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Foundations of Computer Science

Homework #2 - Chapter 1: DFA, NFA

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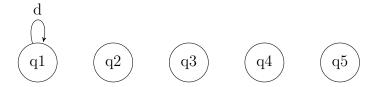
1.3

The formal description of a DFA M is  $\{q1, q2, q3, q4, q5\}$ ,  $\{u, d\}$ ,  $\delta$ , q3,  $\{q3\}$ , where  $\delta$  is given by the following table:

	u	d
q1	q1	q2
q2	q1	q3
q3	q2	q4
q4	q3	q5
q5	q4	q5

Give the state diagram of this machine.

Initial state is q3, so that is where the machine will start. We can use the table to create the nodes, and connect them similar to HW1's Q0.8



1.4: a, c, e, f, g

1.5: c, d, e, f, g, h

 $1.6{:}\ a,\,b,\,c,\,d,\,e,\,f,\,g,\,h,\,I,\,j,\,k,\,l,\,m,\,n$ 

1.7: b, c, d, e, g, h

- 1.8: a, b
- 1.9: a, b
- 1.10:a, b, c
- 1.12
- 1.13
- 1.16
- 1.17: a, b
- 1.18
- $1.20{:}\ a,\,b,\,c,\,d,\,e,\,f,\,g,\,h$
- 1.21
- 1.22