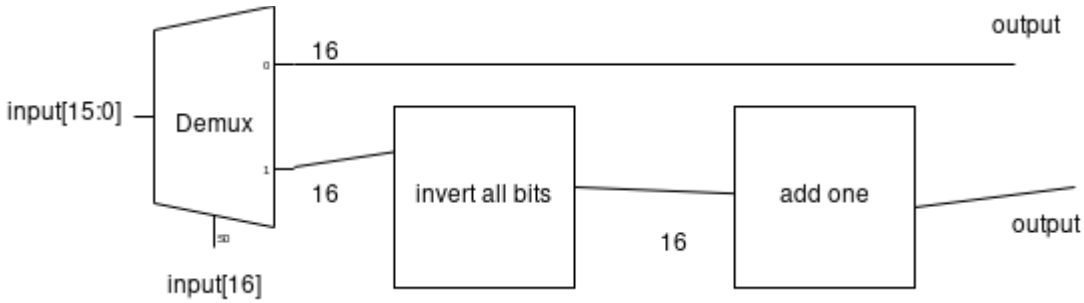
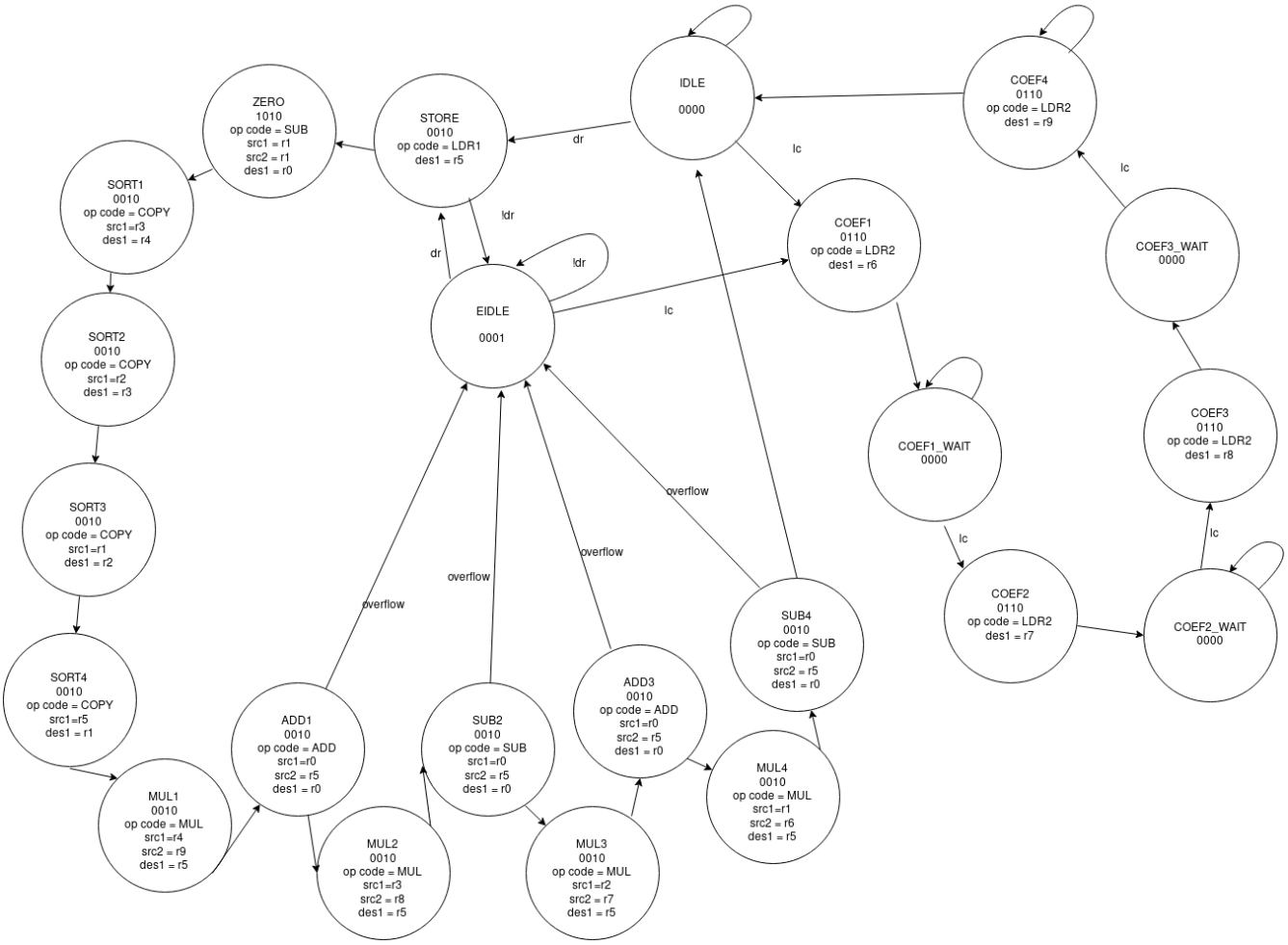


