

Gòu Jí (够级) – Standard 6-Player Rules

Objective

Gòu Jí is a 6-player partnership shedding/climbing card game. The goal for each player is to be the first to play all cards from their hand in a round ¹. The broader team objective is to outrank the opposing team by having teammates finish their cards earlier (achieving higher “科” ranks) and ultimately accumulate a higher score over multiple rounds. A full game can consist of several rounds, with overall victory usually determined by score or an agreed number of rounds.

Setup

- **Players and Teams:** Six players form two teams (2 *Dui* for 队), three players per team. Teammates sit alternating around the table, so that no two partners are adjacent ². Each player's **duìtóu** (对头) is the opponent sitting directly across from them (sometimes called “across the table” opponent) ³. For example, if players are labeled A, B, C, D, E, F in clockwise order, a typical seating has A, C, E as one team and B, D, F as the other, with A–D, C–F, and E–B as opposite pairs ⁴.
- **Cards:** A standard game uses four full decks of poker cards (including Jokers), for a total of 216 cards (54×4) ⁵. Each player is dealt 36 cards. All suits (♣♦♥♠) are used but have no inherent rank order in play – only card values matter (see **Card Ranking** below) ⁶. Jokers and certain high cards serve special roles (wild cards and “trump” cards; see **Trump Determination**).
- **Dealing:** Cards are thoroughly shuffled and dealt out evenly to the 6 players (often one card at a time in a fixed direction, e.g. anticlockwise, until all 216 cards are dealt) ⁷. Dealing in subsequent rounds typically rotates or is assigned based on the previous round's outcome – for instance, the player who was **Head** (first to finish) may deal or lead the next round, or in some tables the last-place player deals first as a courtesy ⁷. (House rules vary; an initial dealer can also be chosen randomly for the first round.)

Card Ranking and Combinations

- **Rank Order:** From lowest to highest, the card values are: $3 < 4 < 5 < 6 < 7 < 8 < 9 < 10 < J < Q < K < A < 2 < \text{Joker (Small Joker < Big Joker)}$ ⁶. Thus, 3s are the weakest cards and the **Big Joker** (大王) is the single highest card. All cards 3 through A come in four suits, but suit is irrelevant to hierarchy – only the rank (and whether a card is a special wildcard) matters in comparisons ⁶.
- **Valid Card Combinations:** The only legal play units are **single cards** or **sets of identical cards** of the same rank (e.g. a pair of 7s, three Kings, four Jacks, etc.) ⁸. *There are no straights, flushes or complex combo types* – sequences, runs, bombs with kickers, etc., do not exist in standard Gou Ji ^{8 9}. When a combination of a certain size is led, responses must play the **same number of cards** (same combination size) of a higher rank to beat it ¹⁰. For example, a pair of 9s can be beaten by a pair of 10s or any higher pair, but not by a single card or three-of-a-kind. Passing is allowed if a player cannot or chooses not to beat the current combination (see **Game Flow**).
- **Wild Cards (贴牌):** Two special card types act as wild substitutes in combinations: **Twos (2)** and **Jokers**. In standard rules, 2s (often nicknamed “money” or *qián*, 钱) and both Jokers (小王, 大王) can be used as **wildcards** (称为“配牌”, also called *dài* or *guà*) to represent other cards in a set ¹¹. This means a wildcard can stand in to help form a set of a certain rank. For example, if a player

has three 7s plus a 2, they may treat the 2 as a fourth “7” and play a four-of-a-kind of 7s ¹² .
When comparing combo strength:

