

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 when 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 programming language: <http://www.ruby-lang.org/en/>

Description step-by-step:

**Program** <file.in> <file.out> 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 output file

### 1.1 Instalation of needed programs

To run our program is needed ruby programming 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
```

- Run program:

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