

```
1 from itertools import permutations
2
3 def solve_cryptarithmic():
4     letters = 'SENDMORY'
5     digits = range(10)
6
7     for perm in permutations(digits, len(letters)):
8         mapping = dict(zip(letters, perm))
9
10        if mapping['S'] == 0 or mapping['M'] == 0:
11            continue
12
13        SEND = 1000*mapping['S'] + 100*mapping['E'] + 10*mapping['N'] + mapping['D']
14        MORE = 1000*mapping['M'] + 100*mapping['O'] + 10*mapping['R'] + mapping['E']
15        MONEY = 10000*mapping['M'] + 1000*mapping['O'] + 100*mapping['N'] + 10*mapping['E'] + mapping['Y']
16
17        if SEND + MORE == MONEY:
18            print("Solution Found:")
19            print(f"SEND = {SEND}")
20            print(f"MORE = {MORE}")
21            print(f"MONEY = {MONEY}")
22            print(f"Mapping: {mapping}")
23            return
24
25        print("No solution found.")
26
27 solve_cryptarithmic()
28
29
```

```
>>> %Run -c $EDITOR_CONTENT
```

```
Solution Found:
```

```
SEND = 9567
```

```
MORE = 1085
```

```
MONEY = 10652
```

```
Mapping: {'S': 9, 'E': 5, 'N': 6, 'D': 7, 'M': 1, 'O': 0, 'R': 8, 'Y': 2}
```

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>>>
```