

## ≡ Item Navigation

## Licence Plates

Using the product rule, it is straightforward to solve the problem we discussed in the beginning of the week that asked to compute the number of license plates.

**Problem.** A license plate in Portugal contains a block of two letters followed by a block of two digits followed by another block of two letters. A plate may contain any digits and any Latin letters. What is the number of different plates?



Every license plate is a tuple from a set

$$L \times L \times D \times D \times L \times L,$$

where  $D = \{0, 1, \dots, 9\}$  is the set of ten digits and  $L$  is the Latin alphabet (26 letters). Hence, the answer is  $26^2 \cdot 10^2 \cdot 26^2 = 45\,697\,600$ .

This is a lot, but still not necessarily enough for the whole country. What happens when the country runs out of license plates? A simple solution is just to change a format. Actually, the current format of the license plate in Portugal is the forth recent years. One of the previous format, for example, consisted of a block of two digits followed by a block of two letters followed by a block of two digits.

✓ Completed

[Go to next item](#)