§7.2 #3, 24, 34

#2 yes, since all nodes are even. In fact, there's a circuit; e.g.

1-2-6-3-1-4-6-5-1

eight arcs.

#24 Is there a Hamiltonian circuit for this graph (#6)?

No there is not one. There are only 3 types of different points.

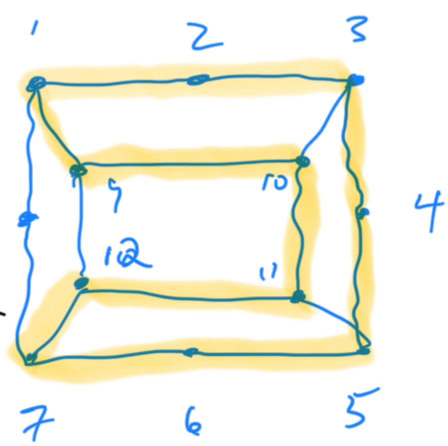
{1,3,5,7}

{8,2,4,6}

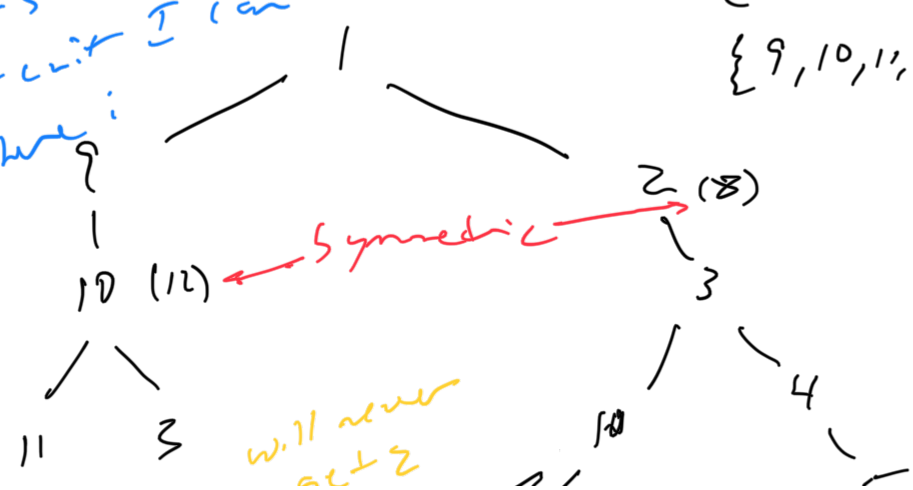
{9,10,11,12}

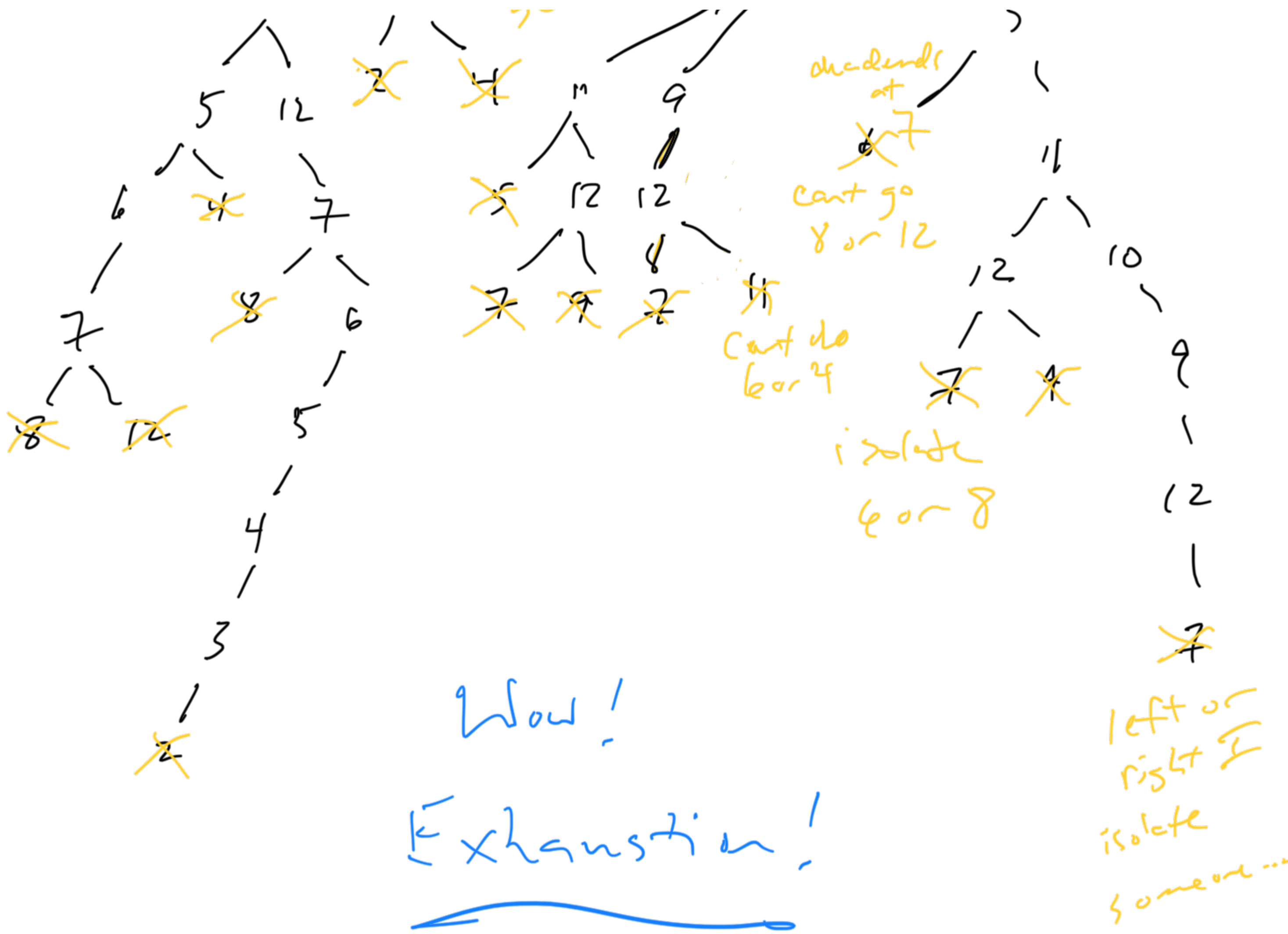
Best I can do!

But some point always gets blocked out.



Since it has to be a circuit I can start anywhere:





Wow!

Exhaustion!

#34

$n \leq m$

degrees will be

n of degree m +

m of degree n.

Euler if m+n are even,

[illegible]

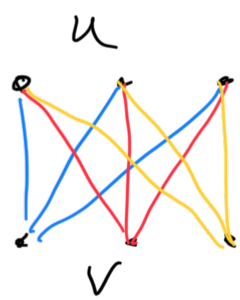
circuits exist.

If m is odd, n must be 2;

or a path exists.

If n is 1, $m = 1$ or 2 works!

b. Hamiltonian circuits won't work for the trees above, but for $m = n \geq 2$ a circuit will exist: every member of each group is connected to every member of the other group.



So, for example $u_1 \to v_1 \to u_2 \to v_2 \to u_3 \to v_3 \to u_1$

& this orderly mapping works for any $n \geq 2$ (not just for $n = 3$!).