

A path is a sequence of edges.

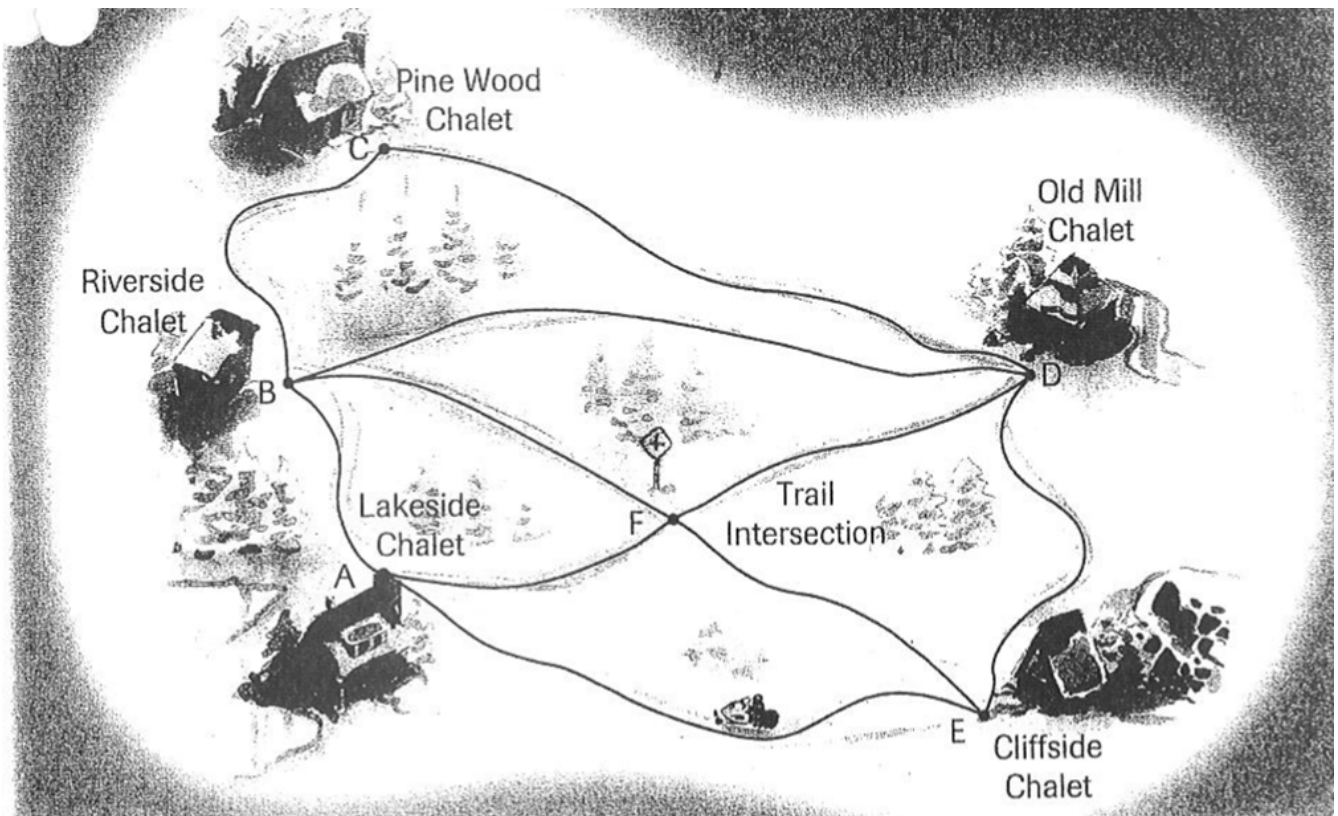
An Euler path passes through every edge exactly once.

1. An Euler path exists if there are exactly 2 vertices with an odd degree. These vertices will be the start and end of the Euler path.

or

2. An Euler path exists if all the vertices have an even degree. The starting vertex is also the ending vertex.

A Euler cycle is a Euler path that starts and ends at the same vertex. (Case #2)



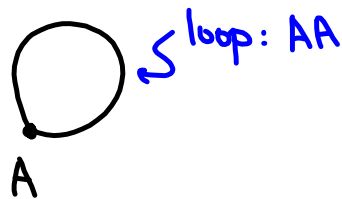
Since there are 2 vertices with odd degree there exists an Euler path.

ex: AFB CDBAEFDE

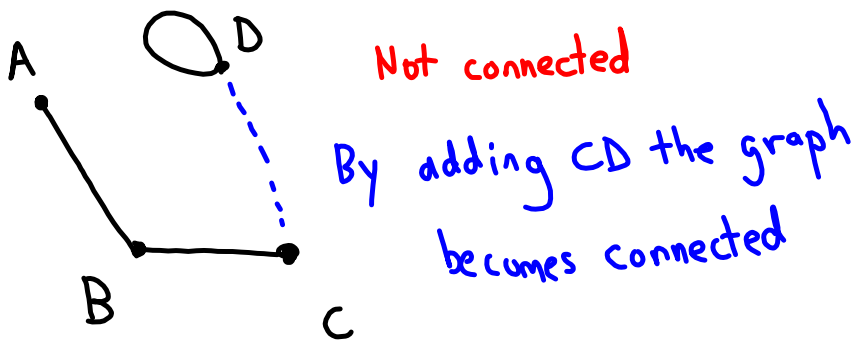
Graph Characteristics

The order of a graph = total number of vertices

A loop is... an edge that connects twice to only one vertex.



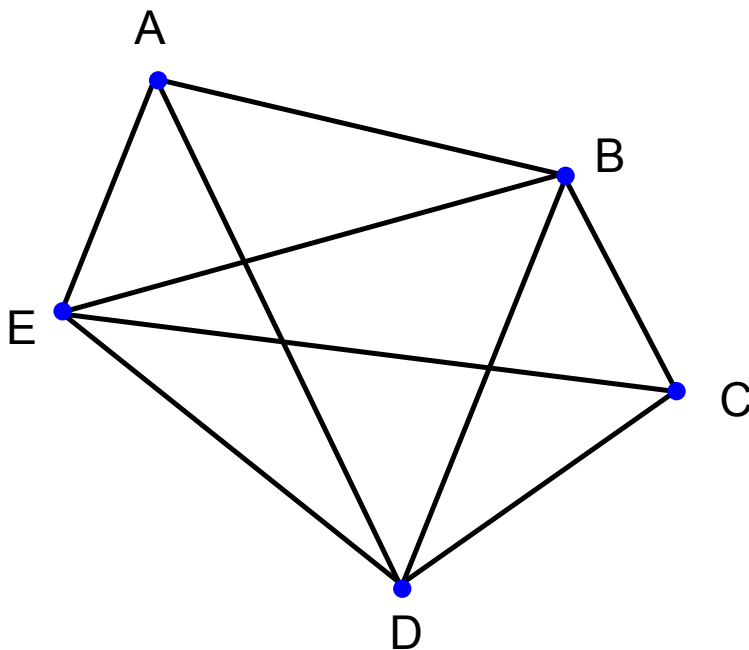
A connected graph is.... a graph that has at least one path to every vertex.



A complete graph is... a graph where every vertex is connected to every other vertex.

Is this graph connected? complete?

Yes No



Is there an Euler path? Euler circuit?

Yes No

Add an edge to make the graph complete.

By adding AC you complete the graph and create an Euler circuit.

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