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Name : HW1.c

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Description :

This is HW1 for C Programming! Your work is to implement some basic logic in BlackJack game.

Please finish all **TODO** in this source file.

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**# include** <stdio.h>

**# include** <stdlib.h>

**# include** <time.h>

**int** **main** (**void**){

**srand**(**time**(NULL)); /\*set random seed\*/

**char** user;

**int** money=1000; /\*the initial money user has\*/

**printf**("Please enter your identification (a to z, one letter):");

/\***TODO** 1: Edit next line, let user input her/his name, save the input to char user

\* Hint: scanf, ch4\*/

**fflush**(stdout); /\*清空輸出緩衝區\*/

**scanf**(" %c",&user); /\*輸入一個字元,指定給user存放\*/

/\***TODO** 1 end\*/

/\***TODO** 2: Edit next line, print user's name and the user's total money

\* Hint: printf, ch4\*/

**printf**("%c has total %d dollars",user,money); /\*印出user有多少錢\*/

/\***TODO** 2 end\*/

**char** banker\_suit\_close, banker\_suit\_open1;

**char** user\_suit\_1, user\_suit\_2;

**short** banker\_rank\_close, banker\_rank\_open1;

**short** user\_rank\_1, user\_rank\_2;

/\***TODO** 3: Edit next part, randomly assign the suit of cards to banker and user

\* Banker has one open card, one close card

\* User has two card, and user can see banker's open card and two cards user has

\* Please use rand() to implement "randomness"

\* set club as 'C', diamond as 'D', heart as 'H', spade as 'S'

\* Hint: if-else if-else or switch, ch5 and 6

\*/

**int** a;

a=**rand**()%4+1;

**switch**(a) /\*隨機指定banker和user的suit\*/

{

**case**(1):

banker\_suit\_close='C';

**break**;

**case**(2):

banker\_suit\_close='D';

**break**;

**case**(3):

banker\_suit\_close='H';

**break**;

**case**(4):

banker\_suit\_close='S';

**break**;

}

a=**rand**()%4+1;

**switch**(a)

{

**case**(1):

banker\_suit\_open1='C';

**break**;

**case**(2):

banker\_suit\_open1='D';

**break**;

**case**(3):

banker\_suit\_open1='H';

**break**;

**case**(4):

banker\_suit\_open1='S';

**break**;

}

a=**rand**()%4+1;

**switch**(a)

{

**case**(1):

user\_suit\_1='C';

**break**;

**case**(2):

user\_suit\_1='D';

**break**;

**case**(3):

user\_suit\_1='H';

**break**;

**case**(4):

user\_suit\_1='S';

**break**;

}

a=**rand**()%4+1;

**switch**(a)

{

**case**(1):

user\_suit\_2='C';

**break**;

**case**(2):

user\_suit\_2='D';

**break**;

**case**(3):

user\_suit\_2='H';

**break**;

**case**(4):

user\_suit\_2='S';

**break**;

}

/\***TODO** 3 end\*/

/\***TODO** 4: Edit next part, randomly assign the rank of cards to banker and user

\* Banker has one open card, one close card

\* User has two card, and user can see banker's open card and two cards user has

\* Please use rand() to implement "randomness"

\* set rank as 1~13, stand for A, 2, 3, ...., 10, J, Q, K

\* Hint: http://dhcp.tcgs.tc.edu.tw/c/p005.htm

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banker\_rank\_open1=**rand**()%13+1; /\*設定banker\_rank\_open1為一隨機整數\*/

banker\_rank\_close=**rand**()%13+1;/\*設定banker\_rank\_close為一隨機整數\*/

user\_rank\_1=**rand**()%13+1; /\*設定user\_suit\_1為一隨機整數\*/

user\_rank\_2=**rand**()%13+1; /\*設定user\_suit\_2為一隨機整數\*/

/\***TODO** 4 end\*/

**printf**("Banker's open card %c%d\n",banker\_suit\_open1,banker\_rank\_open1);

**printf**("Your two cards: %c%d, %c%d \n",user\_suit\_1,user\_rank\_1,user\_suit\_2,user\_rank\_2);

**printf**("How many money you want to bet:");

**int** bet;

/\***TODO** 5: Edit next line, let user input her/his bet, save the input to int bet

\* Hint: scanf, ch 4\*/

**fflush**(stdout);

**scanf**("%d",&bet); /\*讓user決定要賭多少錢,並設置範圍0~1000\*/

**if**(bet>0)

{

**if**(bet<1000)

{

**printf**("You want to bet %d dollar. \n",bet);

}

**else** **if**(bet>1000)

{

**printf**("You only has 1000 dollars,please enter how much you want to bet again: \n");

**fflush**(stdout);

**scanf**("%d",&bet);

}

}

**else**

{

**printf**("Money can't be negative word,please enter how you want to bet again: \n");

}

/\***TODO** 5 end\*/

**printf**("Banker's two cards: %c%d, %c%d \n",banker\_suit\_close,banker\_rank\_close,banker\_suit\_open1,banker\_rank\_open1);

**int** banker\_sum=0; /\*Banker's total points\*/

**int** user\_sum=0; /\*User's total points\*/

/\***TODO** 6: Edit next part, calculate the sum of rank for banker and user

\* save user's total points in user\_sum

\* save banker's total points in banker\_sum

\* Point 1:

\* Please make sure you treat J, Q, K correctly, the real value of them are all 10.

\* Point 2:

\* Please make sure that A (1) is treated correctly! The A (1) can be calculated as 1 or 11.

\* For example, when you have A and 4, your total point should be 11+4=15.

\* But if you have A and A, your total point should be 11+1=12.

\* Hint: if-else if-else, ch5 and 6 \*/

**if**(banker\_rank\_close>10) /\*分別算出user和banker的總和\*/

{

banker\_rank\_close=10;

}

**if**(banker\_rank\_open1>10)

{

banker\_rank\_open1=10;

}

banker\_sum+=banker\_rank\_close;

banker\_sum+=banker\_rank\_open1;

**if**(banker\_sum>21)

{

banker\_sum-=10;

}

**if**(user\_rank\_1>10)

{

user\_rank\_1=10;

}

**if**(user\_rank\_2>10)

{

user\_rank\_2=10;

}

user\_sum+=user\_rank\_1;

user\_sum+=user\_rank\_2;

**if**(user\_sum>21)

{

user\_sum-=10;

}

/\***TODO** 6 end\*/

**printf**("Your total points: %d\n",user\_sum);

**printf**("Banker's total points: %d\n",banker\_sum);

/\***TODO** 7: Edit next part, decide who win the game

\* if you and banker have the same point, no money lose

\* if your point is greater than banker's, you can get the money you bet

\* if your point is less thank banker's, you lose the money you bet

\* Hint: if-else if-else, ch5 and 6 \*/

**if**(banker\_sum==user\_sum) /\*比較user和banker的sum的大小,並判斷出輸贏\*/

{

money=money\*1;

}

**else** **if**(banker\_sum<user\_sum)

{

money+=bet;

**printf**("you win");

}

**else** money-=bet;

**printf**("you lose");

/\***TODO** 7 end\*/

**printf**("Your money now is: %d\n",money);

**return** 0;

}