```
mcdp {
      provides capacity [J]
 3456789
      provides missions [R]
      requires mass [q]
      requires cost [$]
      # Number of replacements
      requires maintenance [R]
10
11
      # Battery properties
      specific energy = 30 Wh/kg
12
13
      specific cost = 7.50 Wh/$
      cycles = 500 []
14
15
16
      # Constraint between mass and capacity
17
      required mass >= provided capacity / specific energy
18
19
      # How many times should it be replaced?
      num replacements = ceil(provided missions / cycles)
20
21
      required maintenance >= num replacements
22
23
      # Cost is proportional to number of replacements
24
      unit cost = provided capacity / specific cost
25
      required cost >= unit cost * num replacements
26
```