


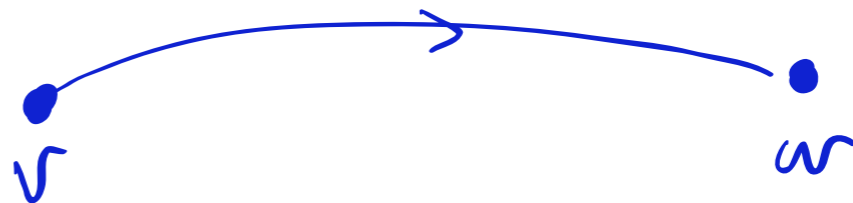
Lecture #14 . Directed-graphs. digraph.

Modify def'n of a graph as follows:

Graph: edge \longleftrightarrow unordered pair of vertices vw

digraph: arcs \longleftrightarrow ordered pair of vertices ~~vw~~
 (v, w)

(v, w) 

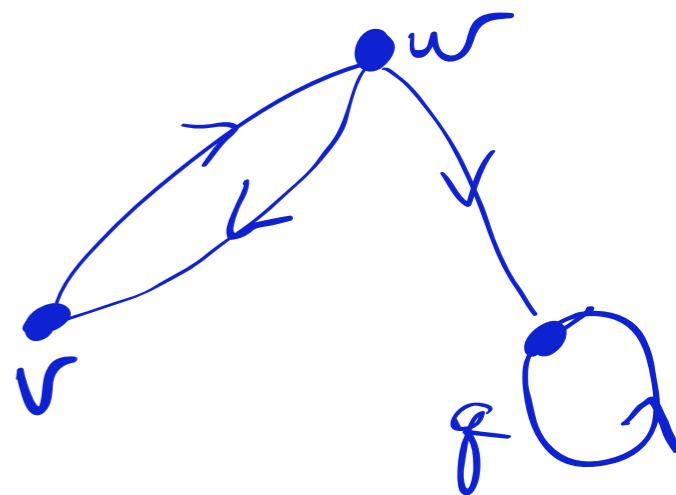


This arc is from v to w .

D consists of: a set $V(D)$, and an (unordered) list of ordered pairs $A(D)$.

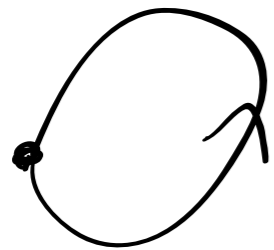
$V(D) : \{v, w, q\}$

$A(D) : (v, w), (w, v), (w, q), (q, q)$



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loop, multiple arcs, Simple.

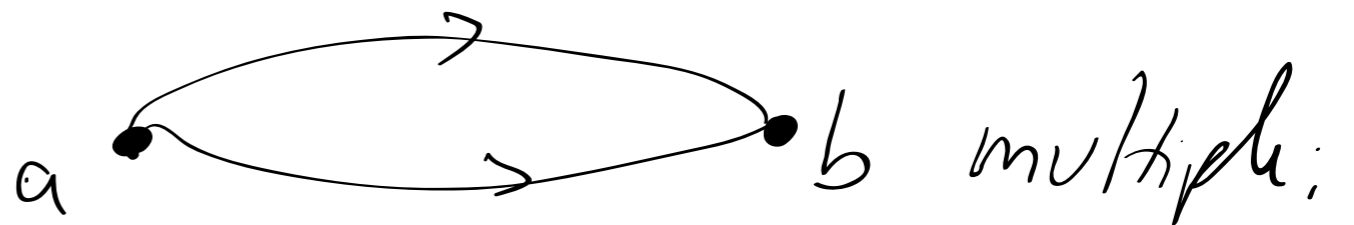


(w, w)

