# Problem 4 – Magic Car Numbers

Cars in Sofia have registration numbers in format "**CA*abcdXY***" where ***a***, ***b***, ***c*** and ***d*** are digits from 0 to 9 and ***X*** and ***Y*** are letters from the following subset of the Latin alphabet: 'A', 'B', 'C', 'E', 'H', 'K', 'M', 'P', 'T' and 'X'. Examples of car numbers from Sofia are "CA8517TX", "CA2277PC", "CA0710XC", "CA1111AC", while "CC7512FJ" in not valid car number from Sofia. Local people are keen to choose special numbers for their cars, known as **magic car numbers**. They calculate the **weight of a car number** as follows: they sum its digits and letters, assuming that letters have the following values: 'A' 🡪 10, 'B' 🡪 20, 'C' 🡪 30, 'E' 🡪 50, 'H' 🡪 80, 'K' 🡪 110, 'M' 🡪 130, 'P' 🡪 160, 'T' 🡪 200, 'X' 🡪 240. For example the weight("CA6511BM") = 30 + 10 + 6 + 5 + 1 + 1 + 20 + 130 = 203. A **magic car number** is a car number that has a **special magic weight** (e.g. 256 or 512 for developers) and its number is in some of the formats "CA*aaaaXY*", "CA*abbbXY*", "CA*aaabXY*", "CA*aabbXY*", "CA*ababXY*" and "CA*abbaXY*", where ***a*** and ***b*** are two different digits and ***X*** and ***Y*** are letters from the Latin alphabet subset { 'A', 'B', 'C', 'E', 'H', 'K', 'M', 'P', 'T', 'X' }.

Your task is to write a program that calculates **how many cars** can be registered in Sofia **for given magic weight**.

### Input

The input data should be read from the console. It will consist of a single value: the **magic weight**.

The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

The output should be printed on the console. It is a single value: the number of cars matching given magic value.

### Constraints

* All input numbers will be **integers** in the range [1…1000].
* Allowed working time for your program: 0.25 seconds.
* Allowed memory: 16 MB.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Matching Car Numbers** |
| 555 | 2 | CA8999XX, CA9998XX |
| 512 | 18 | CA5999TX, CA5999XT, CA7799TX, CA7979TX, CA7997TX, CA7799XT, CA7979XT, CA7997XT, CA8888TX, CA8888XT, CA9995TX, CA9977TX, CA9797TX, CA9779TX, CA9995XT, CA9977XT, CA9797XT, CA9779XT |
| 95 | 46 | CA0555AC, CA0555BB, CA0005BC, CA0555CA, CA0005CB, CA1888AB, CA1888BA, CA1112BC, CA1112CB, CA2229AC, CA2229BB, CA2111BC, CA2229CA, CA2111CB, CA3444AC, CA3336AC, CA3444BB, CA3336BB, CA3444CA, CA3336CA, CA4777AB, CA4443AC, CA4777BA, CA4443BB, CA4443CA, CA5550AC, CA5550BB, CA5000BC, CA5550CA, CA5000CB, CA6667AB, CA6333AC, CA6667BA, CA6333BB, CA6333CA, CA7774AB, CA7666AB, CA7774BA, CA7666BA, CA8999AA, CA8881AB, CA8881BA, CA9998AA, CA9222AC, CA9222BB, CA9222CA |