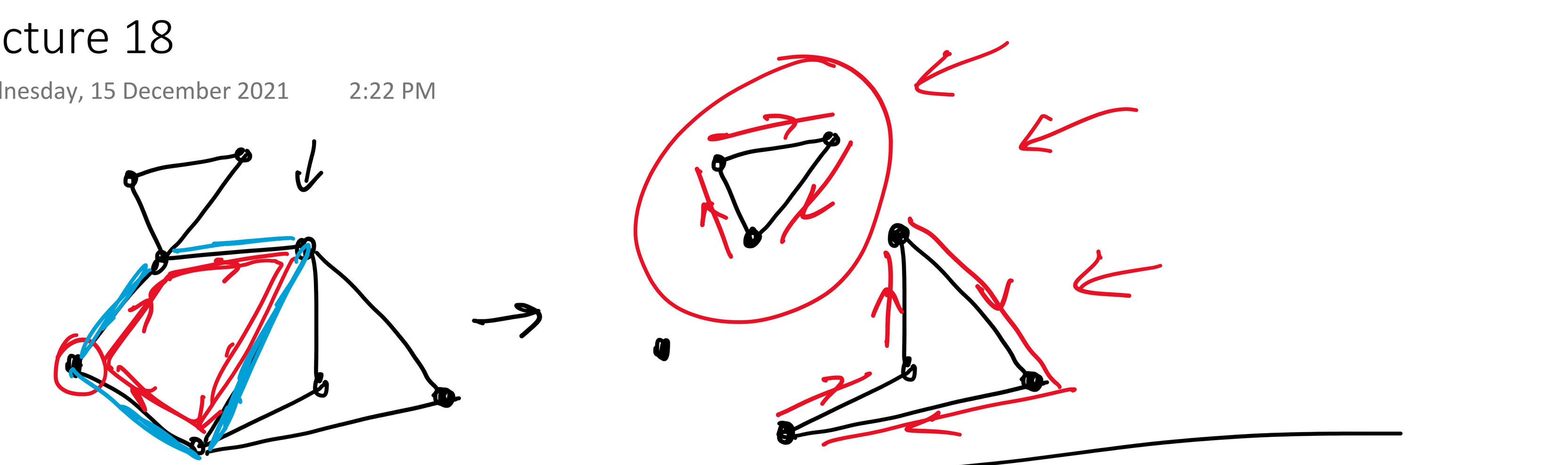
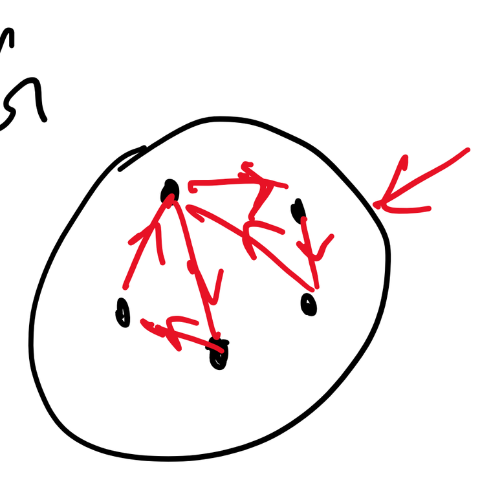
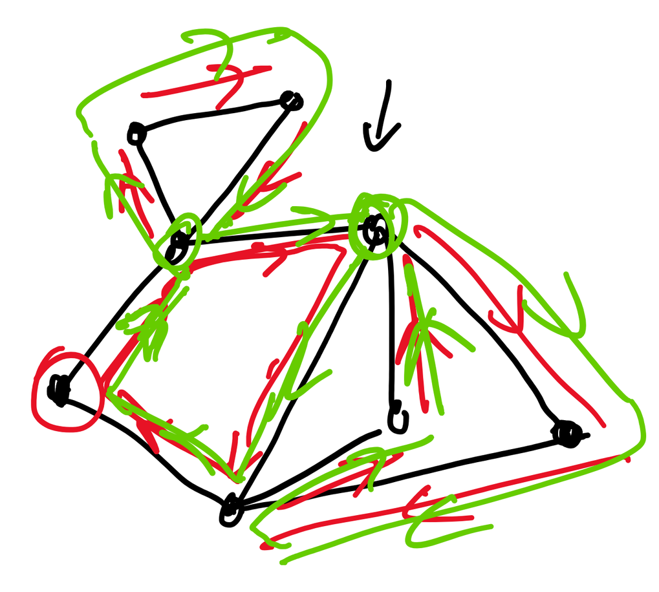


