

COSC 312

Homework Assignment 3

\ Submission Format: docx, tex or pdf to

Canvas Points: 1(30), 2(10); total = 40

Name: \_\_\_\_\_

Netid: \_\_\_\_\_

1. Construct DFAs for each of the languages below and provide complete state diagrams that illustrate their operation. Assume the alphabet  $\Sigma = \{0,1\}$ .
  - a.  $\{w \mid w \text{ begins with a } 1 \text{ and ends with a } 0\}$
  - b.  $\{w \mid w \text{ contains at least two } 1\text{s}\}$
  - c.  $\{w \mid w \text{ contains the substring } 1011\}$

2. Provide the state diagram of a DFA that is equivalent to the NFA below:

