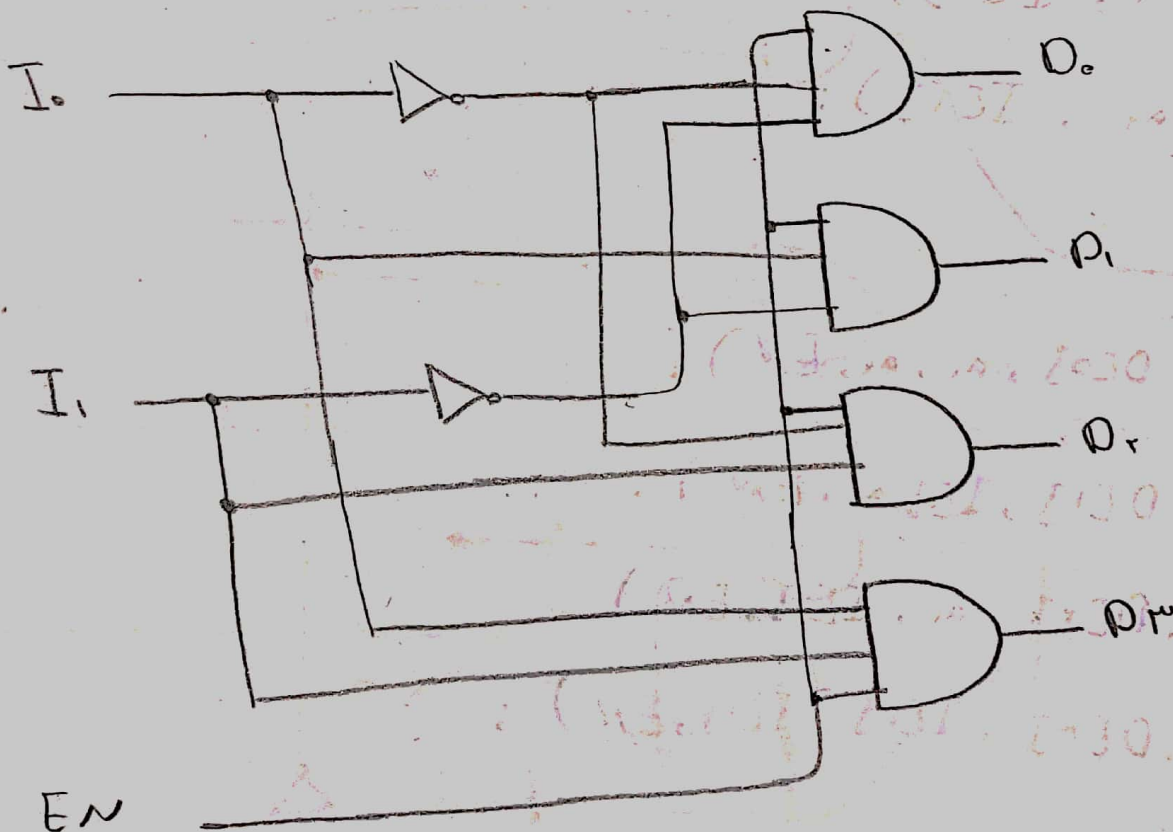
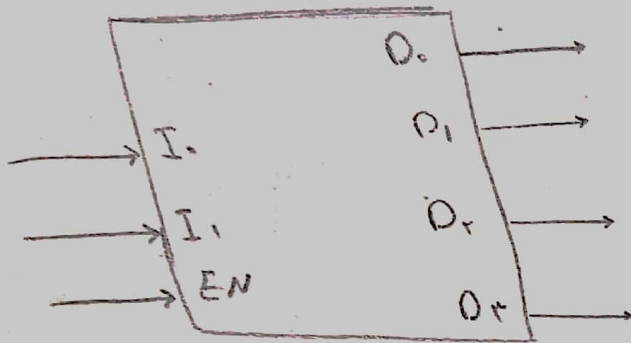


محیطی نظری - ۹۹ ۴۱.۴۱ - نسی نزارش آزمایش ۵

Decoder



module decoder (O, I, EN) is

output [0:3] O;

input [0:1] I;

input EN;

wire a1, a2;

not

G1 (a1, I[0]);

