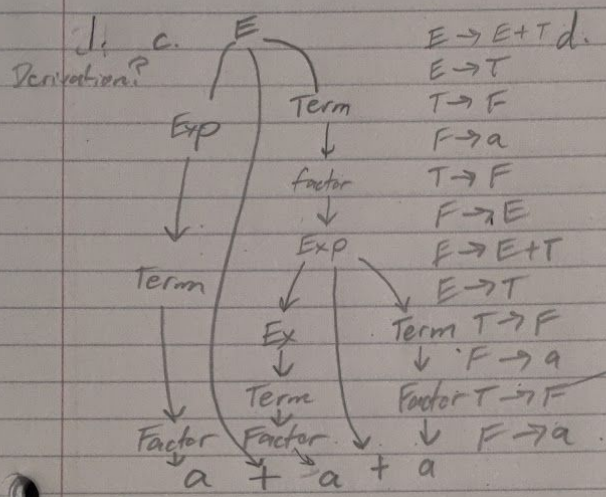
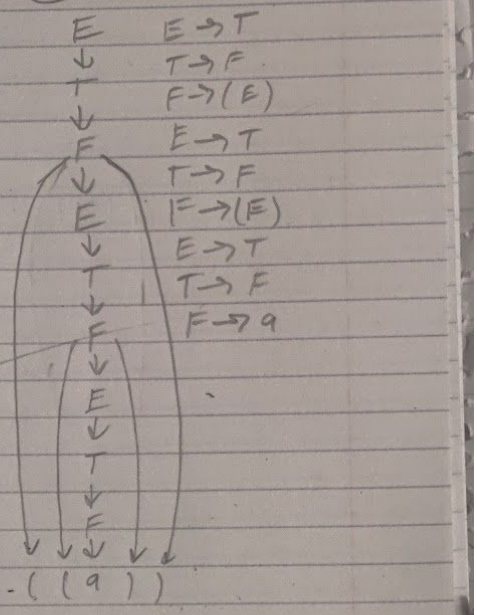
TA 4 CS252 Beric Beamon

1. c.



d.



2. b.

$E \to \langle X \rangle \langle Y \rangle \mid 0 \mid 1$

$X \to \mid \langle R \rangle \mid$

$R \to 0\langle R \rangle \mid \mid \langle R \rangle \mid \varepsilon$

$Y \to 0 \langle R \rangle 0$

e. $S \to 0S0 \mid 1S1 \mid 0 \mid 1 \mid \varepsilon$

3. $S_0 \to A \mid \varepsilon$

$A \to BAB \mid B \mid AB \mid BA \mid BB$

$B \to 00$

3. $S_0 \to BX \mid 00 \mid AB \mid BA \mid BB \mid \varepsilon$

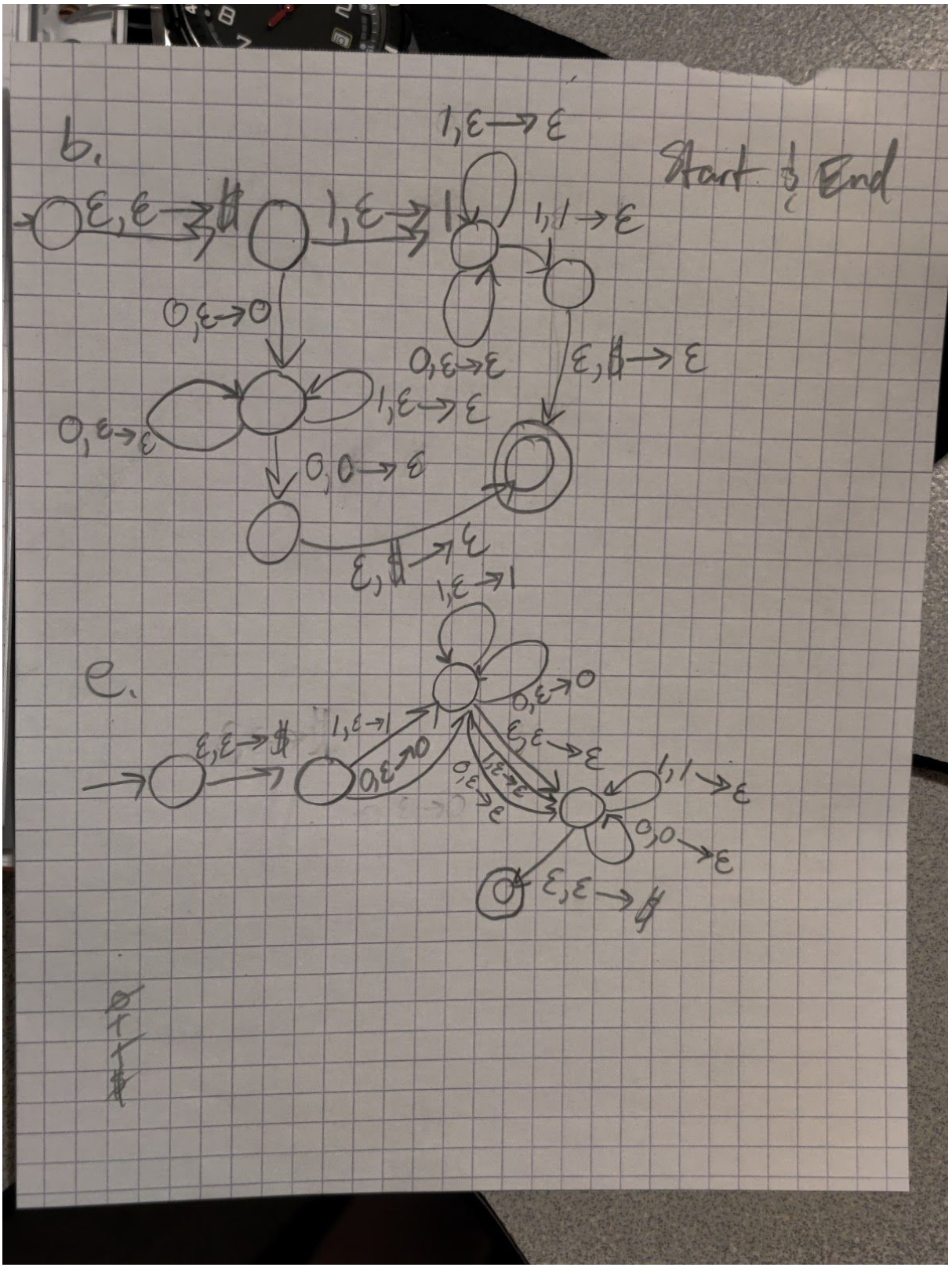
$A \to BX \mid 00 \mid AB \mid BA \mid BB$

$B \to 00$

$X \to AB$

4. b. The PDA will push every thing onto the stack. Using nondeterminism it will try to pop off until the last input where it will check for a match.

e. The PDA will push every thing onto the stack then will empty transition to a state that only pops off the stack matching inputs.


b.
Start & End
ε, ε → #
1, ε → 1
1, 1 → ε
0, ε → 0
0, ε → ε
ε, # → ε
0, 0 → ε
c.
0
1
1
#