Assignment 1 Question 3

3.a)

- aabaab
- aabaabaab
- abaab
- ab
- aab

3.b)

Words this NFA can accept can be defined as follows:

ab|(aab)*

1. Words can be started with ‘ab’ and from which we can move to final state.
2. Or words can be started with ‘aab’ from which we can move to final state.
3. This NFA shows NLP is an infinite language as words accepted can be in loop at the end eg. ‘aabaabaabaabaabaabaab…….’.

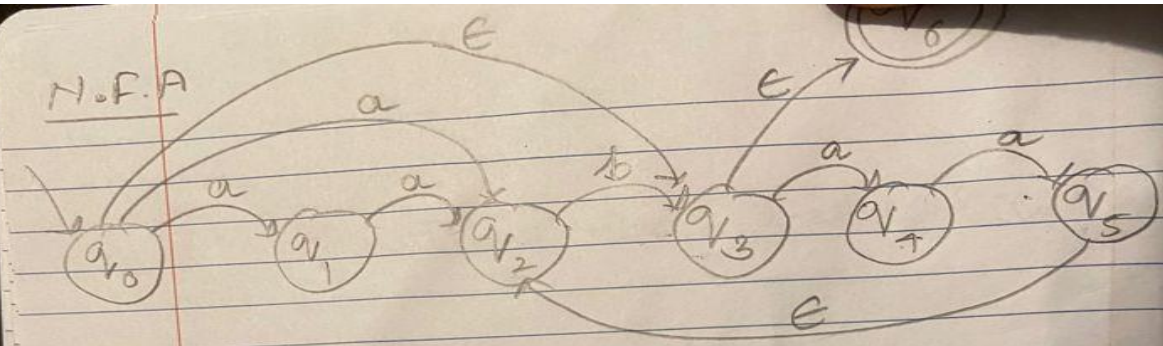
3.c)

Regex is ab|(aab)*

3.d)

Please turn over to next page.

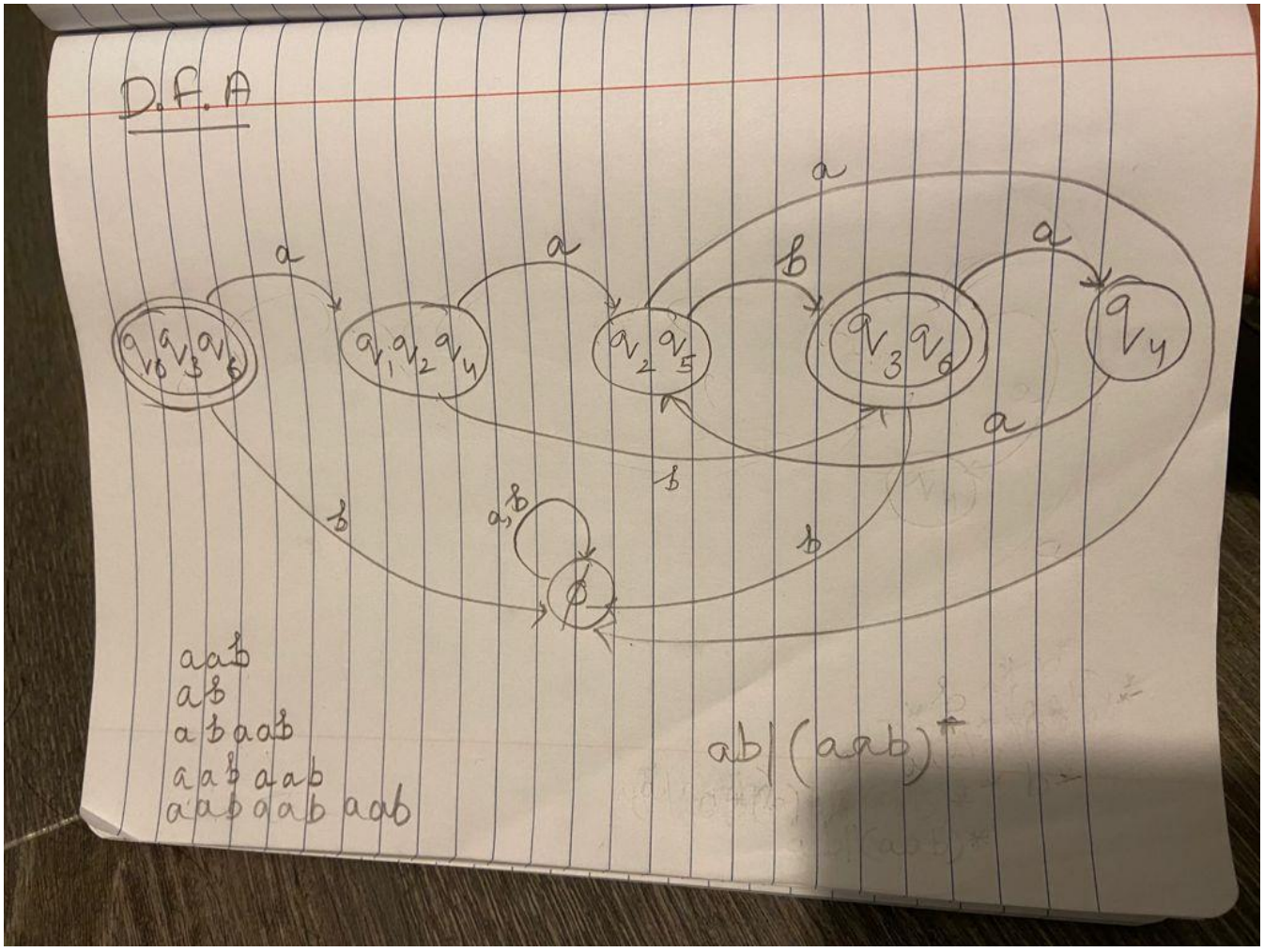
N.F.A



	a	b
→ $q_0 q_3 q_6$	$q_1 q_2 q_4$	ϕ
SKF $q_1 q_2 q_4$	$q_2 q_5$	$q_3 q_6$
$q_2 q_5$	ϕ	$q_3 q_6$
F $q_3 q_6$	q_4	ϕ
q_4	$q_5 q_2$	ϕ

→ $\{q_0 q_3 q_6\}$

F.S $\{q_0 q_3 q_6\}$ and $\{q_3 q_6\}$


D.F.A
a
a
a
b
a
a
b
b
a,b
b
b
aab
ab
abaab
aabaab
aabaabaab
ab|(aab)*