Practice Problems in Graph
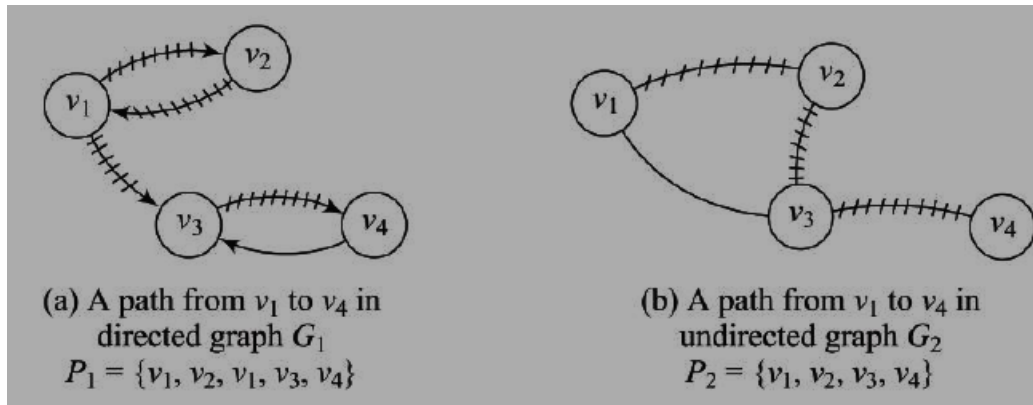
(1) Write an algorithm and the subsequent C code to compute the degree of each vertex to a given graph G=(V,E) where V is a vertex set and E is an edge set. Check your C code to following inputs

(a) A path from v_1 to v_4 in directed graph G_1
$P_1 = \{v_1, v_2, v_1, v_3, v_4\}$

(b) A path from v_1 to v_4 in undirected graph G_2
$P_2 = \{v_1, v_2, v_3, v_4\}$

(2) Write an algorithm and the subsequent C code to check whether a given path P is simple path or not. Check your C code for paths P1 and P2 of the above graphs.

(3) Write an algorithm and the subsequent C code to check whether a given cycle T is simple cycle or not. Check your code for some cycles of the above graphs.