

MP-2 Tutorial - 6

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Problem 1:

```
In [1]: !pip install python-constraint
```

```
Collecting python-constraint
  Downloading python-constraint-1.4.0.tar.bz2 (18 kB)
Building wheels for collected packages: python-constraint
  Building wheel for python-constraint (setup.py) ... done
  Created wheel for python-constraint: filename=python_constraint-1.4.0-py2.py3-none-any.whl size=24080 sha256=c1f872c6ebf587d6e1c078acf3a17d317e194818d4473abe3842d493f37b228b
  Stored in directory: /home/jovyan/.cache/pip/wheels/07/27/db/1222c80eb1e431f3d2199c12569cb1cac60f562a451fe30479
Successfully built python-constraint
Installing collected packages: python-constraint
Successfully installed python-constraint-1.4.0
```

```
In [2]: from constraint import *
```

```
In [3]: problem = Problem()

problem.addVariable('x', [1,2,3])
problem.addVariable('y', range(10))
```

```
In [4]: def our_constraint(x, y):
        if x + y >= 5:
            return True
```

```
In [5]: problem.addConstraint(our_constraint, ['x','y'])

solutions = problem.getSolutions()
```

```
In [6]: for solution in solutions:
        print(solution)
```

```
{'x': 3, 'y': 9}
{'x': 3, 'y': 8}
{'x': 3, 'y': 7}
{'x': 3, 'y': 6}
{'x': 3, 'y': 5}
{'x': 3, 'y': 4}
{'x': 3, 'y': 3}
{'x': 3, 'y': 2}
{'x': 2, 'y': 9}
{'x': 2, 'y': 8}
{'x': 2, 'y': 7}
{'x': 2, 'y': 6}
{'x': 2, 'y': 5}
{'x': 2, 'y': 4}
{'x': 2, 'y': 3}
{'x': 1, 'y': 9}
{'x': 1, 'y': 8}
{'x': 1, 'y': 7}
{'x': 1, 'y': 6}
{'x': 1, 'y': 5}
{'x': 1, 'y': 4}
```