



## Problem of the Week

### Problem E

### Discarding Digits

Stef forms the integer  $N$  by writing the integers from 1 to 50 in order.

That is,

$$N = 1234567891011121314151617181920212223242526272829303132333435363738394041424344454647484950.$$

Stef then selects some of the digits in  $N$  and discards them, so that the remaining digits, in their original order, form a new integer. The sum of the digits in this new integer is 200.

If  $M$  is the largest integer that Stef could have formed, what are the first ten digits of  $M$ ?

