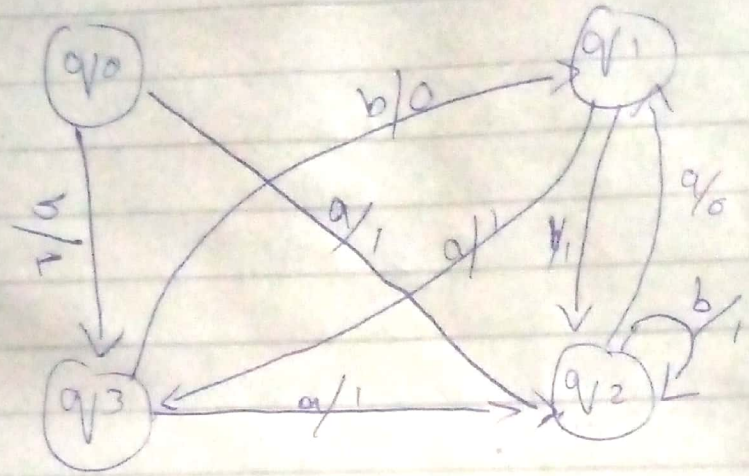
Theary of Automate

Assignment # 03

Name: Affan Ahmad Enroll: 03-134221-002

Q.No1) convert the moore machine into Mealy machine



Q.No2) consider the CGF

S -> XaXaX

X -> aX | bX | null

L = {aabbaa, ababab, aaabbb ... }

Q.No2) CFG:

S -> aSbS | bSaS | empty string (ε)

Regular expression

(a* b* | b* a*)*

Q.No 3)

S -> AA
A -> aB
B -> bB | A

1) S
2) AA where S -> AA
3) aBA // A -> aB
4) abBA // B -> bB
5) abbBA // B -> bB
6) abbaBA // B -> bB
7) abbaA // A -> aB
8) abbaa // B -> ε

S -> AA -> aBA -> aBA -> abbBA -> abbaBA -> abbaA ->

abbaa

Q.No 4)

Convert the following CFG to CNF

(i) S -> SS | a

(ii) S -> aSa | SSa | a

Sol.

CNF:

S -> aX

X -> Sa