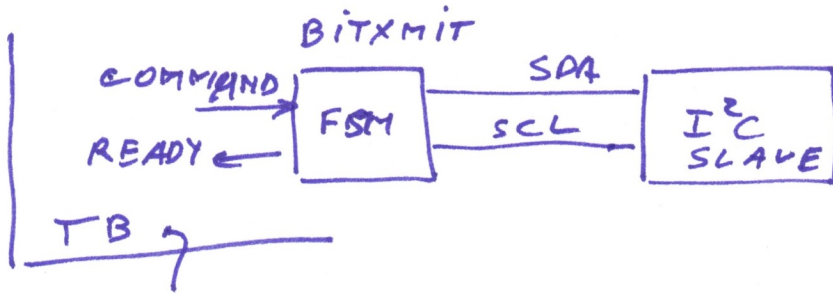
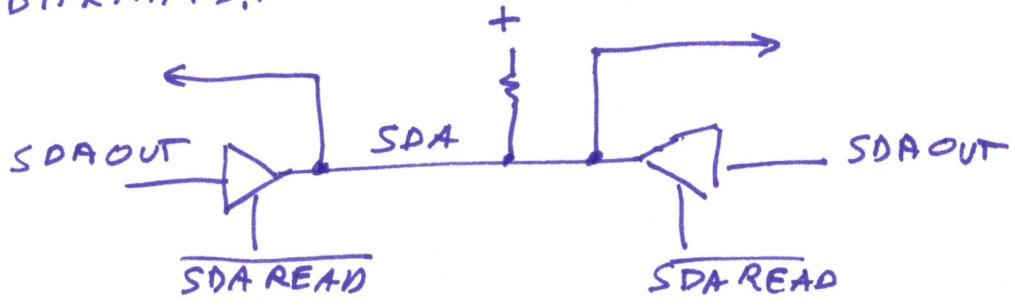


HOMEWORK 2.

6



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DESIGN OF FSM D

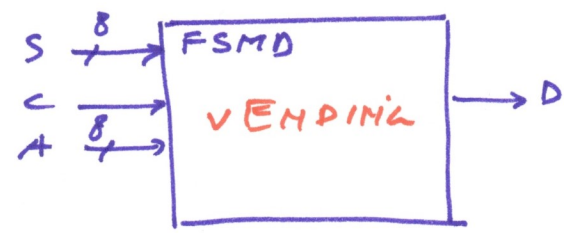
STEP 1 : CAPTURE HIGH-LEVEL FSM

STEP 2 : CREATE DATA PATH.

STEP 3 : FORMALIZE INTERFACE BETWEEN FSM & D

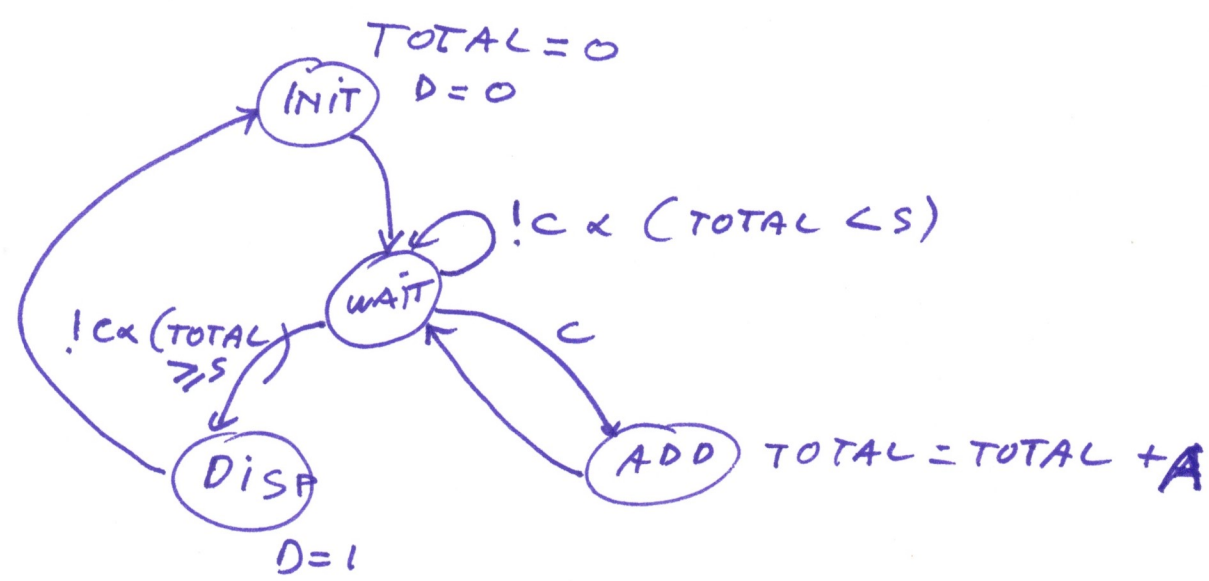
STEP 4 : DESIGN FSM.

