

Let G_1 and G_2 be isomorphic simple graphs, either both directed or both undirected. Let f be a graph isomorphism from G_1 to G_2 . We pointed out that in a simple graph, a path can be given by listing only the vertices it goes through and not the edges. Let P be the path v_1, v_2, \dots, v_n in G_1 . Denote by $f(P)$ the sequence of vertices $f(v_1), f(v_2), \dots, f(v_n)$ in G_2 . Is $f(P)$ a path in G_2 ? Be sure to justify your argument carefully.