- If a set contains any number of 2s *but no Jokers*, the 2s are treated as the base rank they’re substituting for. The set’s effective rank is that of the non-wild cards in it ¹³ ¹⁴ . For instance, “7-7-7 + 2” (three 7s plus a 2 acting as the fourth 7) is considered a four-of-a-kind of 7. It can be beaten by any four-of-a-kind of higher rank (e.g. four 8s or 7-7-7 + *Small Joker*, see below) ¹³ ¹⁵ . The 2 itself in this context has no special power except to complete the combination size.
- If a set contains **Jokers (Big or Small)**, then the presence of the Joker elevates its power – generally only a higher Joker-containing set can beat it. Specifically, any set that includes a Joker is considered higher than all sets of the same size that do not include a Joker ¹⁶ . To beat a Joker-enhanced combo, the responding set must contain an equal or greater number of Jokers of higher order ¹⁶ . For example, to beat “6-6-6-6 + **Small Joker**” (four 6s with a Small Joker), one could play “5× 7’s + **Big Joker**” (i.e. four 7s plus one Big Joker) – using a Big Joker beats the Small Joker combo, and 7s outrank 6s ¹¹ ¹⁷ . If a combination contains a **Big Joker**, standard rules deem it unbeatable by any normal means except in variants that allow multiple Big Jokers in one play ¹⁷ . (In some local rules, a set with two Big Jokers can beat a set with one Big Joker, etc., but typically “**Big Joker is absolute**” in the standard game.)
- **Double Joker special:** Playing two Jokers together (Big + Big, or Big + Small, etc.) as a pair is allowed and counts as a pair of Jokers. Two Big Jokers together are considered a distinct highest entity – colloquially “two Big kill one Big” (大王二杀一) – meaning a pair of Big Jokers beats any single Big Joker or any pair that includes a smaller card ¹⁸ . (This scenario is rare but can matter in certain endgame situations or in variations.)
- “**Enough-Level**” Sets (够级牌): Certain high-rank combinations are distinguished as **Gòu Jí cards** – powerful sets that meet or exceed specific thresholds. These are crucial for special actions like opening the point (explained later). A combination qualifies as a 够级牌 if it is *at least*:
- **Five 10s** (e.g. 10-10-10-10-10, which in practice requires using at least one wildcard since there are only four 10s in the decks) ¹⁹
- **Four Jacks (J)** ¹⁹
- **Three Queens (Q)** ¹⁹
- **Two Kings (K)** ¹⁹
- **Two Aces (A)** ¹⁹
- **One or more 2s** (any single 2 or set of 2s) ²⁰
- **One or more Jokers** (any Joker by itself or with others) ²⁰

In other words, any set of 10s through Aces that reaches the above count, or any set containing at least one 2 or Joker, is considered a “gouji” (enough-level) combination ²⁰ ¹⁹ . Such sets are inherently powerful and have special privileges in play (they can wrest control of play – see **Game Flow**). A wildcard may be used to help form a gouji set, with restrictions: using a 2 as a substitute *does* count (e.g. J-J-J + 2 counts as four Jacks, a valid gouji牌) ¹² , but using a Joker to reach the threshold does *not* count for gouji status ¹² . For example, Q-Q + **Small Joker** (which forms three Queens) would **not** be recognized as a gouji combo in standard rules, whereas Q-Q + 2 would count as three Queens and thus qualify ¹² .

- **Open-Point Card (开点牌):** Among gouji combinations, a subset are considered valid for initiating an “open point” (described later). An **open-point card** is generally defined as a gouji牌 that contains **no Jokers or 2s** – i.e. a “pure” enough-level set achieved with natural cards only ²¹ . For example: 5×10s, 4×Jacks, 3×Queens, 2×Kings, or 2×Aces **with no wildcard attached** are all *open-point-eligible* plays ²¹ . (Some regional rules are lenient about 2s, allowing a 2-substituted combo to still count as open-point; but traditionally, **any presence of Jokers or 2s disqualifies the set from opening the point** ²¹ .) Players usually aim to obtain or form these natural high combos because of their importance in scoring and flow control.

Trump (Zhu) Determination

Unlike many trick-taking games, **Gou Ji has no rotating trump suit**. Instead, the concept of “trump” centers on the special high cards (2s and Jokers) which dominate play. In Chinese terminology these are sometimes called “主牌” (**zhǔ pái, main cards**), since they outrank all others and can be played flexibly. Key points:

- **Fixed High Cards:** All **2s**, **Small Jokers**, and **Big Jokers** are effectively the highest-ranking cards and act as de facto trumps in any combination ⁶ ²². They can beat any regular card or set of lower rank, and are the only cards that can serve as wild substitutes. There is no need to determine a new trump each round – these cards are always “trump” by nature.
- **No Trump Suit:** There is **no trump suit** in Gou Ji. Suits do not confer any priority; a 7♥ is equal to a 7♣ in power, for example. The only “trump” aspect is whether a card is one of the aforementioned main cards (Joker or 2). Thus, **trump determination is trivial** – it’s always the Jokers (highest) and 2s next ⁶. All players know from the start which cards are inherently strongest.
- **Round Initialization:** Because trump is fixed, the game does not include a bidding phase to set trump as in some other Chinese card games (e.g. “升级/Tractor”). There is **no auction or call** to determine trump. Instead, strategic emphasis is on how and when to use one’s 2s and Jokers. (One optional exception is a rule called “明主”/“明上” in some variants, where teams can agree to double stakes by “nominating trump” before play, but this is not part of the standard rules and usually applies to extended variants with more than 6 players ²³.)

