

Blackjack program Introduction

This program is the game Blackjack, coded in Python.

The game uses arrays, class, console editing, and has around 230 lines of code in total. All you need to play the game is the **test.py** file, it will display the game instruction and records your scores on the screen.

You have **50** dollars at the beginning and you are going to play together with other **5 AI players** and **1 AI dealer**. All you need to do is try to get your points close but no more than 21 and beat the dealer.

Demo Video

<https://youtu.be/X6mj3nnq7gk>

Please enjoy the game!

Blackjack program document

File	Class	Parameter	Function
deck.py	Deck		new_cards: Generate cards for this game.Default setting is 4 decks. For convenient, I made "JQK" as 10. shuffle: shuffle the cards deal: the player get one card from the deck ifenough: judge if the cards has running out half, if it is, return False and game end.
player.py	Player	name: player number points : the points player now has hand: array for cards in player's hand type: define player is AI or human (0-AI or 1-human) finalA: the number of card 'A' in player's hand	getcard: The player take one card from deck into his/her hand getpoints: Calculate the points of cards in player's hand, if player has 'A', do some special calculation. reset_: Clear all cards and points in player's hand
game.py	Game	playerlist: Array for non-dealer players dealer: Player dealer playerpoints: Array records the points non-dealer player have dealerpoints: number of points dealer has playerAnums: array for the num of A card all non-dealer player has actions: array for the action sequence of all players(include dealer) table: deck represent all cards and deck rewards: array stores the money all players has moneybet: array records the money for each player wants to bet in a round of game bust: number record the num of bust	play: control the whole game. When the cards on the deck less than half, the game stop and print the final results. reset: reset points and cards in each player's hand and give them 2 cards in beginning. run_one_time: run a single round of the game. Run the dealer's points, if dealer's points is less than 17, keep hit until larger than 17. Compare the points of each player with dealer and assign the money to winner(s). humanrun: If player is controlled by human, run this function. The player could see the points of other except dealer then decide the money he/she bet and hit/stand. AI_run: If player is controlled by AI, run this function. The decision of hit/stand is rely on the probability. The smaller between points and 21, the less probability for hit decision. rand_pick: A function could pick a number in sequence with given probability. This is a help function for AI_run
test.py	Main	players: an array represent all players type	input the player number you want to play(except dealer) Run play function in class Game.

