## Markov bases and toric ideals for some contingency tables

## ABSTRACT

The main objective of this work is to study Markov bases and toric ideals for  $p(v \ 1)(p \ v)/2v \times v \times p/v$  - contingency tables that has fixed two-dimensional marginal when p is a multiple of v and greater than or equal to 2v. Moreover, the connected bipartite graph is also constructed by using elements of Markov basis. This work is an extension on results, that has been found by Hadi and Salman in 2014.

Keyword: Markov bases; Toric ideals; Contingency tables