G2 (a2, I[1]);

and

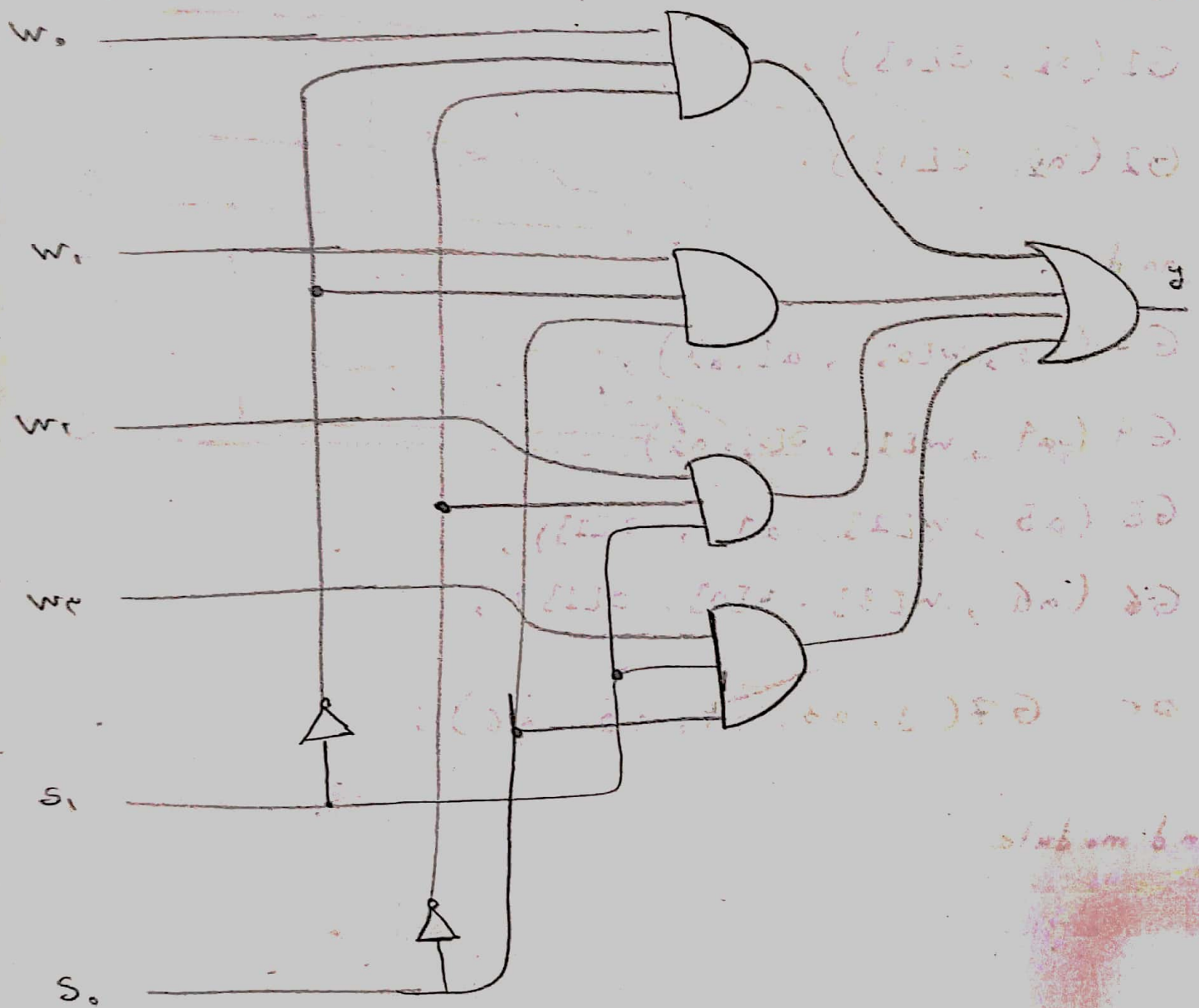
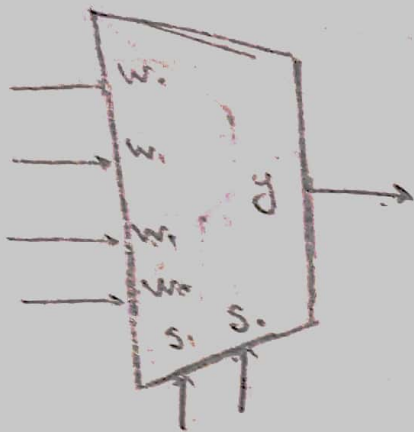
G3 (O[0], a1, a2, EN);

G4 (O[1], I[0], a1, EN);

G5 (O[2], a1, I[1], EN);