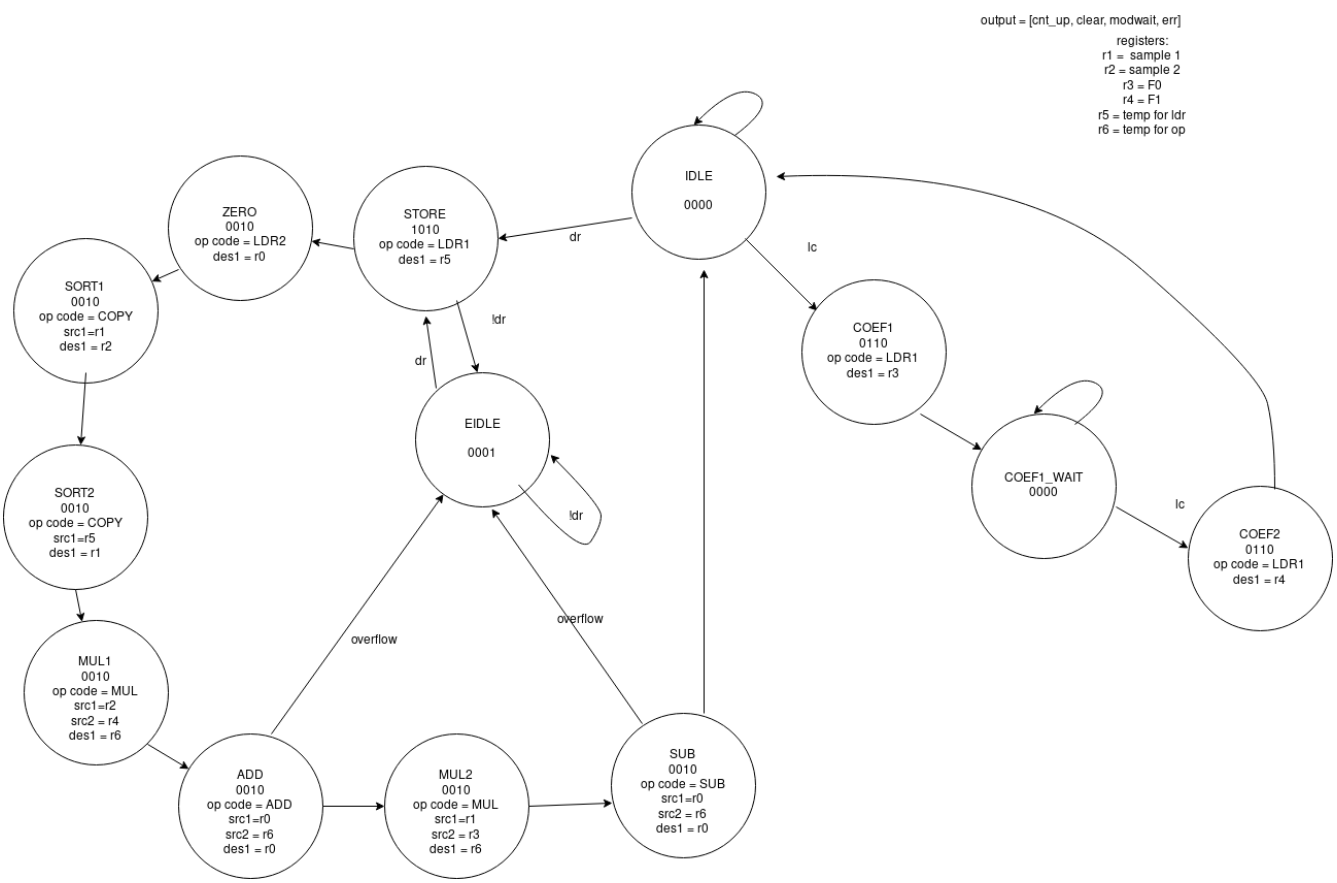
r1 = sample1
r2 = sample2
r3 = sample3
r4 = sample4
r5 = temp
r6 = F0
r7 = F1
r8 = F2
r9 = F3

IDLE: if(!dr) goto IDLE;
STORE: if(!dr) goto EIDLE;
r5 = data;
err = 0;
ZERO: r0 = 0;
SORT1: r4 = r3
SORT2: r3 = r2
SORT3: r2 = r1
SORT4: r1 = r5
MUL1: r5 = r4 * r9
ADD1: r0 = r0 + r5
if(overflow) goto EIDLE
MUL2: r5 = r3 * r8
SUB2: r0 = r0 - r5
if(overflow) goto EIDLE
MUL3: r5 = r2 * r7
ADD3: r0 = r0 + r5
if(overflow) goto EIDLE
MUL4: r5 = r1 * r6
SUB4: r0 = r0 - r5
if(overflow) goto EIDLE
else goto IDLE
EIDLE: err = 1
if(dr) goto STORE
if(!dr) goto EIDLE

output = [cnt_up, clear, modwait, err]

registers:
r1 = sample1
r2 = sample2
r3 = sample3
r4 = sample4
r5 = temp
r6 = F0
r7 = F1
r8 = F2
r9 = F3




output = [cnt_up, clear, modwait, err]
registers:
r1 = sample 1
r2 = sample 2
r3 = F0
r4 = F1
r5 = temp for ldr
r6 = temp for op
IDLE
0000
ZERO
0010
op code = LDR2
des1 = r0
STORE
1010
op code = LDR1
des1 = r5
dr
lc
SORT1
0010
op code = COPY
src1=r1
des1 = r2
ldr
dr
COEF1
0110
op code = LDR1
des1 = r3
EIDLE
0001
ldr
SORT2
0010
op code = COPY
src1=r5
des1 = r1
COEF1_WAIT
0000
lc
COEF2
0110
op code = LDR1
des1 = r4
overflow
overflow
MUL1
0010
op code = MUL
src1=r2
src2 = r4
des1 = r6
ADD
0010
op code = ADD
src1=r0
src2 = r6
des1 = r0
MUL2
0010
op code = MUL
src1=r1
src2 = r3
des1 = r6
SUB
0010
op code = SUB
src1=r0
src2 = r6
des1 = r0