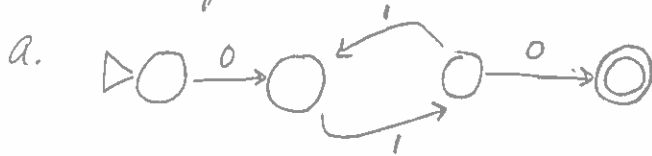
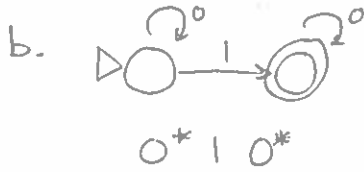


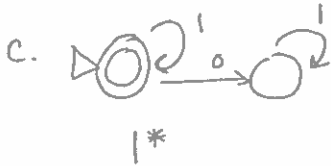
1. FSA to Regular Expression



$$01^+0 = 011^*0$$



$$0^*10^*$$



$$1^*$$

2. Parenthesis Matching

a. Each "(" is followed immediately by a ")"

$$(\backslash(\backslash))^*$$

b. depth ≤ 2

$$(\backslash((\backslash(\backslash))^* \backslash))^*$$

c. depth ≤ 3

$$(\backslash(\backslash((\backslash(\backslash))^* \backslash))^* \backslash))^*$$

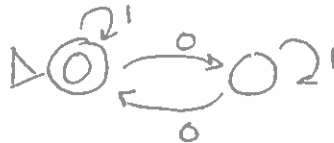
3. Challenge Problems

a. odd # of 1s



$$.*1(.*1.*1)^*$$

b. even # of 0s

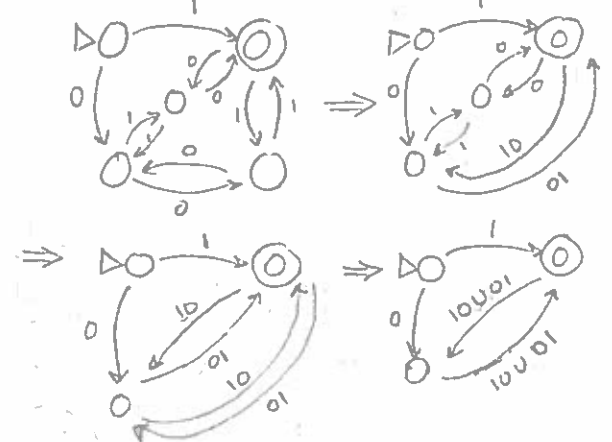


$$(*0.*0)^*$$

d. odd # of 1s OR even # of 0s

$$(*1(*1.*1)^*) \cup ((*0.*0)^*)$$

c. odd # of 1s AND even # of 0s



$$\Rightarrow 1 \cup ((0 \circ (10 \cup 01) \circ (10 \cup 01) \circ (10 \cup 01))^*)$$