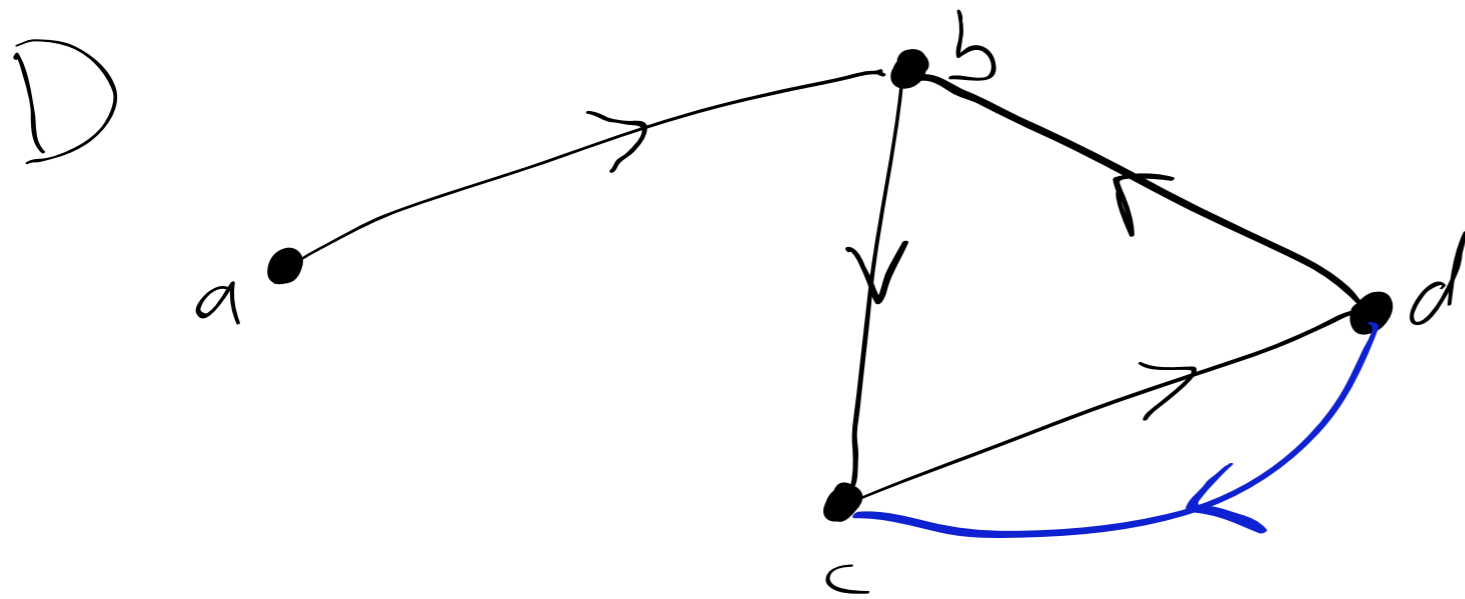


multiple arcs?
no.

Simple - no loops

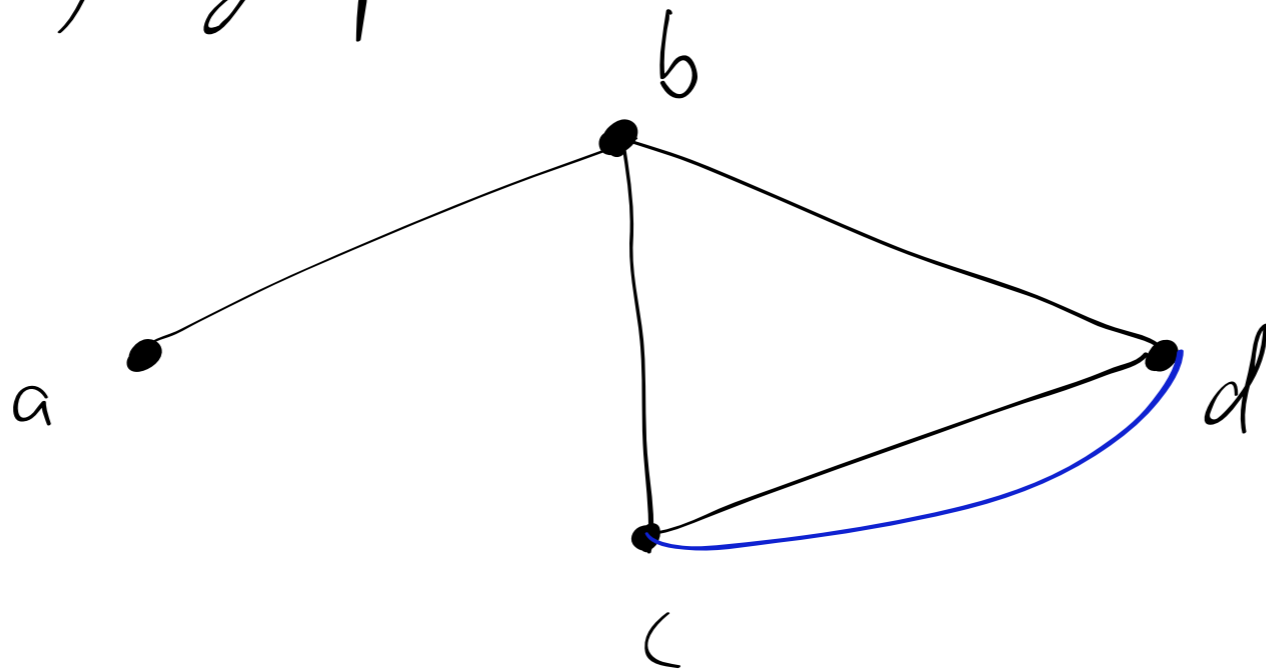


in the arc list:
(a, b), ..., (a, b)



