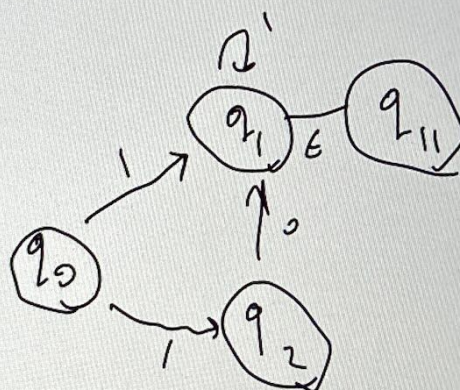
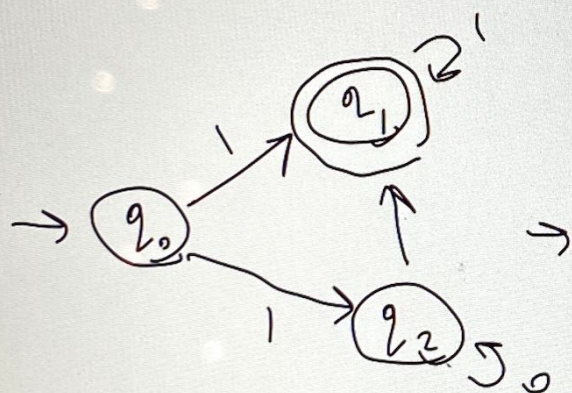
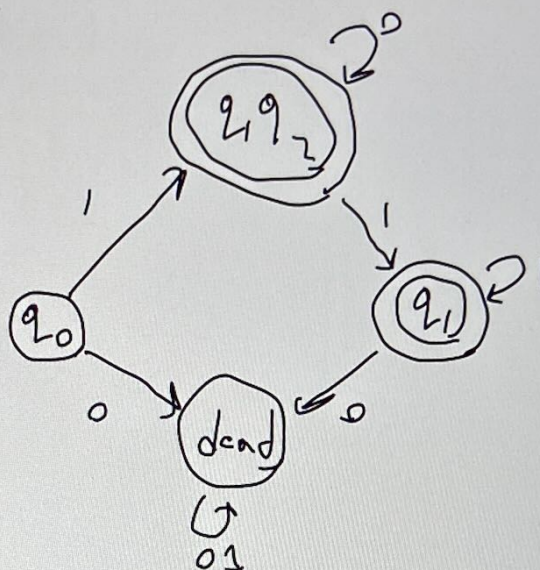


Homework 4

1.

DFA Table

	0	1
q_0	dead	$q_1 q_2$
$q_1 q_2$	$q_1 q_2$	q_2
q_1	dead	q_1
dead	dead	dead



regular exp: $(1 + 10^+)^*$

2.

- Line 2, character a or b can be repeated and has 'goto 1'
 - ↓
- line 2, with 'goto 1' infers that $(a+b)^*$
 - ↓
- 'goto 3' never ends with "a"
- if line 3 occurs from a then we goto 1,
- if line 3 occurs from b , we reach 4 and the condition is false
- then after false condition we hit halt
- any other char beside 'a' or 'b' then the program terminates at 4
- If a string ends with ϵ , if ϵ is read, the condition of 4 will be true and it will be accepted so we accept, $(a+b)^*b$.

regular exp: $(a+b)^*b$