

D. Poker

Time Limit: 1 second

Points: 100

Phil is learning to play poker. He has been dealt two cards, and there are five “community cards” which are common to all players. Phil wants to make a five-card hand, using:

- both his cards and three of the community cards,
- one of his cards and four of the community cards, or
- all five of the community cards.

Each card has a *rank* (from two to ace) and a *suit* (spades, hearts, diamonds or clubs).

In poker, there are many types of hands, which we list here *from best to worst*.

1. **Straight flush:** a hand that is both a straight and a flush, as below
 - for the purposes of this problem, this includes the royal flush
2. **Four of a kind:** four cards of the same rank, and one other card
3. **Full house:** three cards of the same rank, and two cards of another rank
4. **Flush:** five cards of the same suit
5. **Straight:** five cards of consecutive rank
 - the court cards Jack, Queen and King count as rank 11, 12 and 13 respectively, so 89TJQ is a straight
 - aces can be counted as either rank 1 or 14, so both A2345 and TJQKA are straights.
 - “wrap-around straights” are not counted, i.e. QKA23 is *not* a straight.
6. **Three of a kind:** three cards of the same rank, and two other cards
7. **Two pair:** two cards of the same rank, two cards of another rank, and one other card.
8. **One pair:** two cards of the same rank, and three other cards.
9. **High card:** none of the above.

Help Phil identify the best type of hand that he can make.

Input

The only line of input consists of seven space-separated strings $p_1, p_2, c_1, \dots, c_5$, where the first two describe Phil’s cards and the last five are community cards.

Constraints

All input will satisfy the following constraints:

- Each string p_i and c_i will consist of exactly two characters.
 - The first character will be:
 - * A, representing an ace

- * a digit from 2 to 9 inclusive
- * T, representing a 10
- * J, representing a Jack
- * Q, representing a Queen or
- * K, representing a King.
- The second character will be:
 - * S, representing spades
 - * H, representing hearts
 - * D, representing diamonds or
 - * C, representing clubs.
- All seven cards are distinct.

Output

Output one of the following:

- straight flush
- four of a kind
- full house
- flush
- straight
- three of a kind
- two pair
- one pair
- high card

to describe the best type of hand that Phil can make.

Warning: take care to spell these correctly!

Sample Input 1

AC 9D AD 9H 9S JD 4S

Sample Output 1

full house

Sample Input 2

JD 4S AC 9D AD 9H 9S

Sample Output 2

full house

Sample Input 3

KS JC 2C JS KC 9C 7C

Sample Output 3

flush

Sample Input 4

2H 7C TC JC KH 9C 8C

Sample Output 4

straight flush

Sample Input 5

2H 7C TC JC KH 9C 3C

Sample Output 5

flush

Sample Input 6

2H 7C TC JC KH 9C 8D

Sample Output 6

straight

Sample Input 7

2H 7C TC JC KH 9C 3D

Sample Output 7

high card

Explanation

In sample case 1, the best possible five-card hand is a full house consisting of three nines and two aces: 9D 9H 9S AC AD. Both of Phil's cards are used in this hand.

In sample case 2, the best possible five-card hand is the same full house: 9D 9H 9S AC AD. Note that this time, neither of Phil's cards are used in the hand.

In sample case 3, Phil's King and Jack could each be paired with one of the community cards to achieve **two pair**, but there is a better way. Observe that four of the community cards are clubs, so together with Phil's Jack of clubs they make a flush.

In sample cases 4 to 7, Phil has the same hand (two of hearts and seven of clubs), and the first four community cards are also the same.

- In sample case 4, the last community card is the eight of clubs, completing the straight flush **7C 8C 9C TC JC**.
- In sample case 5, the last community card is a club, completing the flush **3C 7C 9C TC JC**.
- In sample case 6, the last community card is an eight, completing the straight **7C 8D 9C TC JC**.
- In sample case 7, the last community card is neither an eight nor a diamond, so neither a flush nor a straight can be made. There is no five-card hand better than a high card here.