Group: BlackJack

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All functions

1. Add\_BaseMoney\_Dealer()

For dealer or contract creator only, provide reward pool for the game.

Input value from account.

2. Draw\_Card()

Players and dealer both use to add point to their account.

3. End\_Game\_Dealer()

Only dealer account can use this function, this function use to end the contract.

4. End\_Bet\_Player()

This function is for player accounts, use to end the bet processes.

5. Join\_The\_Game\_Player()

Players function, use to join the game, and need provide the bet price from account value.

6. Pay\_Deposite\_Player()

Players function, use to pay the deposit, need provide 10 ether.

7. Final\_Compute\_Dealer()

After dealer end game, dealer have to use this function to to compute the result, by rewarding winner, returning deposit to loser and punishing cheater.

8. Point\_Dealer()

For all members to use, check dealer’s point.

9. Rounds\_Dealer()

For all players to use, check dealer’s rounds.

10. Point\_Player()

For players to use, check the player’s point

11. Rounds\_Player()

For players to use, check the player’s rounds

12. Show\_Deposite\_Amount()

For all members to use, check this game’s deposit amount.

Basic step.(all Value unit is ether)

1. Choose an account as dealer and Input a number with desire maximum player numbers in the “deploy” box and click deploy.
2. Use the same account, we need to put some money to the contract first so we can pay for the rewards to winner. By input a number(20 – 90 ether) in the Value box and click Add\_BaseMoney\_Dealer.
3. Now choose another account as a player, and add 10 to Value box and click Pay\_Deposite\_Player to allow player to pay deposit first.
4. Then, add whatever amount of bet you want to the Value box, and click Join\_The\_Game\_Player to join the game.
5. Now, you are officially entered the game, you can either draw cards by clicking Draw\_Card or show your current accumulated points or rounds by clicking Point\_Player or Rounds\_Player.
6. Maximum you can draw 5 times total and please keep track of your accumulated points to too exceed 21. During the time, you can end your turn any time. If you draw three cards and satisfied, just click End\_Bet\_Player to inform dealer that you are ready. (Have to click End\_Bet\_Player once you are ready)
7. After players are all set, dealer can now draw cards and draw at max 5 times.
8. After dealer satisfied with his cards, he need to click End\_Game\_Dealer to calculate the result and click Final\_Compute\_Dealer to distributed all the result, like rewards winner.
9. You will see how much balance changed for each player and also dealer. The remaining balance in the contract will also be returned to player and dealer.
10. That is the end of one play, if you want to do another one with current balance, then delete current contract and deploy a new one to continue.
11. If you wish to reset all, then just refresh the page.

Four requirements test steps.

1. Must be able to handle a variable amount of participants.

maxPlayer is the variable to control the max player number in the game. Every contract creater could set this number in the very beginning.

Test step:

1. do step1-4.
2. Repeat 3 and 4 until we have variable amount of participants.

2. Must have at least one payable function

Add\_BaseMoney\_Dealer and pay\_player are two payable function

Step 2 and step 8 are examples of payable function.

3. Must punish any dishonest participants in the contract

a. If the player bet more than 5 rounds or click End\_Bet\_Player button but still click Draw\_Card function. Then this account will be treated as cheater

b. This account will be removed from player list immediately and will not have refund of deposit and their bets.

4. Must disallow new participants after the contract is over/finished (if your contract has a terminal state)

1. do step1-4.
2. Repeat step 3 and 4 until players number reach the limits
3. Then any new player cannot join in the contract
4. You can test it by using a new account after reach limits, and let that account pay for the deposit first and then join the game. You will see there is nothing changed on his balance expect some transaction fee. And if you click draw card, then click Point\_Player, it will be 0.

Set maximum player as 5. We will have 5 players betting with one dealer. Two of them will win. Two will lose and the last one will be cheater. In order to achieve this, control each player’s current points and in the end, control dealer’s point in the middle of all players. For the cheater, he will click draw\_card for more than 5 times and will be treated as a cheater. Check result at the end, The result will be as following:

* 1. two player will win. They will get 10 deposit back and double of bet price as reward.
  2. Two player will lose. They will just get 10 deposit back for each with no bet price returned.
  3. The cheater get nothing from this game.

Check each player’s account balance to verify.