G

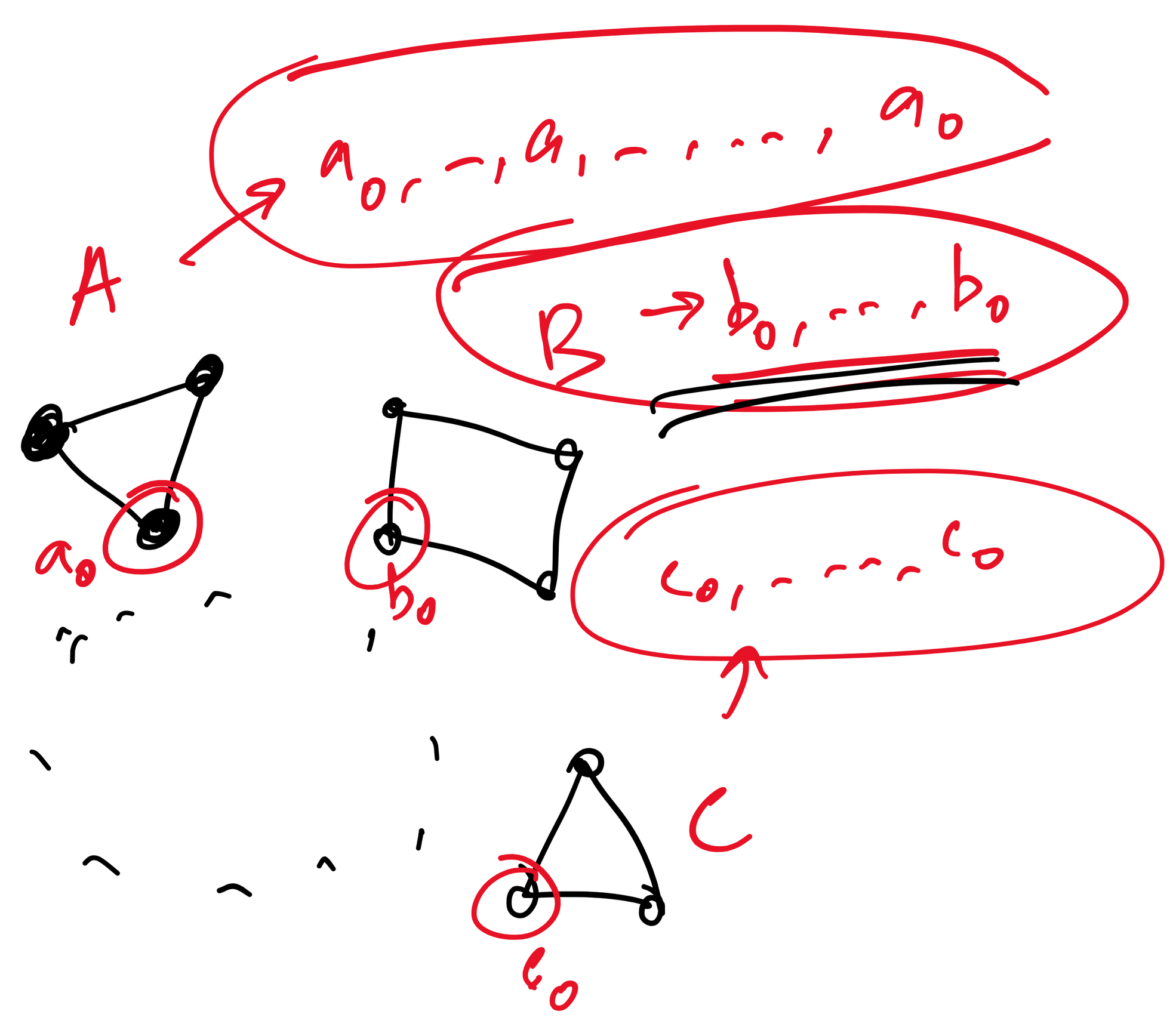


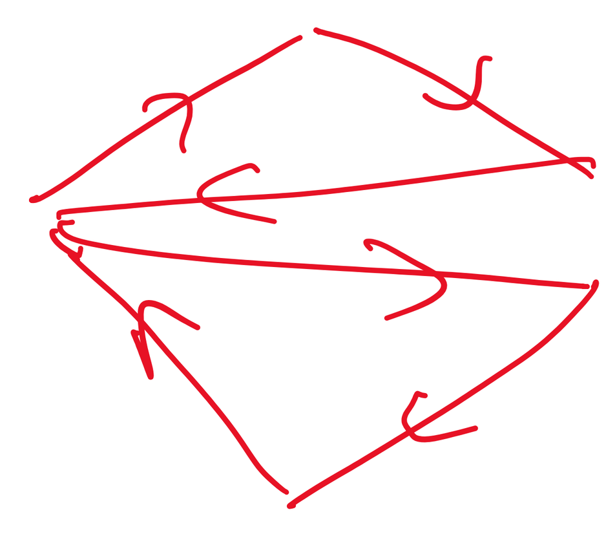
If every vertex has even degree and graph is connected then graph has an Euler tour.



