table.
2. Run your NFA on four inputs of your choice using the extended transition function

Q3:

Design a DFA with ∑ = {0, 1} accepts the strings with an even number of 0's followed by single 1.

1. Create a NFA that accepts L and give its graph and transition table.
2. Run your NFA on three inputs of your choice using the extended transition function

Q4:

Build a NFA that accepts only the word “hello”

1. Create a NFA that accepts L and give its graph and transition table.
2. Run your NFA on three inputs of your choice using the extended transition function

Q5:

Design an NFA that accepts the language of strings over {0; 1} such that the third symbol from the end is 0.

1. Create a NFA that accepts the language and give its graph and transition table.

Q6:

Convert the following NFA to a DFA using:

1. The Subset Construction method
2. The lazy evaluation method

Show all of you steps and work.