In summary, **Zhu (主)** in Gou Ji refers to these ever-powerful cards. Effective play requires managing these *trump cards* wisely – e.g. deciding when to deploy a Joker to guarantee a win or hold it for a potential burn (see **Game Flow**).

Game Flow

Gou Ji is played in a series of rounds. Each round consists of card exchange phases (for certain special rules) followed by the main play phase where players take turns playing cards. Here is the typical flow of a round:

1. **Shuffle and Deal:** The dealer shuffles all 4 decks together and distributes 36 cards to each player (often one at a time). All cards are dealt out ⁷. Players then organize their hands. If it’s not the first round of the match, certain **tribute exchanges** may occur before play (see next step).
2. **Tribute Exchange (进贡, jìngòng) [if applicable]:** If this round is the first of the game, skip this step. Otherwise, based on the previous round’s results, some players must **give tribute cards** to others as a handicap mechanism. Tribute rules ensure that players (or teams) who performed poorly last round yield their highest card(s) to those who performed best, balancing the game’s progression ²⁴. All tributes happen before any cards are played in the new round. Standard tribute types include:
 - 3. **Drop Tribute (落贡, luò gòng):** The last-place player (called “大落”, *Big Drop*) must hand over their single highest card to the previous round’s 1st-place player (**Head**) as tribute, *twice* (two highest cards) ²⁵. The second-to-last player (“二落”, *Second Drop*) gives their highest card once to the 2nd-place player (**Second**) ²⁵. For example, if Alice was Head and Bob was Second last round, and Frank and Erin were the two losers (Erin as 6th, Frank as 5th), Erin will give her two top cards to Alice, and Frank will give his top card to Bob as “落贡.”
 - 4. **Sweep Tribute (串贡, chuàn gòng):** A special case of drop tribute. If one team managed to take the top three positions (a “串三户” or sweep of the first three finishers), the round ends immediately at that point and all three players of the losing team are considered losers (even

though three hadn't finished yet) ²⁶ . In this case, on the next deal **each** of the three losing players gives **one** highest card to their respective opposite (duìtóu) as tribute ²⁶ . (This replaces the normal drop tributes – effectively, instead of only two losers paying, all three pay one card each when a sweep happens.) This rule rewards a dominant performance with more cards for the winners and is sometimes humorously referred to as “no tribute needed from the winners” because the winners already have a huge advantage ²⁷ ²⁸ .