$v_0, \ldots, v_1, \ldots, v_0$

G.





$v_0, \ldots, b_0 \ldots a_0 \ldots c_0 \ldots v_0$

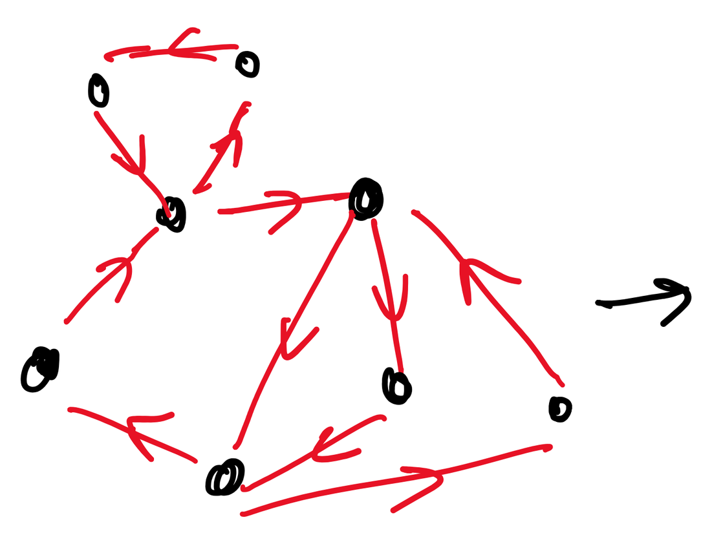
$v_0, \ldots, b_0, \ldots, b_0, \ldots, a_0, \ldots, a_0, \ldots,$

