

# Homework 1

1. How many digits does  $N = 1234567891011121314\dots9998999910000$  have, where  $N$  is formed by concatenating  $1, 2, 3, \dots, 9999, 10000$ ? (*Hint:* you might want to look up the functions `nchar()`, `as.character()`, `paste()`)

2. Compute

$$1^2 + 2^2 + 3^2 + \dots + 99^2 + 100^2$$