

Omaha is a form of Poker where each player is dealt four cards, all players share five community cards and the players make the best five card hand they can. Players must use exactly two of their four cards in making their hand.

Poker hands typically consist of five cards from a 52-card deck. The cards are identified by their rank and by their suit. Ranks are 2, 3, 4, 5, 6, 7, 8, 9, 10 (T), Jack (J), Queen (Q), King (K), Ace (A). Suits are Hearts (h), Diamonds (d), Clubs (c), Spades (s).

In most forms of poker, hands are ranked in the order:

1 Pair: 5♥8♦8♣J♣K♠ Cards contain two cards of identical rank (and do not make a better hand).
2 Pair: 5♥8♦8♣J♣J♠ Cards contain pairs of two different ranks (and no better hand can be made).

3 of a kind: 2♥7♦7♠7♠Q♦ Cards contain three of the same rank (and nothing better).

Straight: T 
ightharpoonup J 
ightharpoonup Q 
ightharpoonup K 
ightharpoonup All five cards can be arranged in sequential order (and nothing better).

Flush:  $3 \stackrel{\land}{=} 5 \stackrel{\land}{=} 9 \stackrel{\backprime}{=} 1 \stackrel{\backprime}{$ 

Full House: K♠K♦A♠A♥A♦ One pair and one three of a kind simultaneously.

Straight Flush: 2♠3♠4♠5♠6♠ Not only is it a straight... It's a flush too!!!

We decided to change the game to make it more interesting (If you're going to play a losing game you might as well make it funny and confusing).

In Crazy Omaha  $^{\text{TM}}$  the rules are changed as follows:

- 1. Players are dealt five cards instead of four. This provides each player with a total of ten cards to make their hand from (including the usual five community cards).
- 2. Hands consist of six cards instead of five. Players may choose to use either two or three cards from their private cards to make their best six card hand.

Non-Rainbow: 2♣3♣4♣5♦8♦]♥ You don't have at least one of each suit.

Rainbow: 8 4 6 Q K A You have one of each suit.

Swingers: You have two sets of suited Kings and Queens.

Monochromatic:  $8 \not\downarrow 4 \not\downarrow 0 \not\downarrow 4 \not\downarrow 9 \not\downarrow K \not\downarrow$  Your cards are either all black or all red. 3 pair:  $4 \not\downarrow 4 \not\downarrow 8 \not\downarrow 8 \not\downarrow 9 \not\downarrow 9 \not\downarrow$  Cards consist of exactly three unique ranks.

Monarchy: 4♠8♠T♥J♠Q♠K♠ You hold A Jack, Queen and King of the same suit and no other face cards.

Even: 2 \( 4 \) 6 \( 8 \) T \( \) T \( \) All your cards are a 2,4,6,8 or 10. \\

Odd: 3 \( 5 \) 7 \( 7 \) 9 \( 9 \) All of your cards are a 3,5,7 or 9. \\

Flush: 3 \( 5 \) 6 \( 6 \) 7 \( 6 \) J \( \) Q \( \) All six of your cards are the same suit. \\

Triplets: 3 \( 3 \) 3 \( 7 \) T \( \) T \( 7 \) You have two different three of a kinds.

Overfull house: 5♠5♦5♥5♠J♠J♠ Four of a kind and a pair.

Homosapiens: J♠J♦Q♠Q♦K♠ All your cards are face cards.

Kingdom: 4♠8♠T♠J♠Q♠K♠ (Monarchy + flush) Same as a Monarchy but the remaining cards are of the same.

Orgy: J♠J♦J♥Q♠Q♥ All your cards are Jacks and Queens.

Politics:  $] \stackrel{\bullet}{\bullet} ] \stackrel{\bullet}{\bullet} Q \stackrel{\bullet}{\bullet} K \stackrel{\bullet}{\bullet} K \stackrel{\bullet}{\bullet}$  You hold two Monarchys.

Dinner party:  $Q \spadesuit Q \spadesuit Q \spadesuit K \spadesuit K \spadesuit K \spadesuit$  All your cards are suited kings and queens.

All hand descriptions assume that you cannot simultaneously make a better hand than the one described. For Example: A&A\*4&7\*8\*8& does not count as 1 pair because it could also be interpreted as 2 pair (And a rainbow too!).

In Hold'em poker games the cards "speak"; which is to say that, players are not responsible for identifying what they have; the dealer does that.

Your task is to write a program that determines the ranked order of the hands and who beats who from a list of players.

The input to your program is simply a list of command line arguments that identify the cards that have been dealt. Your program will be executed as illustrated in the following example:

java Poker 2c 3s 6d 7s 8h Kh Jd 4d Jc Kc Qc Tc 9c Jh 9s 9h 9d Qs Ks Js

This example illustrates the input for five players playing a game. The first five cards (2 - 3 + 6 + 7 + 8) are the community cards and are shared by all players. The player's individual cards are:

The output your program should generate is simply: (This is example format only and not a correct result for the input example given, which is left as an exercise for the student.)

1: Player 3

2: Player 2

3: Player 1