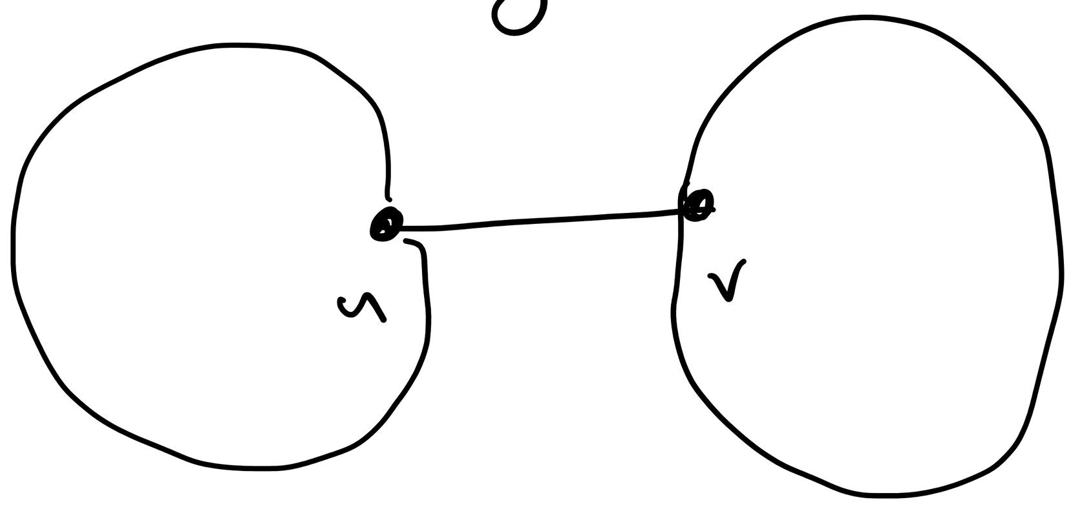
$c_0, \ldots, c_0, \ldots v_0$

Hierholzer's algorithm

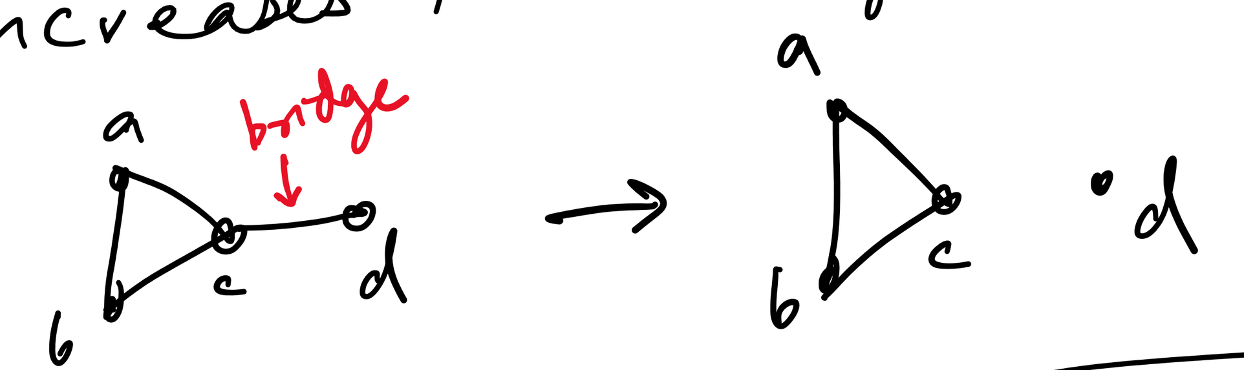
Fleury's algorithm

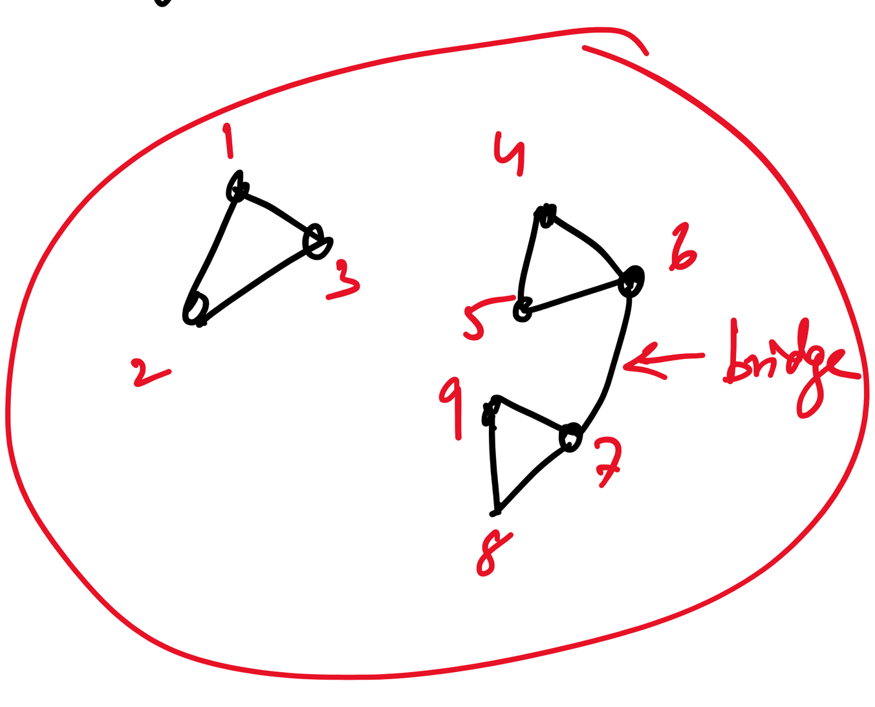
"bridge"