5. **Point Tribute (点贡, diǎn gòng):** This occurs related to the **open point** mechanic. If in the previous round one player succeeded in “opening the point” (see Open Point below) and their opposite number did not, then the opposite must give one high card as a **point tribute** to the successful opener in the new round ²⁹ . In other words, failing to open point when your duìtóu did succeed results in a penalty card to them. If neither opposite pair opened a point (or both did), point tributes are usually waived or cancel out (some tables have them exchange a card mutually, which has no net effect) ²⁹ .
6. **Burn Tribute (烧贡, shāo gòng):** If a player successfully **burned** an opponent in the last round (see Burn rules under Game Play), the player who got burned must tribute one high card to the burner this round as compensation ³⁰ . (If a burn was *countered* or failed, no tribute is due; in case of a counter-burn, typically the final victim pays the tribute to the final successful burner, with possible doubled penalty for “反烧”, but such complex cases go beyond standard play.)
7. **Stifle Tribute (憋贡 or 闷贡, miǎn/mèn gòng):** If a player's **3s were “stifled”** in the last round (meaning they were unable to play their 3♦3♣3♥3♠ before the round ended – see “憋三” rule below), then the opponent who prevented them from playing a 3 is owed a tribute. In the new round, the stifled player gives their highest card to that specific opponent as a **stifle tribute** ³¹ . If multiple players were stifled, typically the one who got stifled first is treated as the “big drop” for these purposes (i.e. the earliest stifle pays as if last place) ³¹ .
8. **Tribute Procedure:** Tributes are given in a set order (if multiple types apply). Usually, *Stifle (闷)* -> *Point (点)* -> *Burn (烧)* -> *Drop (落)* in sequence ³² . A player who owes multiple tributes may have to give multiple cards (in order of priority). When giving tribute, the rule is to give your **highest-ranked card** (after any higher-priority tributes have removed some cards). “Highest” is usually determined by rank (Joker > 2 > A > K..., with suit tie-breaks if needed, though suits are usually irrelevant except to distinguish cards of same rank). The recipient of a tribute immediately adds that card to their hand (吃贡, “receiving tribute”) ²⁴ , and then must return a card face-down to the giver (还贡, “return tribute”) ²⁴ . The returned card can be any card of the recipient's choosing (often a useless low card). This exchange ensures the hand sizes remain equal and that the stronger side doesn't simply gain extra cards – instead they upgrade a card. (By agreement, a recipient can even decline to take a tribute to avoid having to give something back; declining a tribute means both players just keep their cards ²⁴ .) After all required tributes and returns are done, play proceeds.
9. **Pre-Play Adjustments:** Two special rules are applied at the very start of play to handle extreme cases with 3s and 4s:
10. **“Bǔ 3” (Buy a Three):** In Gou Ji, **3s are restricted cards** – they generally cannot be played until a player's very last turn (making them usually the last cards to go out). To avoid a situation where someone literally has no 3 to play last, the rules require that **every player must hold at least one 3** after the deal. If a player was dealt **no 3s at all**, they must perform a “**buy 3**” action before play starts ³¹ . This means they obtain a 3 from someone who has extra. The normal procedure: the player without a 3 offers one of their **2s** to their duìtóu (opposite) in exchange for a 3. If they also have no 2, they offer a Joker (small then big) to buy the 3 – this is called “**buying with a king**” since Jokers are nicknamed “kings” ³¹ . The opposite cannot refuse this exchange (unless they also have no extra 3, in which case a teammate with an extra 3 provides one freely). After this swap, each player will have at least one 3. (In effect, a player with no 3 sacrifices a high card to ensure they get a 3, which they'll need to play at the very end. See “憋三” in Gameplay.)

11. **“Bǔ 4” (Buy a Four):** By tradition, **4s are designated “point cards”** because they are the lowest card that can be played freely (3s are restricted to endgame). In many rulesets, if a player has no 4 at all, they are *allowed* to similarly exchange a high card for a 4 from an opponent or teammate (the mechanism is akin to buying a 3, possibly offering a 2/Joker for a spare 4). However, having a 4 is less critical than having a 3, so **buying a 4 is optional** and in some regions not used ³³. If a player “**绝4**” (absolutely no 4), they might choose to buy one for strategic advantage (since 4s are used to officially open a point, as explained later), but if they don’t, they simply proceed without any 4 and face no direct penalty. (Regional variant: some play with reduced 4s in the deck to *force* buys and make 4s scarce ³⁴.)
12. **Revolution (革命) [optional]:** After tributes and any 3/4 exchanges, but **before** the main play begins, players check their hands for a rare situation: **no wildcards at all**. If a player’s hand contains **no Jokers and no 2s**, they have a weak hand and are entitled to declare **“Revolution” (gémìng)** ³⁵. Declaring a revolution means **that player sits out the entire round**, taking no further part in play. They essentially “withdraw” to avoid hurting their team with a bad hand. A revolution must be declared *before* any cards are played to the table. Key points on revolution:
 13. Only a player with **0 Jokers and 0 Twos** may revolution. It’s voluntary; if they prefer to play anyway, they can. But once they declare, it’s irrevocable – they lay their cards aside and do nothing this round ³⁵.
 14. A revolting player is considered to finish neither first nor last. For ranking, they are typically assigned a middle rank (usually treated as **Third or Fourth** place for that round) ³⁶. This means they don’t count as a winner or loser for tribute purposes. (If one from each team revolts, they might be deemed Third and Fourth in some order.) They also cannot “open point” or affect play since they aren’t playing, and they themselves are immune to most tribute rules (no drop, no burn, no stifle issues, etc., because they didn’t actually play) ³⁷.
 15. **Multiple Revolutions:** Under standard rules, only one player may revolution per round. If **two or more players** simultaneously wish to revolt at this stage (e.g. both have no 2s or Jokers), the round is aborted – *all cards are reshuffled and redealt*, and **no tributes** carry over to the redeal ³⁸. (Essentially a fresh start, because having only 4 or fewer players would break certain mechanics.) Some house rules allow two revolutions, but they introduce complex adjustments (such as creating a “headless” scenario where certain players skip turn order) and are not part of the standard game ³⁹ ⁴⁰. It’s simplest to say: **if more than one person tries to revolt, just redeal a new round with everyone back in**.
 16. **Revolution and Open Point:** If a lone player revolts, there’s a special courtesy: they may immediately play what they believe is their strongest gouji combination face-up *as they declare revolution*. This is a chance to achieve an **instant open point** for their team even though they won’t be playing further ⁴¹. The revolter’s duitou is allowed to respond to that combo as if in normal play. If the opponent can beat that combo, then the revolter **“fails to open”** (不开点) and simply leaves without giving their team any advantage ⁴¹. But if the opponent **cannot** beat it, then the revolter is considered to have **opened the point (开点)** for purposes of point tribute (meaning the opponent will owe a point tribute later even though the revolter isn’t in the game) ⁴¹. The revolter still sits out after this one combo. (This is an advanced tactical nuance; many casual games skip this and just have the revolter sit out quietly. In programming terms, you can implement revolution simply as a state where that player is removed from turn rotation.)
 17. **Gameplay – Shedding Cards:** After all the above preliminaries, the main gameplay begins. The active players (6 normally, or fewer if someone revolted) will now engage in playing out their hands. The overall structure is similar to other climbing games like “President” or “Big Two,” but with team cooperation and special **gouji** mechanics:
 18. **Starting the Round:** The player who leads the first trick (i.e. plays the first card or set) is determined by the rules or prior round. Commonly, the first-round opener might be chosen by draw or randomly. In subsequent rounds, typically the **Head (last round’s winner)** leads the new

