

## Povzetek

V diplomski nalogi si bomo podrobneje ogledali zakonsko igro, znano tudi kot problem stabilnih porok.

Problem bomo reševali na enakem številu moških in žensk.

Najprej si bomo pogledali dva algoritma, ki zahtevata, da so vsem ženskam sprejemljivi vsi moški in obratno. Rešitev algoritma so tako vsi moški in ženske v parih, torej nihče ne ostane samski.

Potem pa si bomo pogledali bolj življenjski primer. V vsakdanjem življenju nekateri raje ostanejo samski, kot da morajo biti v paru z nekom, ki zanje ni sprejemljiv. Torej so igralci na koncu algoritma nekateri srečni v paru, drugi srečno samski. Takšnega primera se bomo lotili s pomočjo grafov.

**Math. Subj. Class.** (2010): 05C57, 05C70

### **Ključne besede:**

graf, prirejanje, stabilnost, problem stabilnih porok, zakonska igra.

## Abstract

In this thesis, we will examine the marriage game, also known as the marriage problem.

The problem will be solved for the same number of men and women.

First, we will take a look at two algorithms, which require that all women and men are mutually acceptable. The solution that the algorithm gives, results in all men and women in pairs and with no one celibate.

Then we will take a look at a more general case. In everyday life, some people prefer to stay single, than to be paired with someone that is not acceptable in their opinion. So the result of algorithm should be that some of the volunteers are happily paired and the others happily single. We will solve this case by using graphs.

**Math. Subj. Class.** (2010): 05C57, 05C70

### **Keywords:**

graph, matching, stability, marriage problem, marriage game.

## Literatura

- [1] M. Balinski, G. Ratier: *Graphs and Marriages*, Amer. Math. Monthly, Letnik 105, številka 5 (Maj, 1998).
- [2] Wikipedia, Stabilne poroke, pridobljeno s  
[penelope.fmf.uni-lj.si/r2wiki/index.php/Stabilne\\_poroke](http://penelope.fmf.uni-lj.si/r2wiki/index.php/Stabilne_poroke),
- [3] M. Juvan: *Problem trdnih zakonov*, Presek, Letnik 23, številka 4 (1996).