Ranking a Poker hand (2)   X46837_en

The following are some of the possible hands in Poker, in increasing order of value:

- One pair: Two cards with the same rank.

- Two pair: Two pairs of cards with the same rank.

- Three of a kind: Three cards with the same rank.

- Straight: Five cards with ranks in sequence (aces can be high or low, so Ace-2-3-4-5 is a straight and so is 10-Jack-Queen-King-Ace, but Queen-King-Ace-2-3 is not.)

- Flush: Five cards with the same suit.

- Full house: Three cards with one rank, two cards with another.

- Four of a kind: Four cards with the same rank.

- Straight flush: Five cards with ranks in sequence (as defined above) and with the same suit.

Using the @Card@, @Deck@, @Hand@, @PokerDeck@, and @PokerHand@ class definitions, write a @PokerHand@ method named @classify@ that figures out the highest-value classification for a Poker hand and sets the label attribute accordingly.

Your code should work correctly for hands that contain 5 cards.

Input

The input consist of two non-negative integers, the number of hands and the number of cards per hand, followed by a shuffled deck of cards.

Output

Print the cards in each hand followed by a blank line, and a line with the classification of the hand, followed by a blank line.

Precondition

The number of cards in the shuffled deck is not less than the number of hands times the number of cards per hand.

Sample input 1

```
9
5

5 of Diamonds
6 of Diamonds
7 of Diamonds
8 of Diamonds
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9 of Diamonds

9 of Spades
Ace of Diamonds
Ace of Spades
Ace of Hearts
Ace of Clubs

Jack of Diamonds
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Jack of Clubs
Queen of Diamonds
Queen of Spades
Queen of Hearts

3 of Hearts
6 of Hearts
9 of Hearts
Jack of Hearts
Ace of Hearts

5 of Spades
6 of Diamonds
7 of Spades
8 of Diamonds
9 of Clubs

2 of Diamonds
2 of Spades
2 of Hearts
Queen of Clubs
5 of Diamonds

9 of Diamonds
King of Spades
King of Hearts
Ace of Clubs
Ace of Hearts

Ace of Spades
Ace of Diamonds
8 of Clubs
5 of Spades
4 of Hearts

Ace of Spades
Queen of Diamonds
Jack of Clubs
6 of Diamonds
5 of Spades

Sample output 1

5 of Spades
6 of Diamonds
Jack of Clubs
Queen of Diamonds
Ace of Spades

None

4 of Hearts
5 of Spades
8 of Clubs
Ace of Diamonds
Ace of Spades

One pair

Ace of Hearts
Ace of Clubs
King of Hearts
King of Spades
9 of Diamonds

Two pair

5 of Diamonds
Queen of Clubs
2 of Hearts
2 of Spades
2 of Diamonds

Three of a kind

9 of Clubs
8 of Diamonds
7 of Spades
6 of Diamonds
5 of Spades

Straight

Ace of Hearts
Jack of Hearts
9 of Hearts
6 of Hearts
3 of Hearts

Flush

Queen of Hearts
Queen of Spades
Queen of Diamonds
Jack of Clubs
Jack of Diamonds

Full house

Ace of Clubs
Ace of Hearts
Ace of Spades

```
Ace of Diamonds          7 of Diamonds
9 of Spades              6 of Diamonds
                         5 of Diamonds
Four of a kind
                         Straight flush
9 of Diamonds
8 of Diamonds
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Problem information

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