**Software Description**

1. **Overview**

IDE: Visual C++6.0

Program Name: OmahaHiLo

Input File: input.txt

Output File: output.txt

Command Line: OmahaHiLo input.txt output.txt

1. **Structure of program**
2. **The bit definition of cRankFlag**

The variable cRankFlag is used to record all Ranks of a Hand. Its bits are defined as follows:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bit7 | Bit6 | Bit5 | Bit4 | Bit3 | Bit2 | Bit1 | Bit0 |
|  |  | Flush | Straight | 4-of-a-kind | 3-of-a-kind | Two Pairs | One Pair |

High Card: cRankFlag = 0x00;

One Pair: cRankFlag = 0x01;

Two Pairs: cRankFlag = 0x02;

3-of-a-kind: cRankFlag = 0x04;

4-of-a-kind: cRankFlag = 0x08;

Straight: cRankFlag = 0x10;

Flush: cRankFlag = 0x20;

Full House: cRankFlag = 0x05;

Straight Flush: cRankFlag = 0x30;

1. **The definition of iRankWeight**

The variable of iRankWeight is used to record the weight of specific Rank in a Hand. Its definition is as following:

High Card: weight = 0;

One Pair: weight = 3;

Two Pairs: weight = 4;

3-of-a-kind: weight = 5;

Straight: weight = 6;

Flush: weight = 7;

Full House: weight = 5+3=8;

4-of-a-kind: weight = 9;

Straight Flush: weight = 6+7 = 13;

1. **The definition of lKickerWeight**

Move forward all pairs in CombineHand. Then sort the remaining cards in sequence from big to small. Then calculate:

lKickerWeight = Card[0]\*15^4+Card[1]\*15^3+Card[2]\*15^2+Card[3]\*15+Card[4];

1. **The comparison of High Hand**

In High Hand, Card ‘A’ stand for number 14 except in Rank Straight, in which ‘a’ may stand for number 14 or number 1. Firstly, compare two iRankWeight, the one with bigger iRankWeight wins game. If two iRankWeights are same, then compare two of lKickerWeight. The one with bigger lKickerWeight wins the game. If lKickerWeights are also same, then A and B split pot Hi.

1. **The comparison of Low Hand**

In Low Hand, Card ‘A’ stand for number 1. Firstly, sort the CombinedHand again in sequence from big to small. Then make sure if all cards are lower than or equal to number 8. Afterwards, check the variable cRankFlag to make sureno pairs in the low Hand. Afterwoards, calculate the lLowHandWeight. The one with smaller lLowHandWeight wins the game. If lLowHandWeight are also same, then A and B split pot Lo.