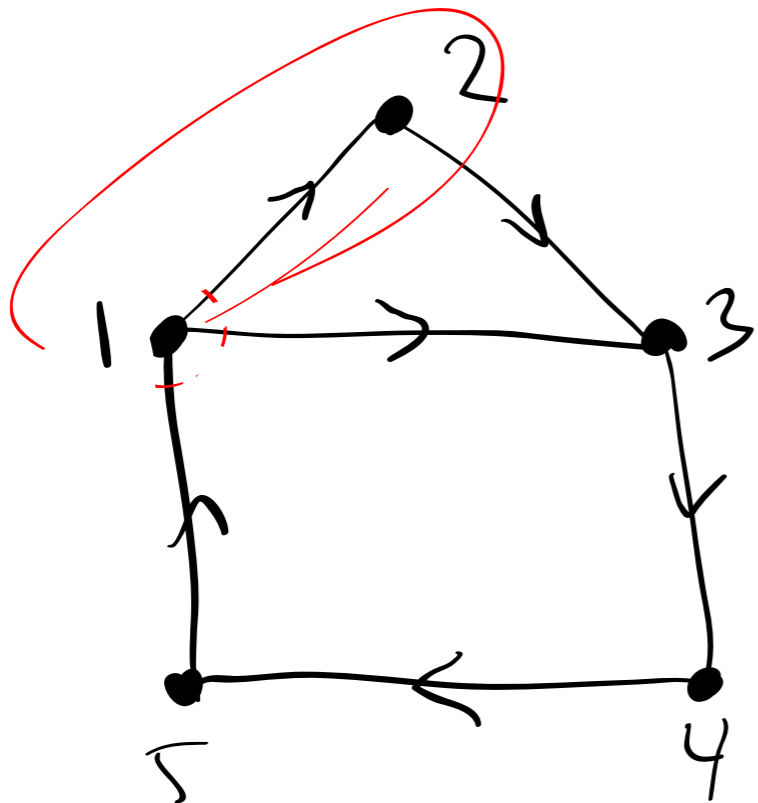
! simple.

underlying graph:

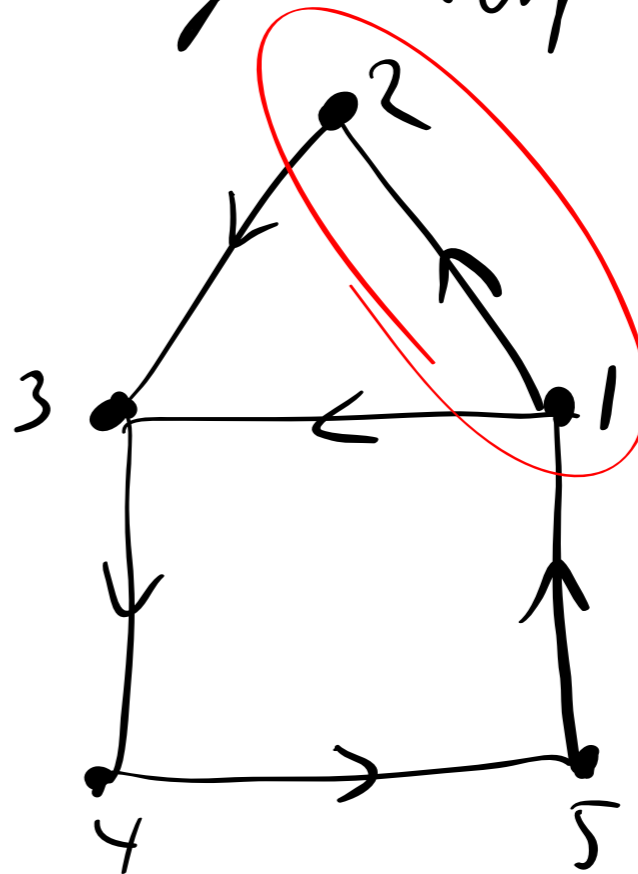


! not simple.

isomorphism.



Def'n by example:



from 1 to 2.

Play beams.html

← Midterm problem.

Play traffic.html
traffic2.html
traffic3.html

a "good enough"
solution to
Corliss, Monte Vista,
Lomas intersection
problem.

no claim to
having found the
best solution.