YALMIP Wiki

Solvesdp

solvesdp is the common function for solving standard optimization problems.

Syntax

```
diagnostics = solvesdp(Constraints,Objective,options)
```

Examples

A linear program {min $c^T x$ subject to $Ax <= b$} can be solved with the following piece of code

```
x = sdpvar(length(c),1);
F = [A*x<=b];
h = c'*x;
solvesdp(F,h);
solution = double(x);
```

If we only look for a feasible solution, we can omit the objective function

```
solvesdp(F);
```

A diagnostic structure is returned from solvesdp, which can be used, e.g, to check feasibility (see yalmiperror for the error codes)

```
diagnostics = solvesdp(F);
if diagnostics.problem == 0
 disp('Feasible')
elseif diagnostics.problem == 1
 disp('Infeasible')
else
 disp('Something else happened')
end
```

Solving the feasibility problem with a particular solver, e.g. QUADPROG, can be done with

```
solvesdp(F,[],sdpsettings('solver','quadprog'));
```

Minimization is assumed, hence if we want to maximize, we simply flip the sign of the objective.

```
solvesdp(F,-h);
```

For more examples, check out the Examples and Tutorials.

Related commands

sdpvar, set, sdpsettings, solvesos, solvemoment, solvemp

search for...

Most common
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