

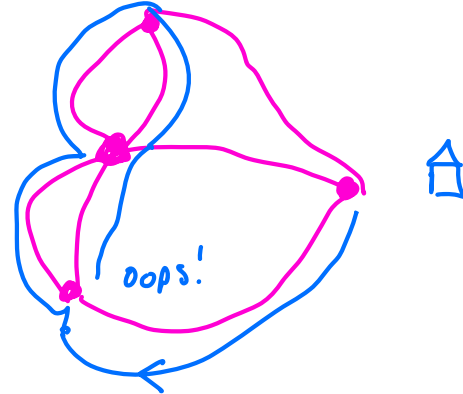
MATH F113X: Euler Paths and Circuits

Terminology: Euler Path (a.k.a Eulerian Path), Euler Circuit (a.k.a. Eulerian circuit)

Konigsberg and Leonhard Euler ["oiler"]



Can we cross each bridge exactly once and get home?

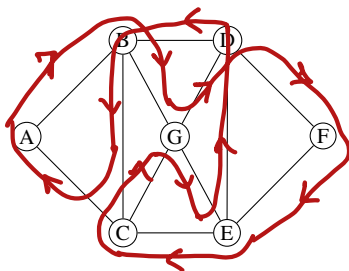


Euler Path

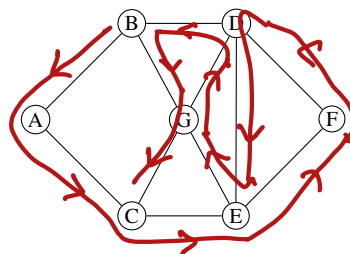
A path in a graph that travels along every edge exactly once

Euler Circuit

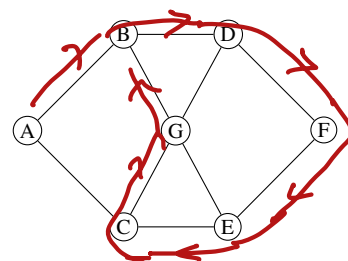
An Euler path that begins and ends at the same vertex



ABGDFEC
GEDBCA
Circuit!



oops! No way to get home?
PATH BACEFDEGDBG-C



oops! Missed edges!
(This has neither...)

Applications

Snow plowing, mail delivery...