Class of Playing Cards

Below is a class called **Card**, representing a playing card. It consists of the the string of **value**, ("A", "2", "3", ... "10", "J", "Q", "K") and the string of **suit** ("club", "diamond", "heart", "spade").

The program below will accept multiple **cards** and to create a list of cards, and will call methods from the **Card** class. Your task is to complete methods in the **Card** class. (Only modify in the white areas. Do not change anything in the grey area.)

```
class Card:
    def __init__(self, value, suit):
        ???

    def __str__(self):
        ???

    def getScore(self):
        ???

    def sum(self, other):
        ???

    def __lt__(self, rhs):
        ???

n = int(input())
cards = []
for i in range(n):
value, suit = input().split()
cards.append(Card(value, suit))
for i in range(n):
print(cards[i].getScore())
print("----------")
for i in range(n-1):
print(Card.sum(cards[i], cards[i+1]))
print("----------")
cards.sort()
for i in range(n):
print(cards[i])
```

The detail of the **`Card`** class and its methods are as follow:

- The method **`getScore`** will return the score of the card as an integer with the following rules:
    - Aces (A) are equal to 1.
    - Number cards (2 – 10) are equal to its own number.
    - Face cards (J, Q, K) are equal to 10.
- The method **`sum`** will return the sum of two cards and **`mod`** 10. For example:
    - **`Card.sum(Card("7", "club"), Card("2", "heart"))`** will return 9.
    - **`Card.sum(Card("J", "spade"), Card("5", "diamond"))`** will return 5.
- The cards are ordered as follow:
    - The values are sorted in this order: 3 < 4 < 5 < … < 10 < J < Q < K < A < 2
    - The suits are sorted in this order: club < diamond < heart < spade
    - If two cards have unequal value, the card with the higher value is greater.
    - If two cards have equal value, the card with the higher suit is greater.

Input

The first line is an integer n, representing the number of cards.

The next n lines are cards. Each line is a card value and a suit, separated by a space.

Output

There will be 3n+1 lines.

The first n lines will print the score of each card, followed by 1 line of dashes.

The next n-1 lines are the summed scores of adjacent cards, followed by 1 line of dashes.

The last n lines display the cards in their sorted order.

Example

Input (from keyboard)	Output (on screen)
5 A spade K heart K club 7 diamond 2 spade	1 10 10 7 2 ---------- 1 0 7 9 ---------- (7 diamond) (K club) (K heart) (A spade) (2 spade)