
Ranking a Poker hand (2)

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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

```
9
5
```

```
5 of Diamonds
6 of Diamonds
7 of Diamonds
8 of Diamonds
```

```
9 of Diamonds
9 of Spades
Ace of Diamonds
Ace of Spades
Ace of Hearts
Ace of Clubs
Jack of Diamonds
```

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

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
9 of Spades

Four of a kind

9 of Diamonds
8 of Diamonds

7 of Diamonds
6 of Diamonds
5 of Diamonds

Straight flush

Problem information

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