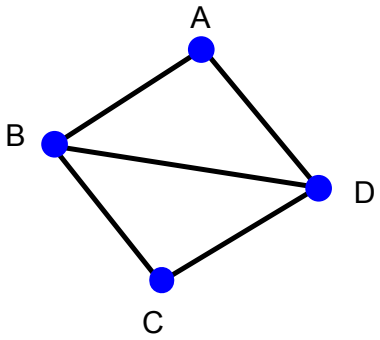
Eulerian Characteristics

Eulerian Chain:

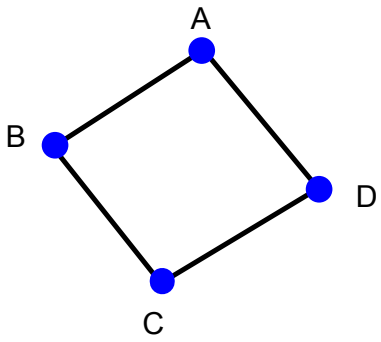
- Passes through all the **edges** of the graph once and only once.
- There exists an Eulerian chain when the graph contains **exactly two odd degree vertices** (the beginning vertex and the ending vertex)

Eulerian Cycle:

- Passes through all the edges of the graph once and only once AND begins and ends at the same vertex.
- There exists an Eulerian cycle when all the vertices of the graph have **even degree**. The Cycle can begin and end at any vertex.



BADCBD is an Eulerian chain



ABCDA is an Eulerian cycle.

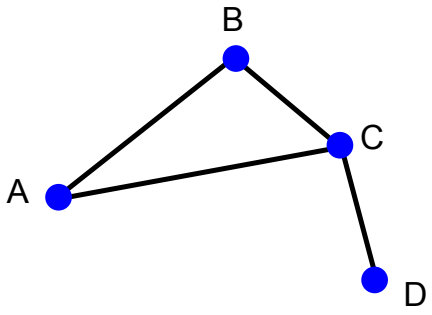
Hamiltonian Characteristics

Hamiltonian Chain:

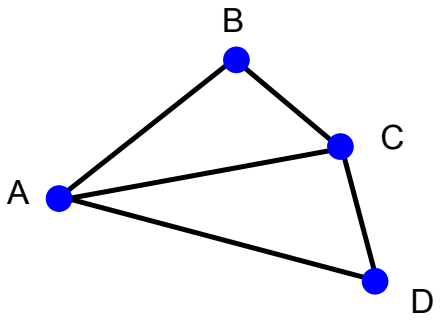
- Passes through all the **vertices** of the graph once and only once.

Hamiltonian Cycle:

- When a Hamiltonian chain begins and ends at the same vertex, it is called a Hamiltonian cycle.



ABCD is a Hamiltonian chain



ABCDA is a Hamiltonian cycle

Workbook:

pg. 50 (9, 10, 11)

pg. 51 (13, 14, 15)