EXAMPLE:



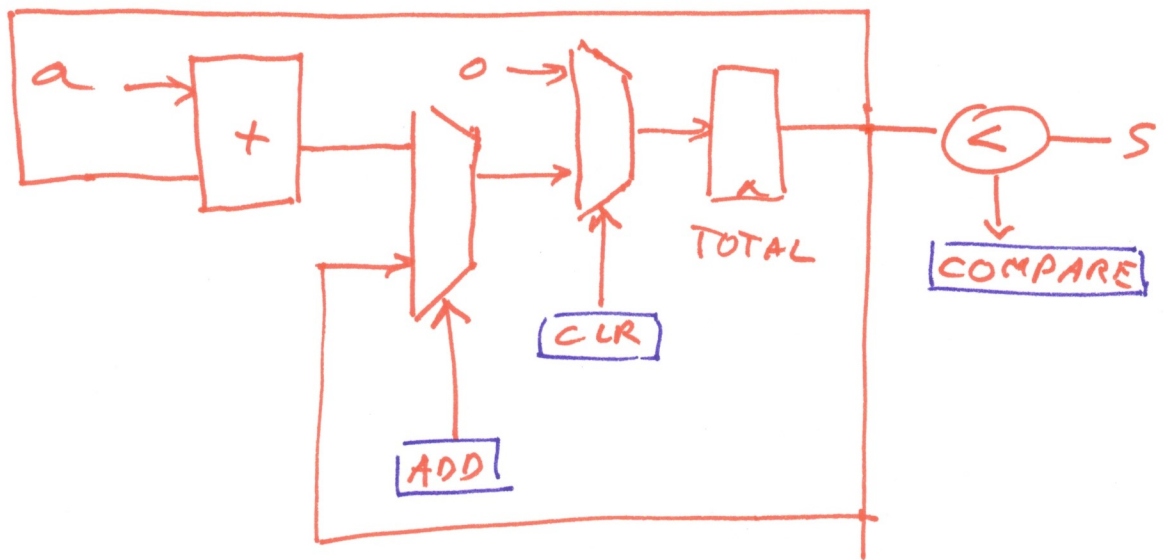
S: COST OF 1 ITEM
C: COIN
A: ~~VALUE~~ VALUE OF COIN
D: DISPENSE

STEP 1: HIGH LEVEL FSM.



