Documentation for First Project

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Subject: Advanced Algorithms

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1 Information about program

For this project I decided to use method whem my program parsing data input file, then create new output file for external solver. External solver then solves problem and saves it in another file that the program reads and prints the result to file and to systemout.

As solver program was chosen Lp solve: http://sourceforge.net/projects/lpsolve/

Project is programmed in ruby programing language: http://www.ruby-lang.org/en/

Description step-by-step:

Program <file> Run program with file input

...parse input

make file: outputForLpSolve.lp

lp_solve outputForLpSolve.lp

...solving problem

make file: outFromLpSolve.txt

...parse file

print result also create file: FinalResult.txt

1.1 Instalation of needed programs

To run our program is needed ruby prgraming language and ILP solver LP_solve

Ubuntu GNU/Linux:
Ruby Instalation:

```
# apt-get instal ruby
```

Lp_solve instalation:

```
# apt-get instal lp-solve
```

Archlinux:
Ruby Instalation:

```
# pacman -S ruby
```

Lp_solve instalation:

```
# pacman -S lp_solve
```

1.2 Run program

Unpack program to directory from zip archive or download it with GIT

```
$ git clone git://github.com/zajca/Projekt_ADV_ALG.git
```

There are to ways how to run program:

- with simple bash script (only difference is that bash script also runs time program to measure time)

```
$ bash project.sh <input file>
```

- with ruby interpreter

```
$ ruby project.rb <input file>
```