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# CMPE 240 2021 Experiment 4 Preliminary Work

***(For illustrations you can use any drawing tool that you want including Microsoft Word Shapes. Do not use scanned images of hand drawn state machines and architecture diagrams.)***
***(For tables please use insert table feature of Microsoft Word)***

**Step 1.1: State Register Inputs: n0, n1**

**Step 1.2: State Register Outputs: s0, s1**

**Step 2.1: Combinational Block Inputs: a, b, s0, s1**

**Step 2.2: Combinational Block Outputs: y0, y1, n0, n1**

**Step 3: Obtain the truth table:**

**y1 = a.s1' + a.b'.s0'**
**y0 = a'.b + s0.s1 + b.s1**
**n1 = a.s1' + a.b'.s0'**
**n0 = b.s0' + s0.s1 + b.s1**

| s1 | s0 | a | b | n1 | n0 | y1 | y0 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |

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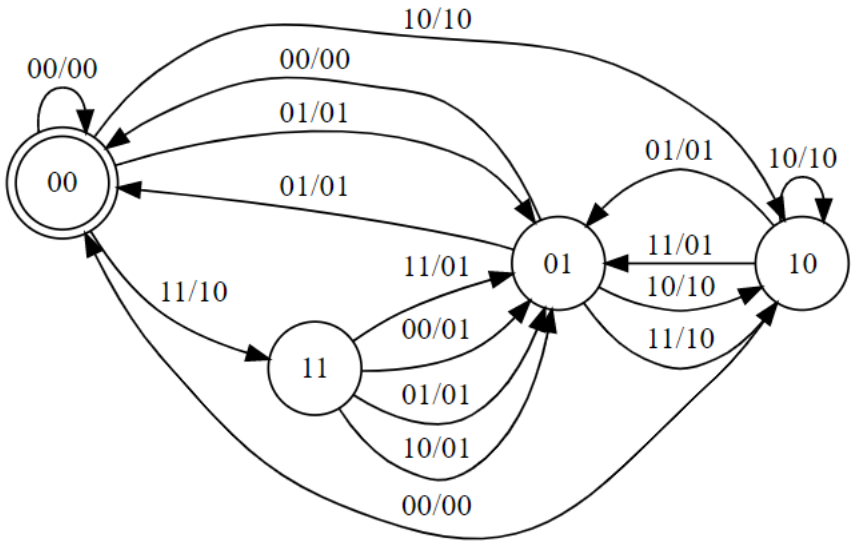
**Step 4: Draw the finite state machine:**

**Edge format is as follows → ab / y1y0**




**Step 5: Is this a Moore or Mealy Machine? (No explanations, only short answer)**:
MEALY