round's first play ⁷ . (Some play that the last-place player leads first as a consolation.)
 Whichever rule is used, ensure your implementation picks a starter and possibly enforces the required opening move (e.g. some variants require them to lead the smallest card to get things going, but standard has no such requirement – they may lead any valid combination).

19. **Turn Order:** Play proceeds in a fixed rotation (usually **counter-clockwise** in Shandong region rules ⁷ , though clockwise is fine as long as it's consistent). Each turn, the current player may either **play** a combination to beat the previous play or **pass**. The ability to play or not depends on the type of the last play:
 - If the last play was a normal set (not a gouji-level set that stopped rotation), then turn order is simple: go to the next person in sequence. That player must play **the same number of cards** in a set that **outranks** the previous set, or pass if they cannot/will not ¹⁰ . For example, if the last play was a triple of 8s, the next player can only beat it by playing three of a kind of 9s or higher (or a valid triple that includes a wildcard to count as higher than 8s). If they play such a combo, the turn moves on to the following player, who now must beat the new combo, etc. If they pass, the turn moves on without a new combo – the same top combo is still in play for the next player to beat.
 - **Passing:** If all other players pass in succession (i.e. it comes back around to the player who played the current combo and no one has beaten it), that player wins the **trick** and gains the right to lead a new combo of any allowed type. In Gou Ji, this is often described as *a round of play ending* and the same player continuing with a fresh lead. The concept of “trick” here is loose since multiple players can pass; effectively, a sequence of plays on one starting combo ends when it's unchallenged, and a new sequence begins with a fresh lead. There is **no limit on passes** except that if you pass you're out for that sequence of plays (you can't jump back in until a new round of cards starts). Passing does not cost anything except the missed opportunity to play.
 - **Yielding (让牌) by the Opposite:** A unique tactical option exists for the player who is the direct **duìtóu (opposite)** of the person who led the current combo. When it comes time for the opposite player to act, they have the right to **“yield”** once instead of immediately playing or passing definitively ⁴² . Yielding means the opposite *temporarily* skips their turn to see if any other players (who come after them in turn order) can beat the combo. If one of those later players does play a higher set, the opposite loses the chance for that sequence (since the turn will loop around accordingly). However, if **all other players** also pass after the opposite yields, then *before the trick officially ends*, the opposite player gets one final opportunity to play a beating combination ⁴² . Essentially, the opposite ensures that their side gets “last licks” in every sequence – they can allow teammates or even the other opponents to play first, and only intervene at the end if absolutely necessary. This rule embodies the team strategy aspect: the opposite might hold back to let their partners try smaller beats, stepping in only if none can beat the opponent's play. (In implementation, you can handle this by giving the opposite player a choice to defer: if they defer, skip them in the order for that round but make a note to return to them if everyone else passes.)
20. **Gòu Jí (够级) Mechanic – Opposite Duel:** The defining feature of Gou Ji's gameplay is what happens when someone plays an **enough-level combination (够级牌)**. **Whenever a player leads or beats with a gouji-level set, the turn order is interrupted** – the only player allowed to respond is the one directly opposite (on the other team) ⁴³ . This initiates a head-to-head **duel** between those two opposites, temporarily excluding other players. The flow is:
 - The moment a gouji牌 hits the table (and it wasn't immediately preceded by another gouji牌 from the opposite), **skip directly to the opposite player** of the one who played it ⁴³ . That opposite now *must* either beat it with their own gouji牌 (if able and willing) or concede (pass). No other players get to intervene at this stage – teammates of the

