CSE 241   Assignment #3 - Who is a winner?   Spring 2015
Due date: Mar. 26 (Thursday) - 20:00

Description

A poker deck contains 52 cards. Each card has a suit of either clubs, diamonds, hearts, or spades (denoted C, D, H, S in the input data). Each card also has a value of either 2 through 10, jack, queen, king, or ace (denoted 2, 3, 4, 5, 6, 7, 8, 9, T, J, Q, K, A). For scoring purposes card values are ordered as above, with 2 having the lowest and ace the highest value. The suit has no impact on value.

A poker hand consists of five cards dealt from the deck. Poker hands are ranked by the following partial order from lowest to highest.

High Card. Hands which do not fit any higher category are ranked by the value of their highest card. If the highest cards have the same value, the hands are ranked by the next highest, and so on.

Pair. Two of the five cards in the hand have the same value. Hands which both contain a pair are ranked by the value of the cards forming the pair. If these values are the same, the hands are ranked by the values of the cards not forming the pair, in decreasing order.

Two Pairs. The hand contains two different pairs. Hands which both contain two pairs are ranked by the value of their highest pair. Hands with the same highest pair are ranked by the value of their other pair. If these values are the same the hands are ranked by the value of the remaining card.

Three of a Kind. Three of the cards in the hand have the same value. Hands which both contain three of a kind are ranked by the value of the three cards.

Straight. Hand contains five cards with consecutive values. Hands which both contain a straight are ranked by their highest card.

Flush. Hand contains five cards of the same suit. Hands which are both flushes are ranked using the rules for High Card.

Full House. Three cards of the same value, with the remaining two cards forming a pair. Ranked by the value of the three cards.

Four of a Kind. Four cards with the same value. Ranked by the value of the four cards.

Straight Flush. Five cards of the same suit with consecutive values. Ranked by the highest card in the hand.

Your job is to compare several pairs of poker hands and to indicate which, if either, has a higher rank.

Input

The input file contains several lines, each containing the designation of ten cards: the first five cards are the hand for the player named "*Black*" and the next five cards are the hand for the player named "*White*".

Output

For each line of input, print a line containing one of the following:

```
Black wins.
White wins.
Tie.
```

Sample Input

```
2H 3D 5S 9C KD 2C 3H 4S 8C AH
2H 4S 4C 2D 4H 2S 8S AS QS 3S
2H 3D 5S 9C KD 2C 3H 4S 8C KH
2H 3D 5S 9C KD 2D 3H 5C 9S KH
```

Sample Output

```
White wins.
Black wins.
Black wins.
Tie.
```

Submitting Your Code and Report

Your file name must be "assign3.cpp", and it is the only file you should submit. Please do not submit the executable file of your program. Turn in your project using the "oopsubmit" command as follows:

```
$ oopsubmit assign3 assign3.cpp
```

Late submissions will lose 20 points per day.

If you do not follow this submission guideline, you will lose 10 points out of 100.

You should also submit a hard copy of your code to TA. Your report must have a cover page with your student ID and name. In the report, your code must be well commented to explain your algorithm. Also, the sample input and the output of your program must be included in the report.