```
>> app(5);

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in
feasible directions, to within the default value of the optimality tolerance,
and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>


x1 =

   22.3128   55.7821


fval1 =

  186.0145


exitflag1 =

     1


output1 =

  struct with fields:

         iterations: 5
          funcCount: 18
          algorithm: 'sqp'
            message: 'Local minimum found that satisfies the constraints.↙
↵↵Optimization completed because the objective function is non-decreasing in↙
↵feasible directions, to within the default value of the optimality tolerance,↵and↙
constraints are satisfied to within the default value of the constraint tolerance.↙
↵↵Stopping criteria details:↵↵Optimization completed: The relative first-order↙
optimality measure, 1.746822e-07,↵is less than options.OptimalityTolerance = 1.000000↙
e-06, and the relative maximum constraint↵violation, 3.280261e-14, is less than↙
options.ConstraintTolerance = 1.000000e-06.↵↵Optimization Metric↙
Options↵relative first-order optimality =   1.75e-07       OptimalityTolerance =↙
1e-06 (default)↵relative max(constraint violation) =   3.28e-14↙
ConstraintTolerance =   1e-06 (default)'
    constrviolation: 1.1333e-12
           stepsize: 2.8670e-04
       lssteplength: 1
      firstorderopt: 3.9055e-07


Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in
feasible directions, to within the default value of the optimality tolerance,
and constraints are satisfied to within the default value of the constraint tolerance.
```

```
<stopping criteria details>


x2 =

   22.3128   55.7821


fval2 =

  186.0145


exitflag2 =

     1


output2 =

  struct with fields:

         iterations: 15
          funcCount: 52
    constrviolation: 0
           stepsize: 1.6221e-06
          algorithm: 'interior-point'
      firstorderopt: 9.0814e-08
       cgiterations: 0
            message: 'Local minimum found that satisfies the constraints.↙
↵↵Optimization completed because the objective function is non-decreasing in↙
↵feasible directions, to within the default value of the optimality tolerance,↵and↙
constraints are satisfied to within the default value of the constraint tolerance.↙
↵↵Stopping criteria details:↵↵Optimization completed: The relative first-order↙
optimality measure, 4.061840e-08,↵is less than options.OptimalityTolerance = 1.000000↙
e-06, and the relative maximum constraint↵violation, 0.000000e+00, is less than↙
options.ConstraintTolerance = 1.000000e-06.↵↵Optimization Metric↙
Options↵relative first-order optimality =   4.06e-08       OptimalityTolerance =↙
1e-06 (default)↵relative max(constraint violation) =   0.00e+00↙
ConstraintTolerance =   1e-06 (default)'

Active inequalities (to within options.ConstraintTolerance = 1e-06):
  lower      upper     ineqlin   ineqnonlin
                                      5
                                      8

Local minimum found that satisfies the constraints.

Optimization completed because the objective function is non-decreasing in
feasible directions, to within the default value of the optimality tolerance,
and constraints are satisfied to within the default value of the constraint tolerance.

<stopping criteria details>
```

```
x3 =

   22.3128   55.7821


fval3 =

  186.0145


exitflag3 =

     1


output3 =

  struct with fields:

         iterations: 6
          funcCount: 18
       lssteplength: 1
           stepsize: 9.0493e-08
          algorithm: 'active-set'
      firstorderopt: 1.5328e-07
    constrviolation: 3.9080e-14
            message: 'Local minimum found that satisfies the constraints.↙
↵↵Optimization completed because the objective function is non-decreasing in↙
↵feasible directions, to within the default value of the optimality tolerance,↵and↙
constraints are satisfied to within the default value of the constraint tolerance.↙
↵↵Stopping criteria details:↵↵Optimization completed: The first-order optimality↙
measure, 1.532769e-07, is less↵than options.OptimalityTolerance = 1.000000e-06, and↙
the maximum constraint violation,↵3.907985e-14,is less than options.↙
ConstraintTolerance = 1.000000e-06.↵↵Optimization Metric↙
Options↵first-order optimality =   1.53e-07↙
OptimalityTolerance =   1e-06 (default)↵max(constraint violation) =   3.91e-14↙
ConstraintTolerance =   1e-06 (default)'

>>
```