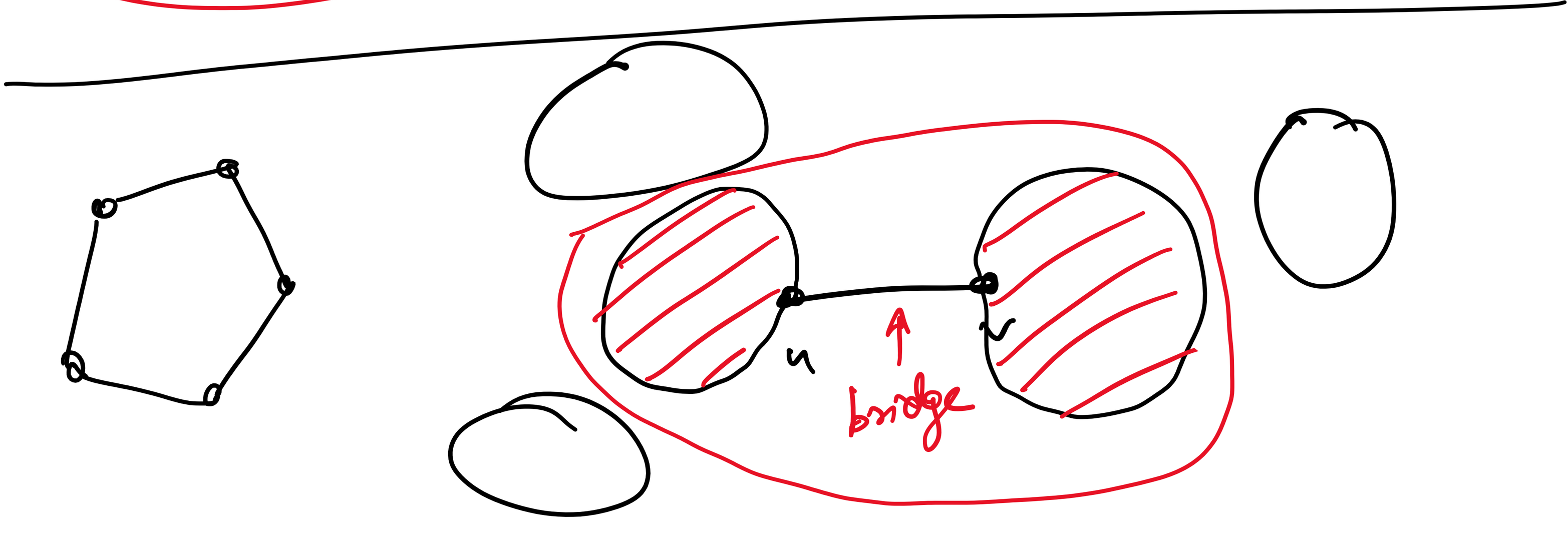


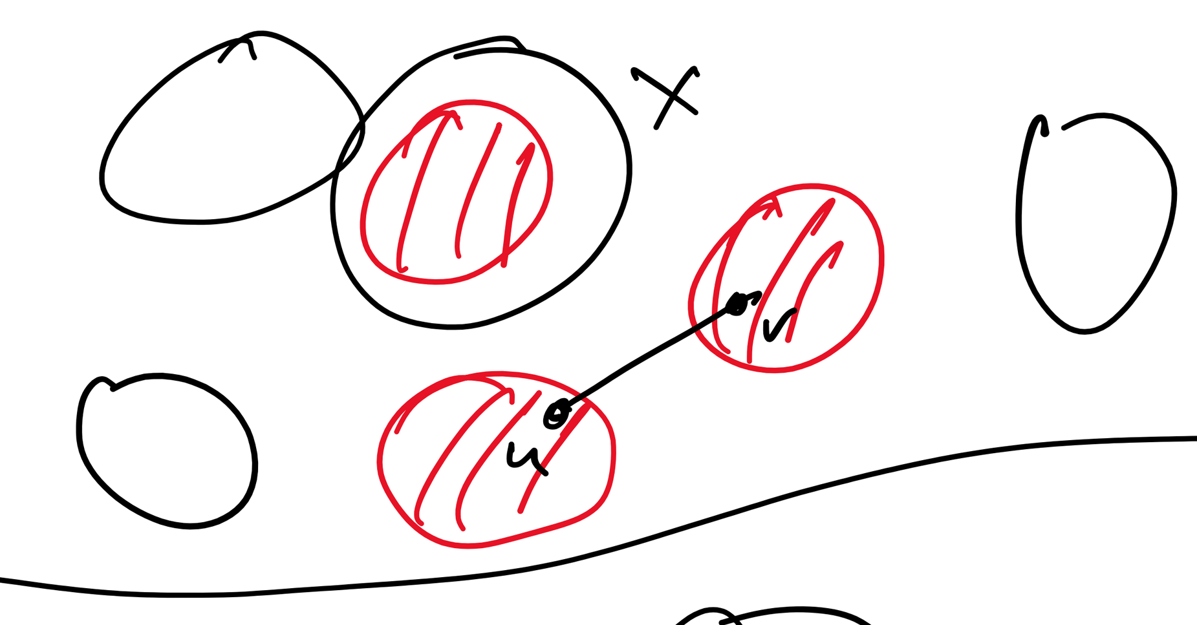
A bridge is an edge whose removal increases the no. of connected components.