opposite, and the other opponent who is not directly involved, are skipped. It's effectively a challenge issued across the table.

- If the opposite **does play a higher gouji牌** in response, then control bounces back to the original player (the one who played the first gouji), who now must beat that with an even higher gouji牌, if possible ⁴³. The two will continue to exchange gouji combos back and forth. This back-and-forth continues *until one of them cannot beat the last gouji combo played*. Only these two players are participating while the gouji duel lasts; the other four players sit out and watch. (Strategically, teammates might cheer silently, but they cannot play in this duel.)
- **Ending the Duel:** There are two possible outcomes:
 - One of the two duelists eventually plays a gouji combo that the other **cannot** beat. In this case, the duel ends with that combo as the final word. The winner of this duel essentially **wins the trick**, and play resumes to the *normal* turn order *starting from the winner* (i.e. the winner leads the next free round of play). However, if the winning combo of the duel meets the "open-point" criteria (i.e. it was a pure gouji set as defined earlier), an additional benefit triggers (see **Open Point** below).
 - **Rare:** If both players exhaust their ability to play further gouji sets (neither can top the other) and effectively simultaneously pass, the duel ends in a stalemate. In practice this is uncommon – usually one passes first. But if it somehow occurred (perhaps both had identical highest bomb that they decline to play because it wouldn't win?), the sequence would end with no open point and the last played combo stands as if it were a normal combo that nobody else beat. (This scenario can be treated like outcome 1 with no open point.)
- **Open Point (开点):** If a player wins a gouji duel by playing an **open-point-eligible** gouji牌 that the opponent fails to beat, that player achieves "**Kai Dian**" (**opening the point**) ⁴³. Opening the point is a significant event with multiple effects:
 - The current trick **immediately ends** once the point is opened ⁴³. (Even if normally others would get to play after the duel, an open-point essentially cuts off the sequence right there – no further responses are allowed from anyone.) The player who opened the point now gains the right to lead a new sequence.
 - **Mandatory Play of 4s:** Upon opening the point, standard rules require the player to **immediately lead all of their 4s** in the next sequence as a demonstration of the open point ³³. In other words, as soon as they have the lead, their next play must be (and usually is) to drop any 4s from their hand onto the table. Typically they would play these 4s as a single set (e.g. if they have two 4s, they play a pair of 4s; if they have one, they play it singly). This convention serves two purposes: (1) it officially consummates the "opening" – by playing the lowest-value cards freely, they prove they have gained full control; (2) it sheds potentially weak cards (4s) from their hand immediately, which is an advantage. If the player **forgets to play their 4s or for some reason doesn't play a 4 when they have one**, the rules punish that omission: the open-point is **nullified** (considered not achieved) ³³. Failing to play a 4 when you had one means you are treated as if you *never opened the point* (you lose the privilege and will owe a point tribute later). If the player had **no 4 at all** in hand at the moment of opening (perhaps they bought none and were dealt none), this is a special case: some rules consider the open-point still valid without playing a 4 (since you have none to show), others say you cannot open point if you have no 4. The common approach is to allow it – having no 4 is considered "*natural open point*" and you just continue. (*Implementer's note: To enforce this, track whether an open-point achiever had any 4. If yes, ensure their next action is to play all 4s. If they play something else, treat it as an illegal move or auto-fail their open point.*) ³³.
- **"Opened" Status:** Once a player has opened the point in a round, **they cannot open again** in the same round ⁴³. It only matters the first time. Also, if two or more players

happen to empty their hands at the exact same time (ending the round) such that not everyone had a chance to open, then any remaining players who never opened are just out of luck – no further open-point attempts count in that round once it's down to the last few players (this situation is called “*four-player entanglement*” or “乱缠”, described below)

⁴³ .

