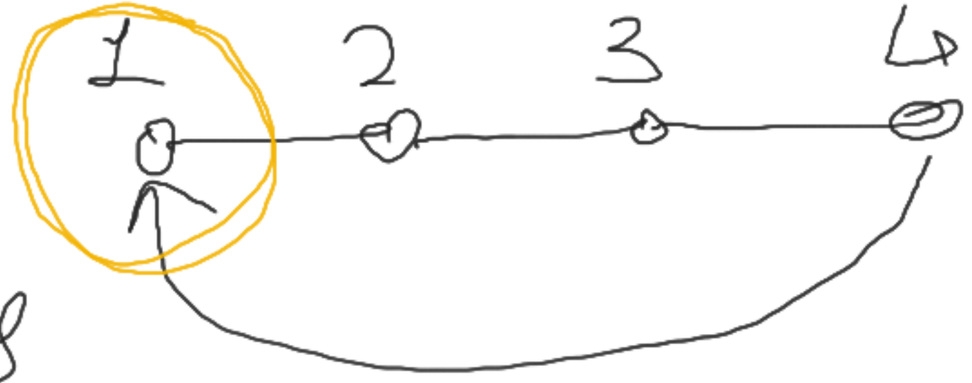
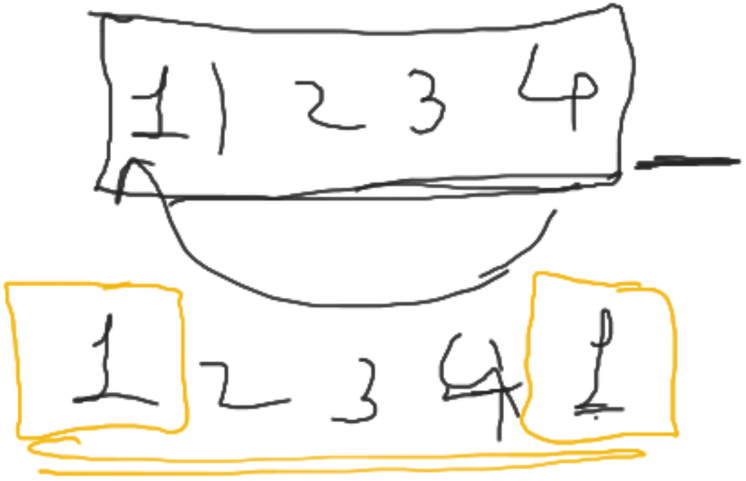
Hamiltonian Cycle

Let $G = (V, E)$ be a connected graph with n vertices.

A Hamiltonian Cycle is a round-trip path along n edges of graph G that visits every vertex once and returns to its starting position.

$n-1$ edges





Pg.386 #1,5

G1

G2

No solution

G1

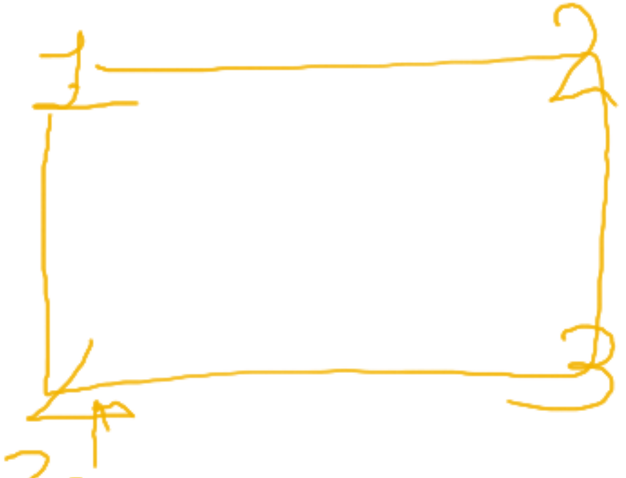
1 4 3 2 1

4 3 2 1 4

3 2 1 4 3

2 1 4 3 2

G4



1 2 3

4
0 1 0 1
1 0 1 0
0 1 0 1
1 0 1 0
4
0 1 1 1
1 0 1 0
1 1 0 1
1 0 1 0
5
0 1 0 1 0
1 0 1 1 1
0 1 0 0 1
1 1 0 0 1
0 1 1 1 0
8
0 1 1 0 0 0 1 0
1 0 1 0 0 0 0 1
1 1 0 1 0 1 0 0
0 0 1 0 1 0 0 0
0 0 0 1 0 1 0 0
0 0 1 0 1 0 1 0
1 0 0 0 0 1 0 1
0 1 0 0 0 0 1 0
5
0 1 0 0 1
1 0 1 1 1
0 1 0 1 0
0 1 1 0 0
1 1 0 0 0