G6 (O[3], I[0], I[1], EN);

end module



module max(y, w, s);

input [0:1] s;

input [0:3] w;

output y;

wire a1, a2, a3, a4, a5, a6;

not

G1(a1, s[0]),

G2(a2, s[1]);

and

G3(a3, w[0], a1, a2),

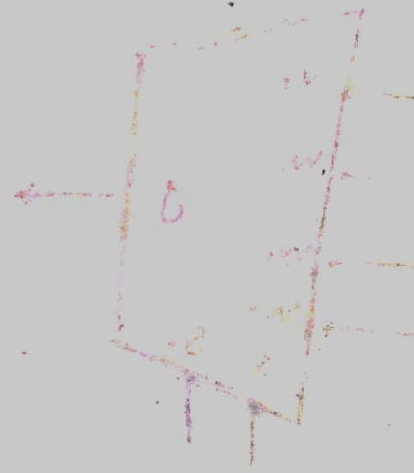
G4(a4, w[1], s[0], a2),

G5(a5, w[2], a1, s[1]),

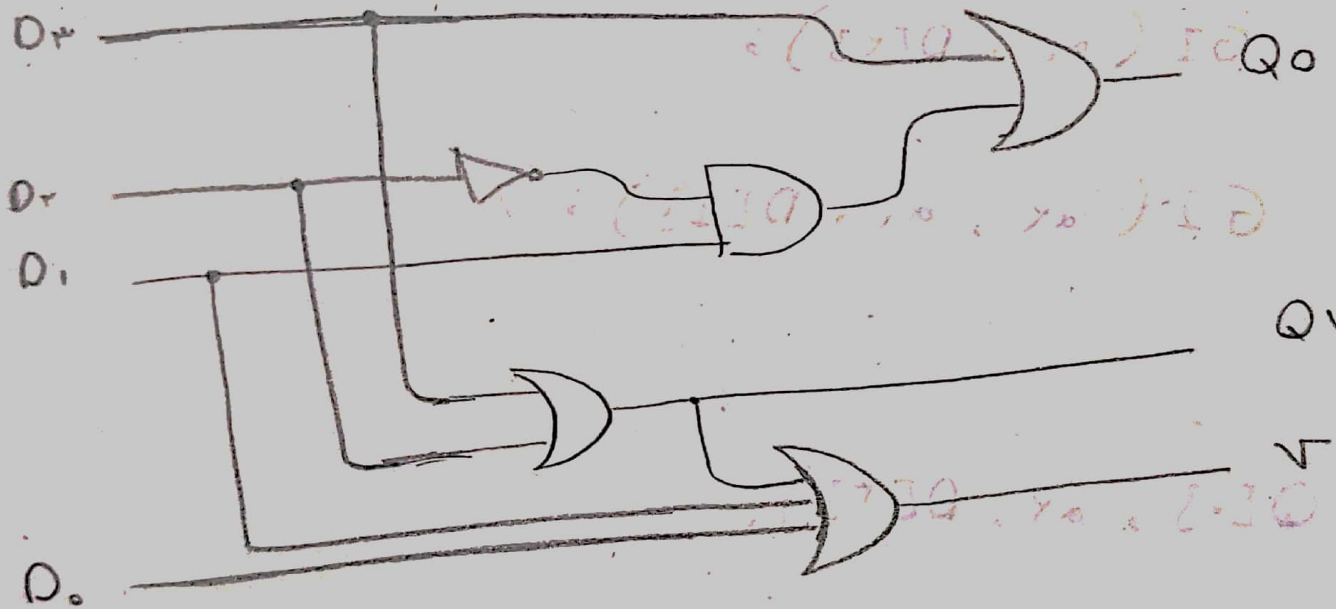
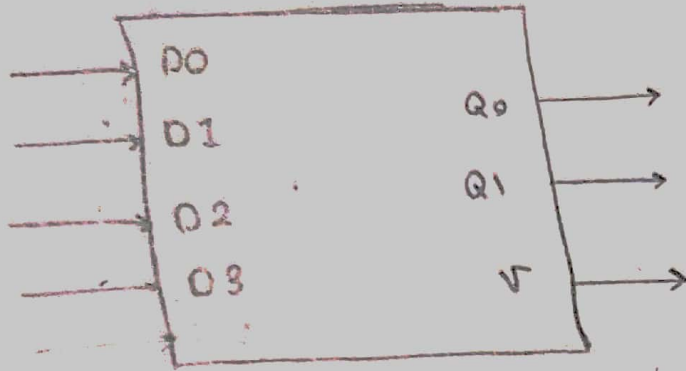
G6(a6, w[3], s[0], s[1]);

or G7(y, a3, a4, a5, a6);

end module



Encoder





module encoder (Q, V, D);

output [0:1] Q;

output V;

input [0:3] D;

wire a1, a2;

not G1(a1, D[3]);

and G2(a2, a1, D[1]);

or

G3(Q[0], a2, D[3]),

G4(Q[1], D[3], D[2]),

G5(V, D[0], D[1], Q[1]);

end module