STEP 2: EXTRACT DATA PATH

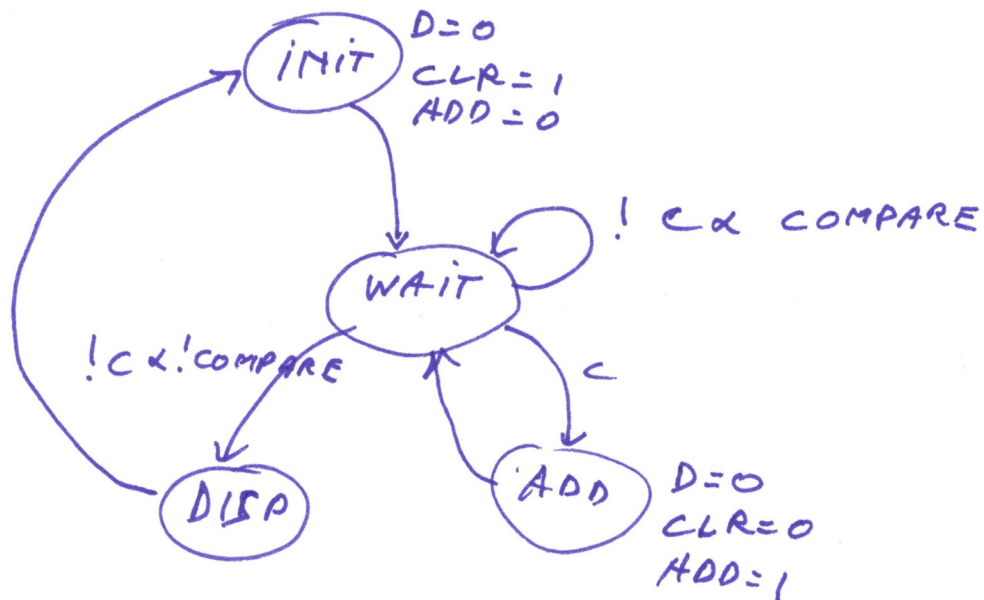
- TOTAL = TOTAL + A D=0
- (TOTAL < S) D=1
- (TOTAL >= S)
- TOTAL = 0



STEP 3 : CONTROL SIGNALS : ADD, CLR

STATUS SIGNAL : COMPARE

STEP 4 : DESIGN FSM



DATA PATH

always @(*)

COUNTNEXT = COUNT+1;

FSM

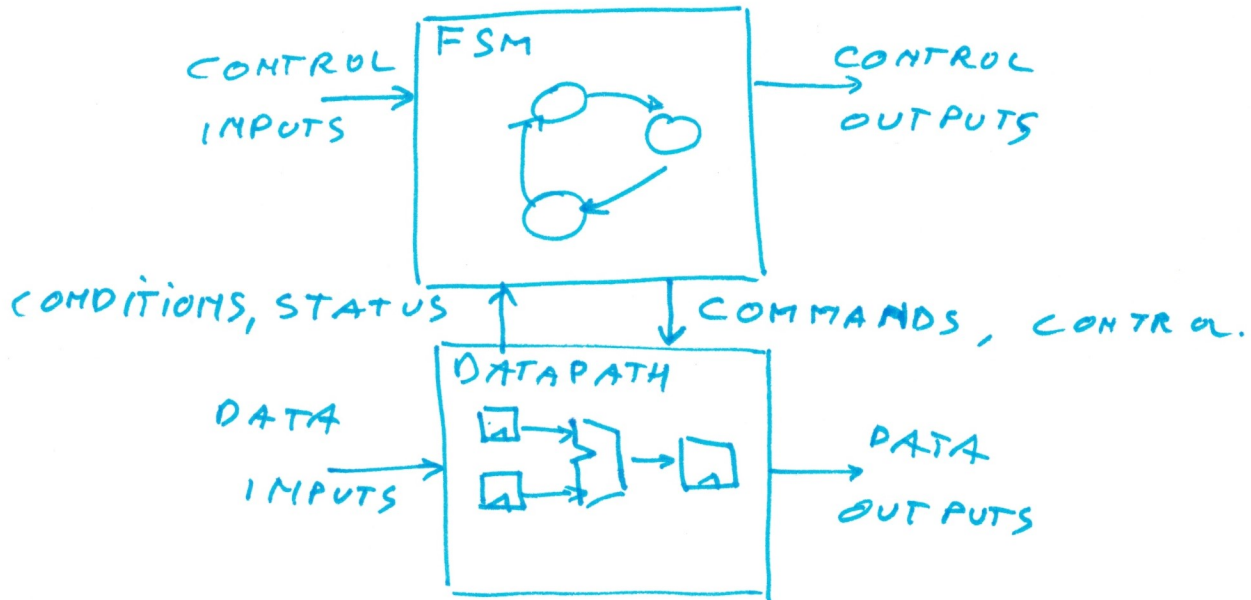
always @(*)

CASE(COUNT)

S0: COUNTNEXT = S1

S1: COUNTNEXT = S2

⋮

TEMPLATE FOR FSMD.

FSM

