

Download and install the student or trial version of your modelling language of choice.

AIMMS: Available from

http://www.aimms.com/aimms/downloads/aimms_38/download_38.html, probably the most comprehensive solution, the solvers come bundled with the modelling language.

Extensive documentation is available from

<http://www.aimms.com/aimms/downloads/manuals.html>,

see also the tutorial at

http://www.aimms.com/aimms/download/manuals/AIMMS_tutorial_beginners.pdf.

Matlab: You can also use Matlab with the Optimization Toolbox, or you can get the MOSEK optimization engine from <http://www.mosek.com/index.php?id=7> and apply for a free student license at <https://www.mosek.com/cgi-bin/student.py>. Alternatively, you can get a trial license at <https://www.mosek.com/cgi-bin/trial.py>, which is only valid for 30 days, but gives you all the features without limitations. Documentation is at <http://www.mosek.com/index.php?id=13>.

GAMS: Available from <http://download.gams-software.com>, see also the documentation at <http://www.gams.com/docs/document.htm>.

AMPL: Available from <http://ampl.com/DOWNLOADS/index.html>, but the user guide is not online, it is published as a book. Solvers have to be downloaded and installed separately.

Consider the illumination problem described in class. Implement the model in your favourite modelling environment. Make sure you separate the data from the model, i.e., do not hardcode the data in the model. Implement the solution approaches described in class. Choose the number of lamps and patches so as to stay within the limits of your modelling environment.

Create the data, start with a simple square room with two light sources. If that works, make your setup more complicated. If everything works try to add the two complicated constraints (half of the power in half the lamps and half of the lamps on).

Be aware of the fact that some modelling language/solver combinations do not support certain features, you might not be able to test everything. Try to do as much as you can.

Submit all the source codes or the binary project file if you use AIMMS. Do not print out anything.