Nonlinear models in MPL

Go to Options -> MPL Language. Under "Default Model Type" check
linear models, quadratic models, or nonlinear models, depending
on the type of problem you are working on. If it is a nonlinear
problem with logs and exponents, you should check the box
labeled "extended nonlinear models" as well. Whenever solving
nonlinear problems, do not use CPLEX. Instead use Conopt by
going to Run -> Solve -> Solve Conopt. At the beginning of the
file for a nonlinear problem type "options ModelType =
Nonlinear;" or, for quadratic problems, type "options ModelType
= Quadratic;". Here is an example of a nonlinear problem for
which Conopt can find a locally optimal solution, which is
perhaps globally optimal as well.

```
options
     ModelType = Nonlinear;
model
     max Z = log(x1+1)+x2-x2^2;
subject to
     x1-x2^2 <= 5;
end
```

The solution is
MAX Z   =   2.090066

Variable Name   Activity
   ----
     x1   5.352148
     x2   0.593420

Note: It is not essential to write "options ModelType =
Nonlinear;" at the beginning of the file if you have already
checked "nonlinear models" under Options -> MPL Language ->
Default Model. Just be sure to do one or the other.