

# Largest product in a series

## Problem 8 (<https://projecteuler.net/problem=8>)

The four adjacent digits in the 1000-digit number that have the greatest product are  $9 \times 9 \times 8 \times 9 = 5832$ .

```
73167176531330624919225119674426574742355349194934
96983520312774506326239578318016984801869478851843
85861560789112949495459501737958331952853208805511
12540698747158523863050715693290963295227443043557
66896648950445244523161731856403098711121722383113
62229893423380308135336276614282806444486645238749
30358907296290491560440772390713810515859307960866
70172427121883998797908792274921901699720888093776
65727333001053367881220235421809751254540594752243
52584907711670556013604839586446706324415722155397
53697817977846174064955149290862569321978468622482
83972241375657056057490261407972968652414535100474
82166370484403199890008895243450658541227588666881
16427171479924442928230863465674813919123162824586
17866458359124566529476545682848912883142607690042
24219022671055626321111109370544217506941658960408
07198403850962455444362981230987879927244284909188
84580156166097919133875499200524063689912560717606
05886116467109405077541002256983155200055935729725
71636269561882670428252483600823257530420752963450
```

Find the thirteen adjacent digits in the 1000-digit number that have the greatest product. What is the value of this product?

## Solution

```
In [1]: from functools import reduce
n = "73167176531330624919225119674426574742355349194934969835
m = 0
for x in range(987):
    m = max(m, reduce(lambda x, y: x*y, map(int, n[x:x+13])))
print(m)
```

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