## Assignment \# 4.1/.2 Sample

1. Convert the following NFA to an equivalent DFA.

2. Convert the DFA you developed in \#1 to a regular expression, first by using either the GNFA (or state ripping) or $\mathrm{R}_{\mathrm{ij}}{ }^{\mathrm{k}}$ approach, and then by using regular equations. You must show all steps in each part of this solution.

## Assignment \# 4.3

3. a.) Minimize the number of states in the following DFA, showing the determination of incompatible states (table on right).

|  | a | b | c |
| :---: | :---: | :---: | :---: |
| >1 | 4 | 6 | 2 |
| 2 | 5 | 2 | 1 |
| 3 | 4 | 6 | 4 |
| 4 | 5 | 4 | 3 |
| 5 | 3 | 6 | 1 |
| 6 | 5 | 6 | 3 |


b.) States are:

