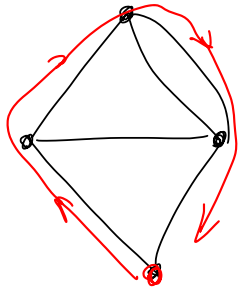


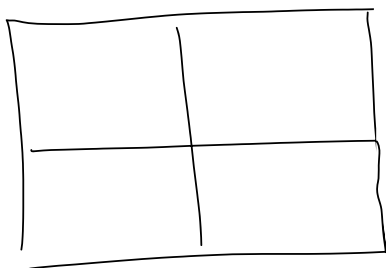
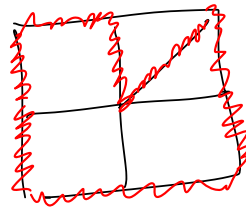
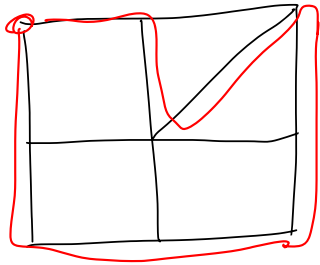
Hamilton Circuits

A circuit which visits every vertex once,
no repeats (except start & end)

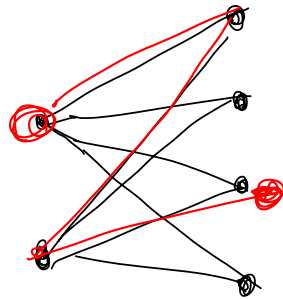
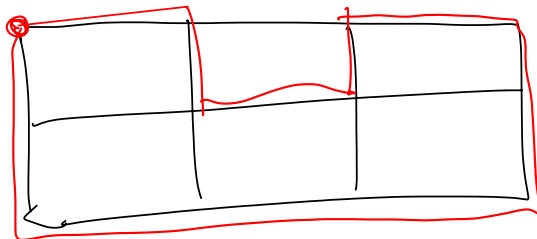
(May miss some edges)



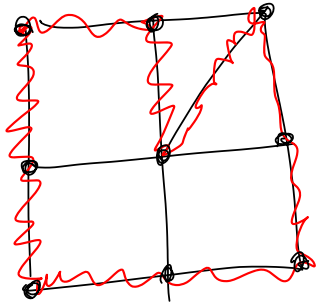
Easy to draw!



Has no Ham. circ.
(hard to say exactly why)



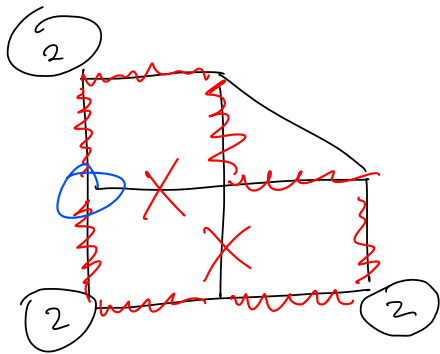
In a Ham circ, each vertex meets 2 chosen edges.



This means if some vert has degree 2 in the original graph, then

this 2 means we must use both these edges in our Ham. circ.

our Ham circ. must use both these edges

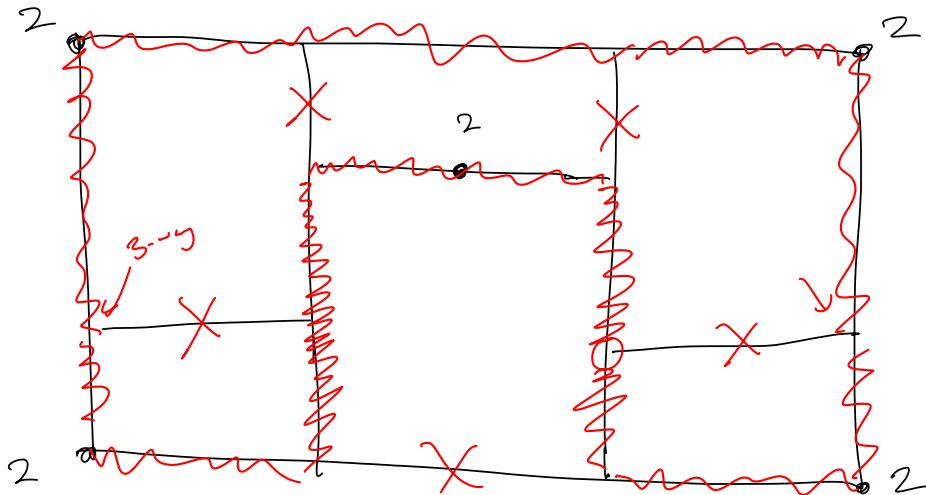


lets try to build a Ham circ without guessing.

First choose all edges at the degree 2 vert.

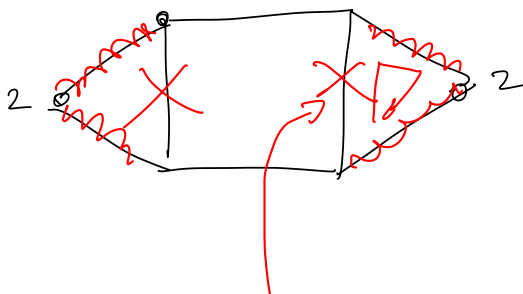
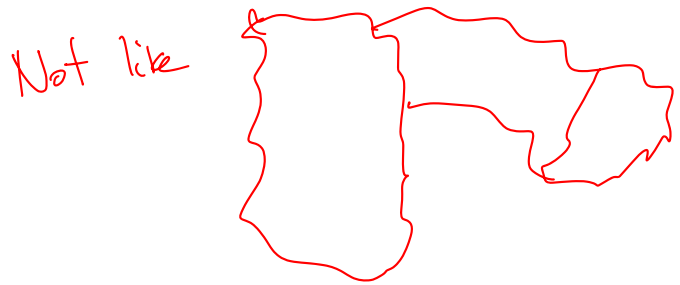
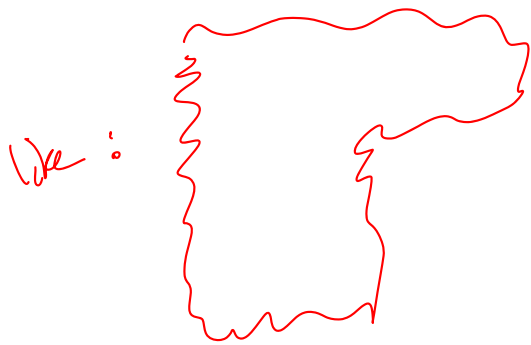
Next, disallow any edges that would make a 3-way intersection

Find some with only 2 edges remaining, choose those



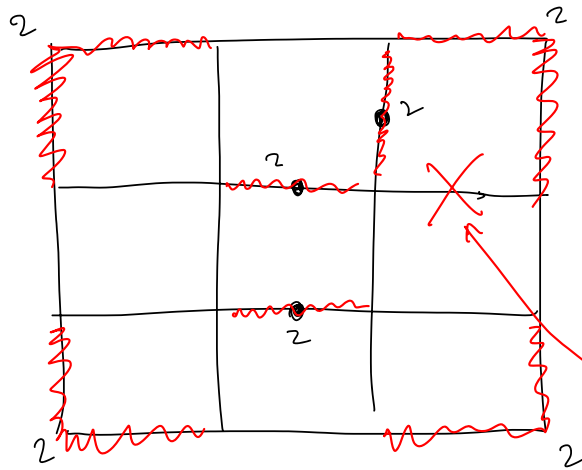
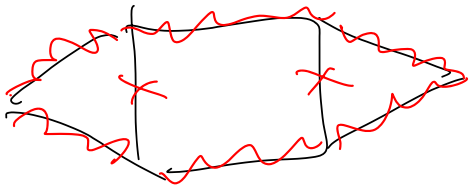
Build a Ham. circ without guessing!

2nd obvious fact: There are no subcircuits



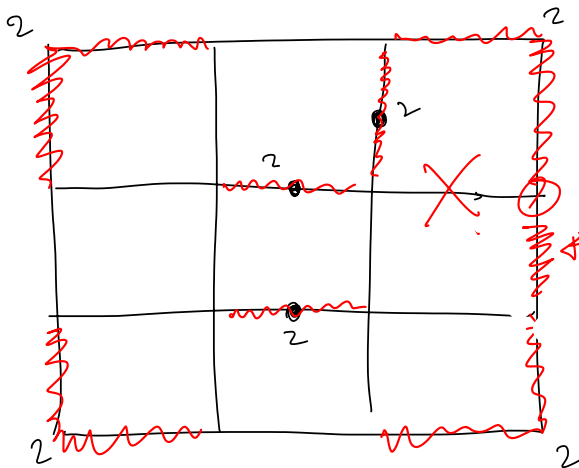
Find a Ham circ. without guessing

This edge would
make a subcircuit.

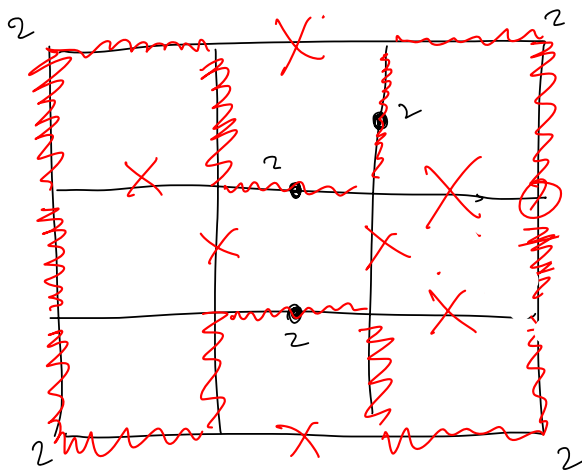
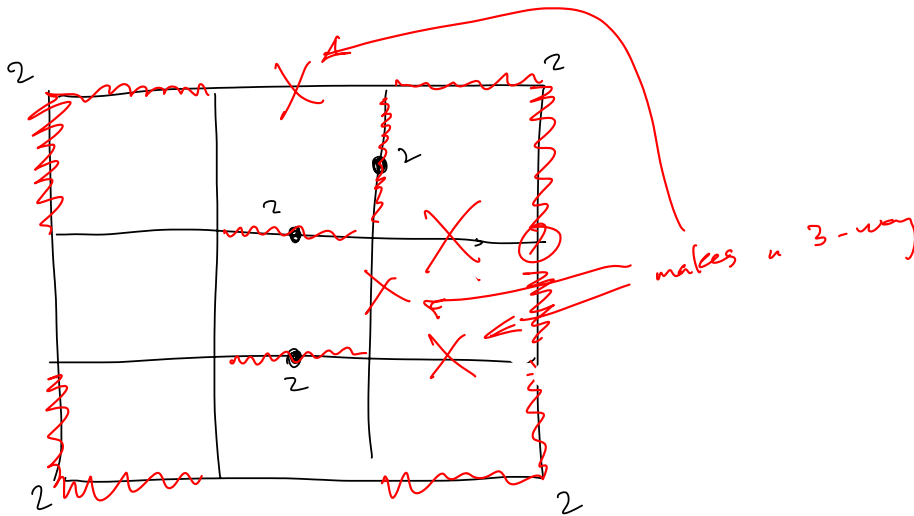


Find a Ham.
circuit
with no
guessing!

would make a 3-way

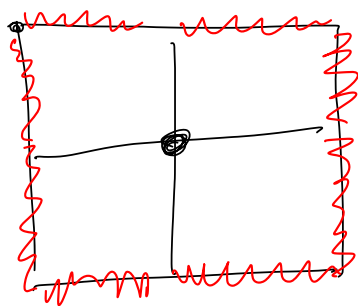


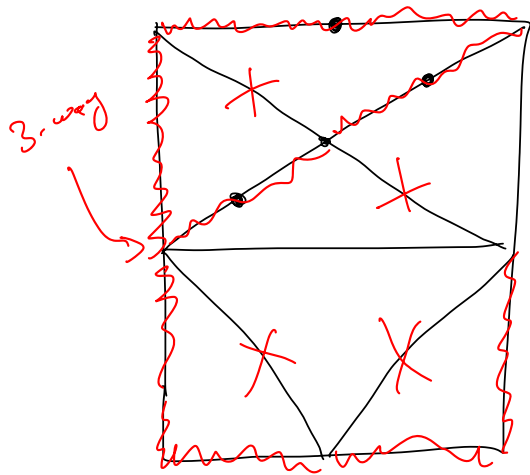
must use this, since
it was ~~X~~



We can use this reasoning to show no ham circ exists.

Try to start drawing it, but get stuck.





Find a Ham circ,
or say why it's impossible.

Forced into a 3-wy.