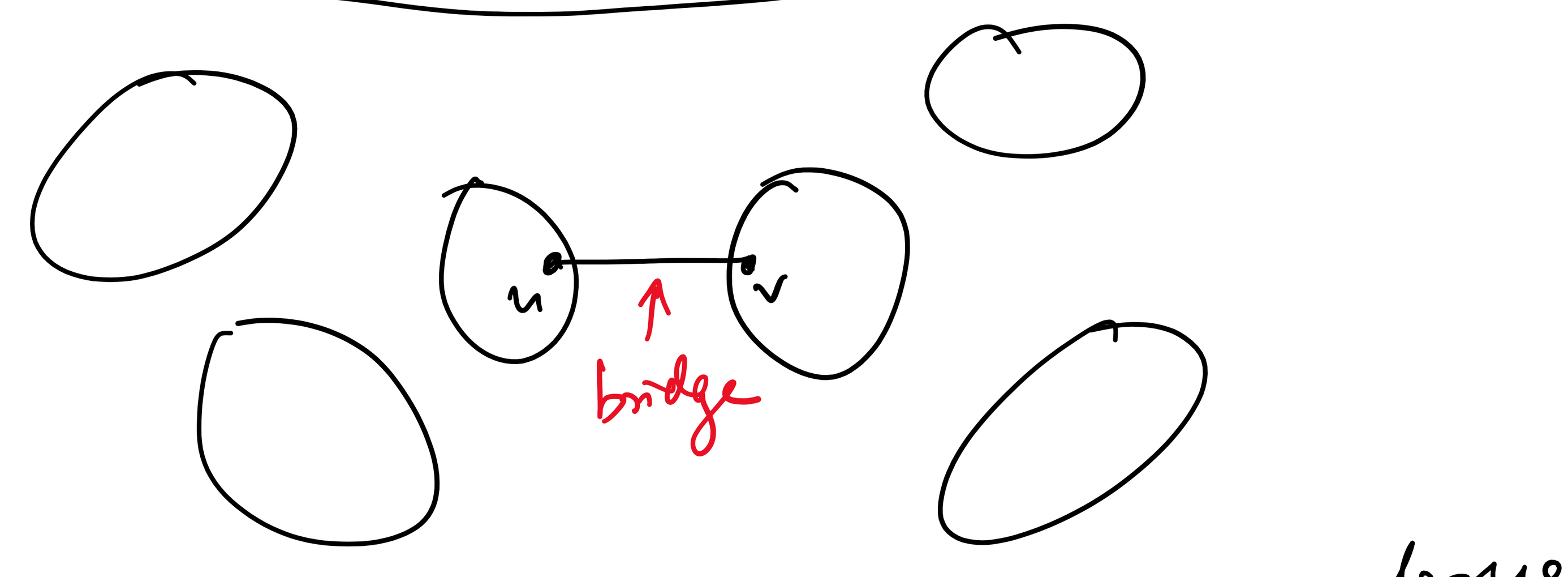




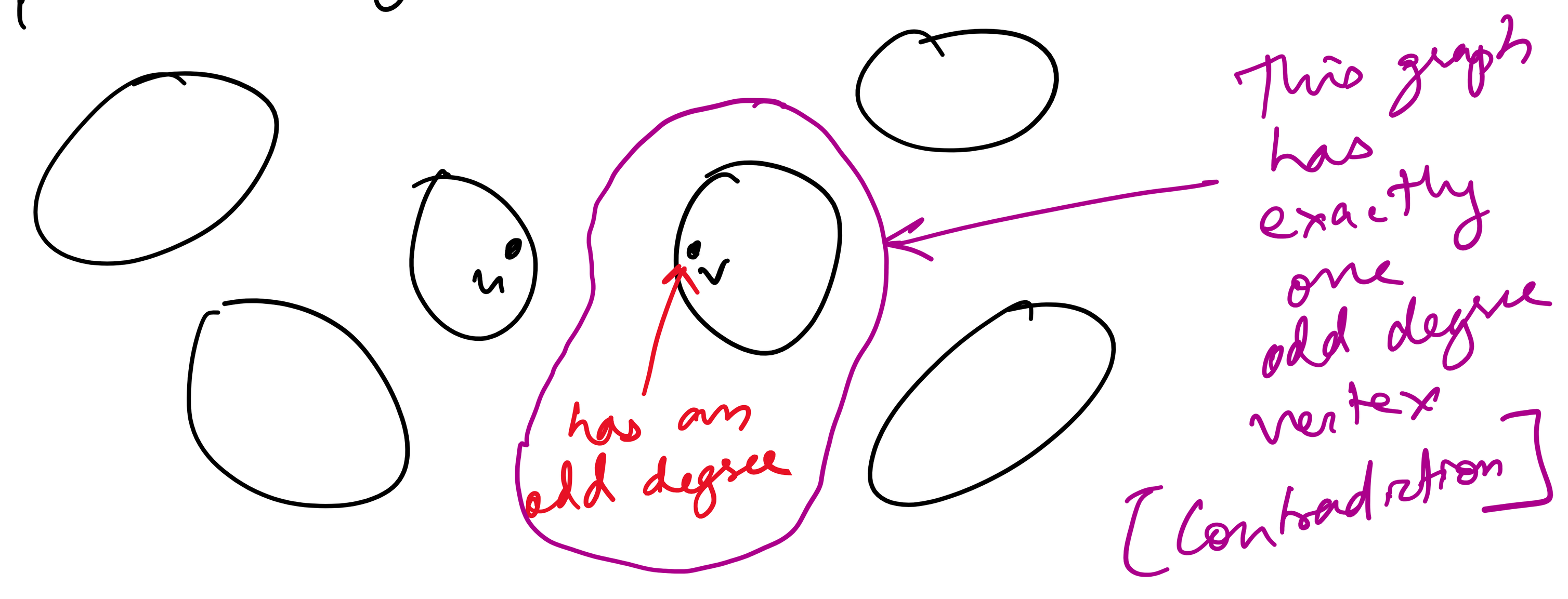
Suppose every vertex in G has an even degree. Can G contain a bridge? No.





