

Blackjack Candidate Instructions

Blackjack, otherwise known as Twenty-One, Vingt-et-Un, or Pontoon, is a classic card game, approximately 250 years old. For your tech assessment, you will write code that can simulate a hand of blackjack. You may use *any* programming language or framework(s) you think appropriate. Alternatively, you may build on the provided starter code (in Python 3.)

The goal of the game is to get a hand of cards that's worth as close to 21 points as possible. If a player's hand goes over 21 points, they have lost.

The player is initially dealt two cards. They may then choose to 'hit' (draw a card) or 'stand' (stop drawing cards.) If they 'hit', then the new card's value is added to the hand total. If this total exceeds 21, the player is 'bust', and loses.

Once all players have finished this process, the highest scoring hand wins.

Your solution should model a single deck of 52 cards:

- Number cards are worth their face value (2-10)
- Jacks, queens, and kings are worth 10 each
- Aces are worth either 1 or 11 (player chooses)
- The suit of the card does not matter.

(These are simplified rules- a full description with gameplay variations can be found at <https://en.wikipedia.org/wiki/Blackjack>.)

Your submission does not need to be a complete, finished game. It is enough simply to write code that satisfies the scenarios overleaf. The best way to prove your code works is with unit tests (see starter code for an example).

You *may* additionally choose to make your submission playable or interactive, or extend it beyond these basic scenarios. For example, you might...

- Display the player's cards (text or graphics)
- Invite player input
- Allow for multiple players
- Allow for multiple hands
- Allow for rule variations

This should *not* be considered a pass / fail assignment. Your goal is to make your best attempt at the scenarios, and write code that you're confident discussing at interview. Good luck!

Scenarios

Given I play a game of blackjack
When I am dealt my opening hand
Then I have two cards

Given I have a valid hand of cards
When I choose to 'hit'
Then I receive another card
And my score is updated

Given I have a valid hand of cards
When I choose to 'stand'
Then I receive no further cards
And my score is evaluated

Given my score is updated or evaluated
When it is 21 or less
Then I have a valid hand

Given my score is updated
When it is 22 or more
Then I am 'bust' and do not have a valid hand

Given I have a king and an ace
When my score is evaluated
Then my score is 21

Given I have a king, a queen, and an ace
When my score is evaluated
Then my score is 21

Given that I have a nine, an ace, and another ace
When my score is evaluated
Then my score is 21