## Mealy Machine to Moore Machine Conversion

Mealy machine for an input string of length ' $n$ ',


Transition table for Mealy machine.

| PRESENT STATE | NEXT STATE |  |  | INPUT $=0$ |  |  | INPUT $=1$ |
| :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: |
|  | STATE | OUTPUT | STATE | OUTPUT |  |  |  |
|  | Q21 | 1 | Q10 | 0 |  |  |  |
| Q10 | Q0 | 1 | Q30 | 0 |  |  |  |
| Q11 | Q0 | 1 | Q30 | 0 |  |  |  |
| Q20 | Q11 | 1 | Q0 | 1 |  |  |  |
| Q21 | Q11 | 1 | Q0 | 1 |  |  |  |
| Q30 | Q31 | 1 | Q20 | 0 |  |  |  |


| Q31 | Q31 | 1 | Q20 | 0 |
| :--- | :--- | :--- | :--- | :--- |

In above transition table,
Q0 is associated with output 1

Q1 is associated with output 0 and 1
So, let's Q10 associated with output 0, and Q11 associated with output 1 .

Q2 is associated with output 0 and 1
So, let's Q20 associated with output 0, and Q21 associated with output 1 .

Q3 is associated with output 0 and 1
So, let's Q30 associated with output 0 , and Q31 associated with output 1 .

## Transition table for Moore machine.

| PRESENT STATE | NEXT STATE |  | OUTPUT |
| :--- | :--- | :--- | :--- |
|  | INPUT $=0$ | INPUT $=1$ |  |
| Q0 | Q21 | Q10 | 1 |
| Q10 | Q0 | Q30 | 0 |
| Q11 | Q0 | Q30 | 1 |
| Q20 | Q11 | Q0 | 0 |


| Q21 | Q11 | Q0 | 1 |
| :--- | :--- | :--- | :--- |
| Q30 | Q31 | Q20 | 0 |
| Q31 | Q31 | Q20 | 1 |

Transition diagram for Moore machine


Mealy to Moore conversion Hindi video

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