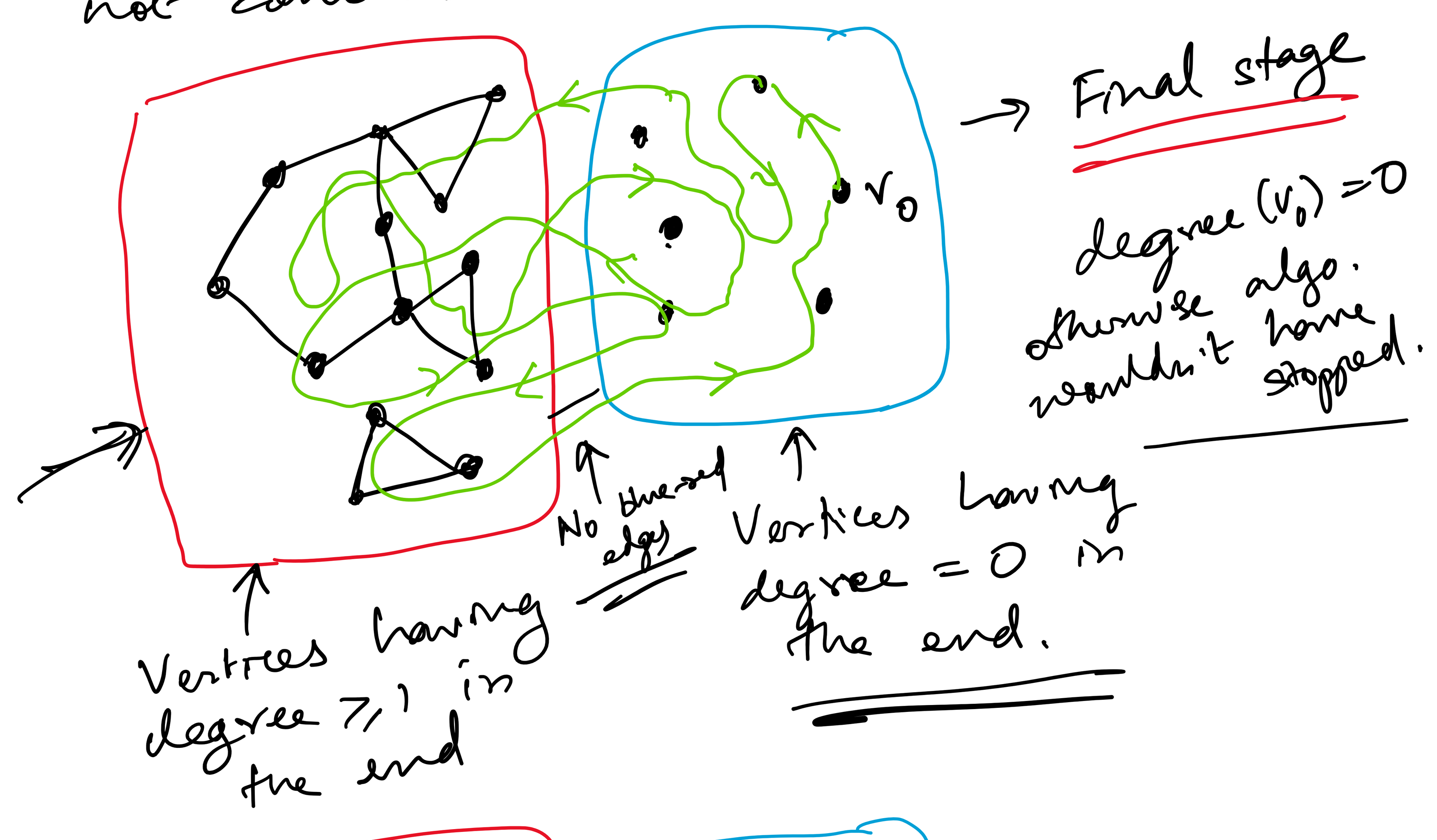


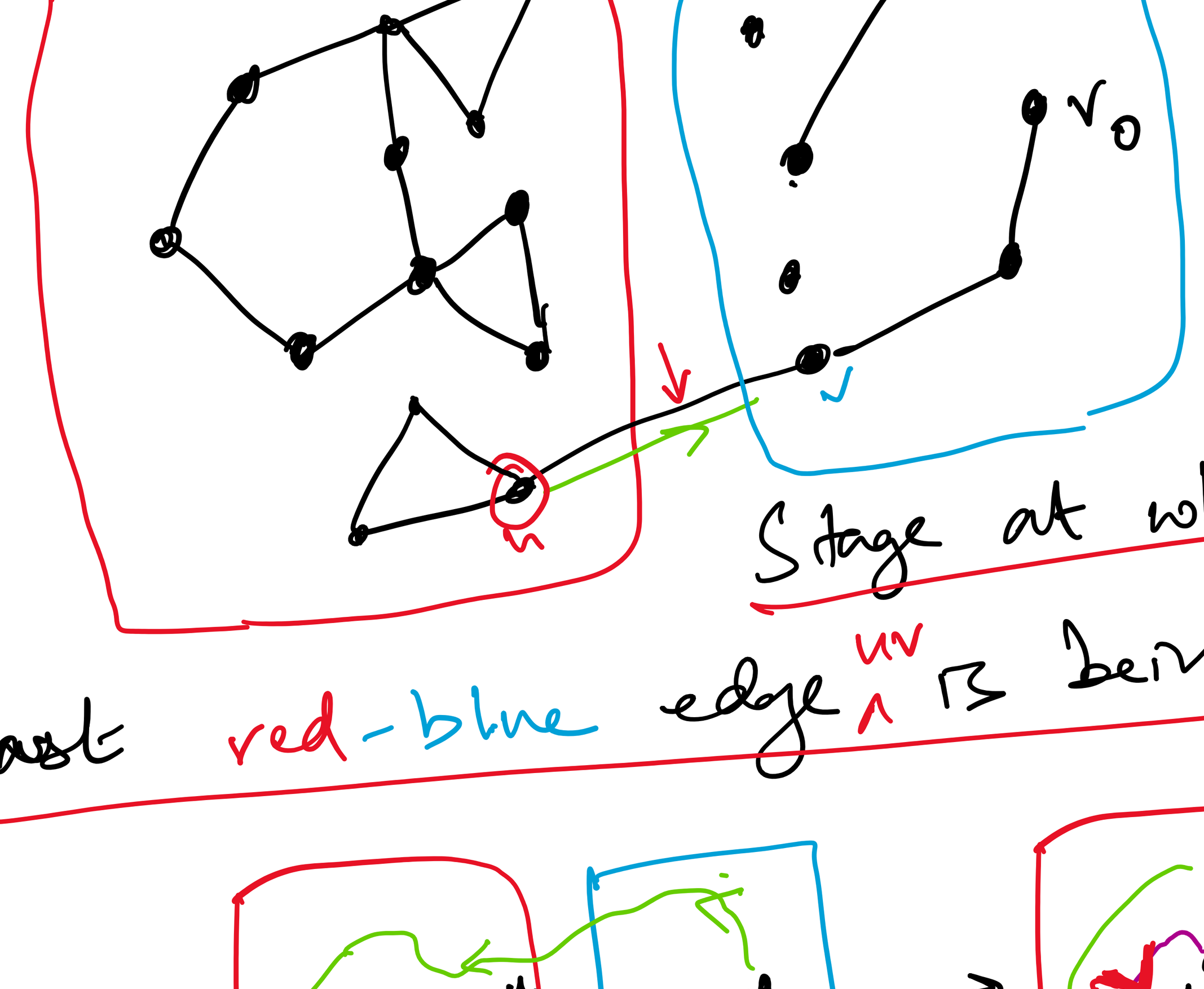
Suppose every vertex has an even degree.



Suppose for the sake of contradiction that Fleury's algorithm does not produce an Euler tour.

Then algorithm produced a tour that did not contains all the edges.





Stage at which the last red-blue edge uv is being chosen.