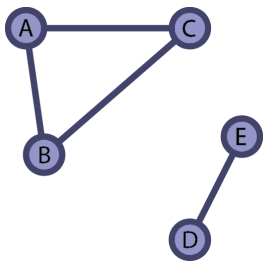
Networks and Complexity

Solution 2-1

This is an example solution from the forthcoming book Networks and Complexity.
Find more exercises at https://github.com/NC-Book/NCB

Ex 2.1: Different paths [1]

Decide which of the following is an open walk / closed walk / trail / path / circuit / cycle in the network shown below.



a) A,(A,C),C,(C,B),B;

Solution

An open walk, a trail and a path.

b) A,(A,B),B,(A,C),A;

Solution

This isn't any walk because B is followed by (A,C) in the sequence, which does not contain B as an endpoint.

c) A,(A,B),B,(B,C),C,(A,C),A;

Solution

A closed walk, also a circuit and a cycle.

d) A,(A,D),D,(A,D),A;

Solution

This isn't any walk because (A,D) isn't an edge.

e) A,(A,C),C,(B,C),B,(B,A),A,(A,C),C,(A,C),A;

Solution

A closed walk, it isn't a circuit or cycle because (A,C) is used multiple times.

f) B,(A,B),A,(A,C),C.

Solution

An open walk, trail and path.