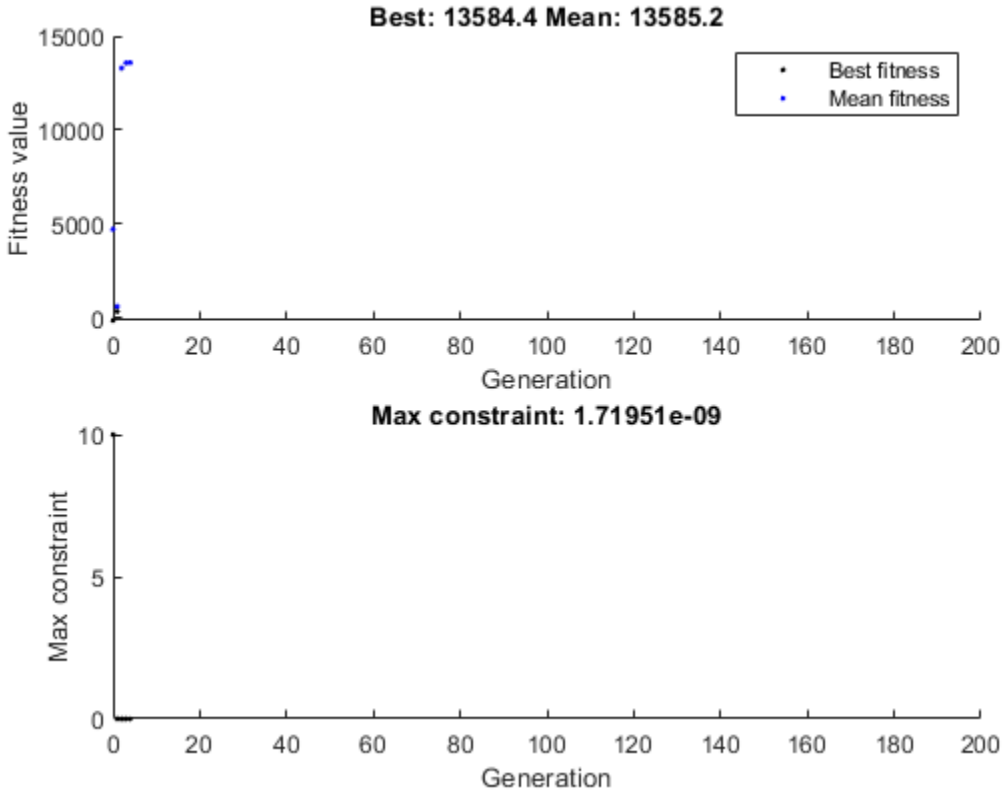
```
ObjectiveFunction = @simple_fitness;
nvars = 2;    % Number of variables
LB = [0 0];   % Lower bound
UB = [1 13];  % Upper bound
ConstraintFunction = @simple_constraint;
[x,fval] = ga(ObjectiveFunction,nvars,[],[],[],[],LB,UB, ...
    ConstraintFunction)

options = optimoptions(@ga,'MutationFcn',@mutationadaptfeasible);
% Next we run the GA solver.
[x,fval] = ga(ObjectiveFunction,nvars,[],[],[],[],LB,UB, ...
    ConstraintFunction,options)

options = optimoptions(options,'PlotFcn',{@gaplotbestf,@gaplotmaxconstr}, ...
    'Display','iter');
% Next we run the GA solver.
[x,fval] = ga(ObjectiveFunction,nvars,[],[],[],[],LB,UB, ...
    ConstraintFunction,options)
```

```
Optimization terminated: average change in the fitness value less than
 options.FunctionTolerance
 and constraint violation is less than options.ConstraintTolerance.

x =

    0.8123   12.3103


fval =

   1.3574e+04

Optimization terminated: average change in the fitness value less than
 options.FunctionTolerance
 and constraint violation is less than options.ConstraintTolerance.

x =

    0.8123   12.3103


fval =

   1.3574e+04


Single objective optimization:
2 Variable(s)
2 Nonlinear inequality constraint(s)

Options:
CreationFcn:       @gacreationuniform
```

```
CrossoverFcn:      @crossoverscattered
SelectionFcn:      @selectionstochunif
MutationFcn:       @mutationadaptfeasible

                                Best       Max        Stall
Generation  Func-count         f(x)     Constraint  Generations
    1           2524        13579.8    2.099e-07      0
    2           4986        13578.2     1.74e-05      0
    3           7965        14026.4            0      0
    4          17430        13586.3     1.72e-09      0
Optimization terminated: average change in the fitness value less than
 options.FunctionTolerance
 and constraint violation is less than options.ConstraintTolerance.

x =

    0.8123   12.3158


fval =

   1.3586e+04
```



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