

Problem 9**A Little Poker Anyone?****6 Points****Program Name:** poker.cpp**Input File:** poker.dat

In the card game “Poker” it is very important to be able to quickly identify what hand you have. Cards are described by rank and suit. Ranks are 2-9, T for 10, J for Jack, Q for Queen, K for King and A for Ace. There are four suits: S for Spades, H for Hearts, D for Diamonds, and C for Clubs. Poker is only played with a complete deck (exactly 1 card for each of the suit/rank combinations).

There are 9 types of hands that can be evaluated as described in the table below. They are in descending order of rank with Straight Flush being the highest hand.

Hand	Explanation	Example
Straight Flush	Five cards in uninterrupted rank sequence all of the same suit.	4H 5H 6H 7H 8H
Four of a Kind	Four cards of the same rank.	7S 7H 7D 7C 3D
Full House	Three cards of the same rank and two cards matching in another rank.	KD KH KS 9D 9C
Flush	Five cards not in rank sequence but all of the same suit.	3H 6H 7H TH AH
Straight	Five cards in uninterrupted rank sequence of more than one suit. Note that ace is considered the highest rank and 2 is the lowest rank.	8S 9C TD JH QS
Three of a Kind	Three cards of the same rank.	2H 6D 6C 6H JS
Two Pair	Two cards of one rank and two cards matching in another rank.	4S 4C 7H TD TC
One Pair	Two cards of one rank	3D 4H 8D 8C JH
High Card	None of the above hands applies and the player should evaluate based on the highest card.	2C 5S 6H TS KD

Input

Input to your program consists of a series of five-card dealt hands. Each card is represented by 2 characters: the first is the rank and the second is the suit. There will be exactly one space separating the cards from one other.

Output

For each dealt hand in the input file, your program will produce exactly one line of output. Your program should print the dealt hand exactly as it appears in the input file followed by a space in column 15. Your program should then print the highest hand that the dealt hand qualifies for starting in column 16.

Example: Input File

```
7D 8D 4D 5D 6D
2D 2H 3S 2S 2C
8S 5D 5H 8C 8D
2C 7C TC JC 9C
TD KC QD JD AD
QS 7D 6D QH QC
8D 5H 5C 6H 8S
QD 4H 5S 6C 4D
2C JC QC KC AS
```

Output to screen

```
7D 8D 4D 5D 6D Straight Flush
2D 2H 3S 2S 2C Four of a Kind
8S 5D 5H 8C 8D Full House
2C 7C TC JC 9C Flush
TD KC QD JD AD Straight
QS 7D 6D QH QC Three of a Kind
8D 5H 5C 6H 8S Two Pair
QD 4H 5S 6C 4D One Pair
2C JC QC KC AS High Card
```