Digit factorials

Problem 34

145 is a curious number, as 1! + 4! + 5! = 1 + 24 + 120 = 145.

Find the sum of all numbers which are equal to the sum of the factorial of their digits.

Note: as 1! = 1 and 2! = 2 are not sums they are not included.

Solution

In [1]:
```
f = [1, 1, 2, 6, 24, 120, 720, 5040, 40320, 362880]
t = 0
for i in range(3,50000):
    if i == sum(f[int(x)] for x in str(i)):
        t += i
print(t)
```

```
40730
```

Comment

Why 50 000? Just guess…