## Problem 4 – Poker Straight

The classical **playing cards** have **face** and **suit**. Card **faces** are: 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K, A. Cards **suits** are: Clubs (**C**), Diamonds (**D**), Hearts (**H**) and Spades (**S**). We denote a card in short as **card face + card suit letter**, e.g. **5C** (Five Clubs), **10S** (Ten Spades), **AH** (Ace Hearts), **2D** (Two Diamonds).

In some poker games, we have a hand called "**straight**" which consists of a **sequence of five cards of increasing sequential rank**. The card **ranks** are as follows: A, 2, 3, 4, 5, 6, 7, 8, 9, 10, J, Q, K, A. Note that the Ace (**A**) is a special card: it works both as the **smallest** and as the **biggest** card.

**Examples** of "straight": (AC 2H 3H 4C 5H), (2H 3S 4H 5H 6D), (5C 6C 7C 8C 9C), (7C 8D 9S 10S JS), (9C 10H JD QD KD), (10D JD QS KH AH). The following hands are not "straight": (9D JD QS KH AH) – not sequential; (10C 7C 9D 8S JS) – sequential, but not ordered; (9H 8S 7H 6H 5D) – sequential, but incorrectly ordered.

**Card faces** have the following **weights**: A 🡪 1 (as first card) or 14 (as last card); 2 🡪 2; 3 🡪 3; 4 🡪 4; 5 🡪 5; 6 🡪 6; 7 🡪 7; 8 🡪 8; 9 🡪 9; 10 🡪 10; J 🡪 11; Q 🡪 12; K 🡪13. **Card suits** have the following weights: Clubs 🡪 1; Diamonds 🡪 2; Hearts 🡪 3; Spades 🡪 4. **Hands weight** is calculated as follows:

10 \* weight(first card face) + weight(first card suit) +

20 \* weight(second card face) + weight(second card suit) +

30 \* weight(third card face) + weight(third card suit) +

40 \* weight(fourth card face) + weight(fourth card suit) +

50 \* weight(fifth card face) + weight(fifth card suit)

**Examples** of straight hands and their **weights**:

* weight(AC 2H 3H 4C 5S) = (10\*1 + 1) + (20\*2 + 3) + (30\*3 + 3) + (40\*4 + 1) + (50\*5 + 4) = 562
* weight(10H JS QD KS AD) = (10\*10 + 3) + (20\*11 + 4) + (30\*12 + 2) + (40\*13 + 4) + (50\*14 + 2) = 1915

Your task is to write a program that **calculates the number of straight hands that have given weight w**.

### Input

The input data should be read from the console. It holds a single number **w** (the target weight). The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

Print on the console the **number of straight hands of given weight** **w**.

### Constraints

* The number **w** is an integer in the range [0…5000].
* Allowed time: 0.2 seconds. Allowed memory: 16 MB.

### Examples

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** | **Hands** |  | **Input** | **Output** | **Hands** |
| 555 | 1 | (AC 2C 3C 4C 5C) | 1907 | 15 | (10C JC QC KC AH) (10C JC QC KD AD) (10C JC QC KH AC) (10C JC QD KC AD) (10C JC QD KD AC) (10C JC QH KC AC) (10C JD QC KC AD) (10C JD QC KD AC) (10C JD QD KC AC) (10C JH QC KC AC) (10D JC QC KC AD) (10D JC QC KD AC) (10D JC QD KC AC) (10D JD QC KC AC) (10H JC QC KC AC) |
| 200 | 0 | (no hands) |
| 1912 | 155 | (155 hands) |
| 856 | 5 | (3C 4C 5C 6C 7D)  (3C 4C 5C 6D 7C)  (3C 4C 5D 6C 7C)  (3C 4D 5C 6C 7C)  (3D 4C 5C 6C 7C) |