Poker face X46281_en

Here, you are asked to write a program that receives a sequence of poker hands, and evaluates whether or not each is a straight, flush, or a straight flush. A hand here consists of 5 cards; each card is specified by a value (an int between 1 and 13, inclusive) and a suit (an int between 0 and 3, inclusive; 0 represents clubs, 1 represents diamonds, 2 represents hearts, and 3 represents spades). A hand is defined to be a *straight* if the values are—up to reordering—5 consecutive values, where the ace value (1) may be the highest or the lowest; it is defined to be a *flush* if all of the suits are the same; and, it is defined to be a *straight flush* if it is both a straight and a flush.

Input

A number $n \geq 1$, followed by n hands.

Output

For each hand, output two lines:
On the first line, print out the cards in the hand in a comma-separated sequence, using the word *Ace* to represent the value 1, *Jack* to represent the value 11, *Queen* to represent the value 12, and *King* to represent the value 13. Follow the examples.
On the second line, output "Straight flush" if the hand is a straight flush, "Straight" if the hand is a straight but not a flush, "Flush" if the hand is a flush but not a straight, and "None" otherwise.

Observation

Sample input 1

```
1
1 1 2 1 3 1 4 1 5 1
```

Sample output 1

```
Ace of Diamonds, 2 of Diamonds, 3 of Diamonds, 4 of Dia
Straight flush
```

Sample input 2

```
1
1 1 13 1 12 1 10 1 11 2
```

Sample output 2

```
Ace of Diamonds, King of Diamonds, Queen of Diamonds, 1
Straight
```

Sample input 3

```
2
2 3 3 3 4 3 5 3 6 3
7 0 8 1 9 2 10 3 10 0
```

Sample output 3

```
2 of Spades, 3 of Spades, 4 of Spades, 5 of Spades, 6 o
Straight flush
7 of Clubs, 8 of Diamonds, 9 of Hearts, 10 of Spades, 1
None
```

Problem information

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