

```

module dec3_8(pp,q,enn);
output[7:0]pp;
input[2:0]q;
input enn;
wire qq;
wire[7:0]p;
not(qq,q[2]);
dec2_4 g1(.a(p[3:0]),.b(q[1:0]),.en(qq));
dec2_4 g2(.a(p[7:4]),.b(q[1:0]),.en(q[2]));
and g30(pp[0],p[0],enn);
and g31(pp[1],p[1],enn);
and g32(pp[2],p[2],enn);
and g33(pp[3],p[3],enn);
and g34(pp[4],p[4],enn);
and g35(pp[5],p[5],enn);
and g36(pp[6],p[6],enn);
and g37(pp[7],p[7],enn);
endmodule

```

Figure 4.12 A 3-to-8 decoder module formed by repeated instantiation of the 2-to-4 decoder module in Figure 4.10.