Abstract

In the theory of Algebraic Combinatorics, there are several ways of associating simplicial complexes(or graphs) with ideals in polynomial rings and vice versa. The cover complexes are constructed on the minimal vertex covers of given complexes. I have taken motivation of all these cover complexes to done another simplicial complexes, which can be obtained from a graph. I shall call it independent complex, whose facets will be independent sets of a given graph. By definition, any subset of vertices of a graph is independent set if there is no edge between any two vertices in that set. To describe algebraic and combinatorial properties of Independent complexes corresponding to Complete graph, friendship graphs, Complete bipartite graphs and Complete n-partite graphs. We shall study various algebraic and combinatorial properties of these complexes for the family of friendship graphs, Complete graphs, Complete bipartite and n-partite graphs.