Abstract

(See other file)

1 Introduction

What, why and overview of tools used

2 Basic definitions

2.1 Bimatrix games

Nash Equilibria, Best response polytopes

see section 2 in ENDM article; improved version of thm 2.1 can be found in Prop 1 in VvS (general, not just cyclic polytopes)

2.2 The Lemke-Howson algorithm

The Lemke-Howson algorithm

2.3 Gale strings

Definition, Lemke-Howson for Gale (SvS)

2.4 Pivoting and the class PPAD

touch on pivoting as one of the reasons to introduce PPA(D). *just give the def of directed*, the idea of pivoting + sign will be discussed in ”further results” section. The focus is ”why the main result is relevant”

mention oiks, so you can later mention that EulG - as the ones used for MAIN are oik. Again: not too much.

3 The complexity of COMPLETELY LABELED GALE STRING and ANOTHER COMPLETELY LABELED GALE STRING

Note: why not call them GALE and ANOTHER GALE? It would make it more readable.

Main result! - the reduction to Perfect matching; both GALE and ANOTHER GALE are in P, we're happy.

4 Further results

The framework provided by our result led to further questions, related to the issue of the *sign* of an index - and so on (Merschen, VvS)

Open problems (?)