

Problem 2

The number that we can use is 10 because it is from the set $\{0, 1, 2, \dots, 9\}$.

However, 0 could not be used in the maximal digit, 12th digit, since license plates have its maximal digit appearing.

Therefore, the number that we can use in the maximal digit is 9, not 10.

Except for the maximal digit, the number that we can use is 10.

Hence, the number of license plates is $9 \cdot 10^{11}$.