## Transition Diagram:

- This is a graph in which vertices represent state of machine and the edges show transition of states.
- The labels on these edges indicate input/output for the corresponding transition.

## A transition diagram for a DFA M = (Q, Σ, δ, q0, F) is a graph defined as follows:

- For each state in Q there is a node.
- There is labelled input symbol on transition.
- Then the transition diagram has an arc (arrow) from one node to another node.
- If multiple input symbols cause the same transition from one node to another node, then multiple input labels separated by the commas are given to that edge.
- There is an arrow into the start state q0 labeled as start. This arrow does not originate at any node.
- Final states/ accepting states are marked by concentric double circles.
- States not belonging to final states have a single circle. e.g.
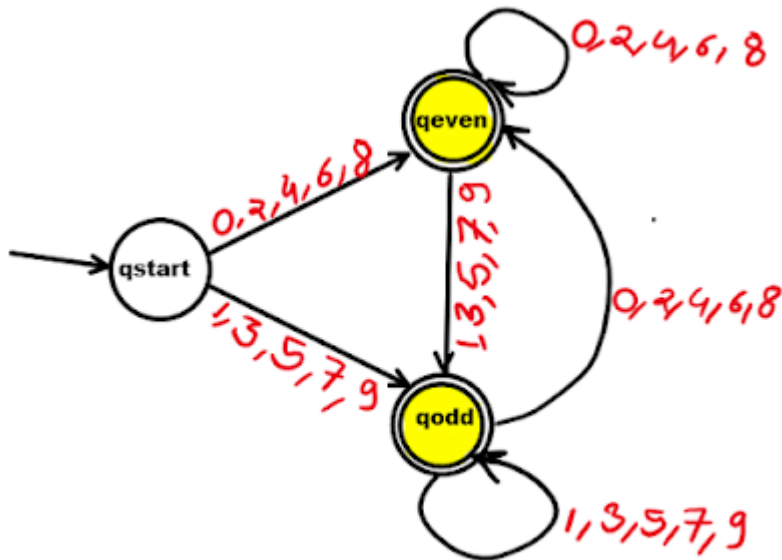
**DFA that identifies ODD and EVEN numbers**

## Transition Table:

- It specifies the resultant set of states for the corresponding current state and input to the machine.
- A transition table is a conventional tabular representation of a function like δ that takes two arguments and returns a value the rows of the table correspond to the states and the columns correspond to the inputs.
- The entry for the row corresponding to state q and the column corresponding to input q is the state δ(q, a).

| State | Input Symbol | |
|-------|--------------|-------|
| | **0, 2, 4, 6, 8** | **1, 3, 5, 7, 9** |
| qstart | qeven | qodd |
| qeven | qeven | qodd |
| qodd | qeven | qodd |

## Related Posts:

1. Definition of Deterministic Finite Automata
2. How do a DFA Process Strings?
3. DFA solved examples
4. Definition Non Deterministic Finite Automata
5. Moore machine
6. Mealy Machine
7. Regular Expression Examples
8. Regular expression
9. Arden's Law
10. NFA with ∈-Moves
11. NFA with ∈ to DFA Indirect Method
12. Define Mealy and Moore Machine
13. What is Trap state ?
14. Equivalent of DFA and NFA
15. Properties of transition functions
16. Mealy to Moore Machine
17. Moore to Mealy machine
18. Diiference between Mealy and Moore machine
19. Pushdown Automata

20. Remove ∈ transitions from NFA

21. TOC 1

22. Diiference between Mealy and Moore machine

23. RGPV TOC What do you understand by DFA how to represent it

24. What is Regular Expression

25. What is Regular Set in TOC

26. RGPV short note on automata

27. RGPV TOC properties of transition functions

28. RGPV TOC What is Trap state

29. DFA which accept 00 and 11 at the end of a string

30. CFL are not closed under intersection

31. NFA to DFA | RGPV TOC

32. Moore to Mealy | RGPV TOC PYQ

33. DFA accept even 0 and even 1 |RGPV TOC PYQ

34. Short note on automata | RGPV TOC PYQ

35. DFA ending with 00 start with 0 no epsilon | RGPV TOC PYQ

36. DFA ending with 101 | RGPV TOC PYQ

37. Construct DFA for a power n, n>=0 || RGPV TOC

38. Construct FA divisible by 3 | RGPV TOC PYQ

39. Construct DFA equivalent to NFA | RGPV TOC PYQ

40. RGPV Define Mealy and Moore Machine

41. RGPV TOC Short note on equivalent of DFA and NFA

42. RGPV notes Write short note on NDFA

43. Minimization of DFA

44. Construct NFA without ∈

45. CNF from S–>aAD;A->aB/bAB;B->b,D->d.

46. NDFA accepting two consecutive a's or two consecutive b's.

47. Regular expresion to CFG

48. Regular expression to Regular grammar

49. Grammar is ambiguous. S → aSbS|bSaS|∈

50. leftmost and rightmost derivations

51. Construct Moore machine for Mealy machine

52. RGPV TOC PYQs

53. Introduction to Automata Theory