11-22_MF_problem_opt.melty

November 22, 2021

```python
[14]: from scipy.optimize import linprog
```

```python
[15]: c = [3, -8, 1]
      A = [[1, 4, 0],
           [2, 0, 1],
           [4, -1, 5]]
      a = [50, 43, 99]
```

```python
[16]: lu = [
          (0, 20),
          (-5, 0),
          (5, 17),
      ]
```

```python
[17]: res = linprog(
          [-i for i in c],
          A_ub=A,
          b_ub=a,
          bounds=lu,
          method="simplex",
      )
```

```python
[18]: -res.fun
```

```
[18]: 96.75
```

```python
[19]: res.x
```

```
[19]: array([17.25, -5. , 5. ])
```

```python
[20]: [-i for i in c]
```

```
[20]: [-3, 8, -1]
```

```python
[ ]:
```