- **Point Tribute Avoidance:** Opening the point has a direct scoring effect: that player will **not** have to pay a point tribute next round, and their opposite **will** have to (assuming the opposite failed to open). Essentially, it flips the point-tribute in your favor. Open point is a mark of dominance for that pair of opponents.
- **Team Impact:** Opening the point doesn't automatically win the round, but it confers momentum. The opener rid themselves of 4s (often low cards) and imposes a psychological and slight material advantage. It also often correlates with winning the round, since the ability to form a pure bomb usually means a strong hand. However, play continues after the open point (unless the opener's team manages to finish all their cards very soon after). Other players can still play and try to go out; the open point just cannot be repeated by others once the game state reaches a certain late stage.
- **Four-Player Entanglement (四户乱缠):** If for any reason the game reaches a state where only four players remain active (for example, two players have finished their cards, or one finished and one revolted, leaving four), and no one has opened the point yet, the special gouji privileges are generally suspended ⁴³ . This state is nicknamed “four houses tangled” – at that point, **gouji cards are no longer treated specially** (they no longer restrict play to opposites), and **passing rules change** such that there is no yielding or skipping special cases – play proceeds in simple rotation ⁴⁴ . Essentially, once the round is near its endgame with four or fewer players, the game simplifies into a more straightforward climb because the team structure is partially broken (one team has an “empty seat” or a revolution, causing asymmetry). If neither opposite pair achieved an open point by the time the round ends, those players will owe point tributes to their opposites next round (since *someone* must pay when no one “opened”) ⁴³ . In practice, “four-player entanglement” means just continue playing normally (no gouji duels) until the round ends.

21. **Burning (烧牌) – Seizing Play Out of Turn:** *Burning* is an advanced move where a player **not** involved in a current gouji duel forcefully enters the fray. It's essentially a risky tactic to snatch the lead when it's not your “turn.” The rule can be stated as: **If a player from the other opposing pair (neither the one who played the gouji nor their direct opposite) wishes, they may jump in with a gouji牌 of their own – this is called “burning”** ⁴⁵ . The burn attempts to wrest control from the current duel and start a new sequence of plays led by the burner. Conditions and consequences:

- A burn can only occur **when a gouji牌 has been played** and is being contested. If an opponent's team is in the middle of using a gouji to dominate, and you are *not* that person's opposite, you have the right to try to burn. (Typically, burns happen when one opponent plays a bomb and the intended opposite either can't or hasn't yet responded – a teammate of the intended opposite might burn to stop the bomb.) Multiple players might want to burn a given play; standard priority is that the **first burn opportunity goes to a member of the team that did not play the current gouji牌**, usually in seating order if both non-opposites want to try (or a rule like “the one whose team was led against gets priority”) ⁴⁶ ³² . The nuances can be complex, but a simple approach: allow only one burn attempt at a time, and perhaps give priority to the next-in-line opponent in turn order if it's not the opposite's turn.
- To initiate a burn, the player immediately plays a **gouji牌** of their own that beats the current gouji牌 on the table ³⁰ . This cuts off the original duel – the burn is essentially a *new challenger*. Example: Opponent A plays four 9s (gouji牌) hoping to duel A's opposite.

But before A's opposite responds, you (another opponent, not the opposite) slam down **four 10s + Joker** to burn it. Your set is higher, so you become the new leader if the burn succeeds.

- Once a burn is played, **only the burner's own duitóu (opposite) can contest it** immediately ³⁰. That is, just like a normal gouji, a burn triggers a duel between the burner and their opposite. The burner's opposite can attempt to "counter-burn" by playing an even higher gouji牌 (this would be effectively a 反烧, counter-burn) ⁴⁷. If the opposite does so and beats the burn, then the burn fails right there and control might revert or continue with the counter-burner. If the opposite cannot beat the burn, the burn stands successful *for now*.
- **Burn Sequence:** If a burn is not immediately countered by the opposite, the burning player gains temporary control and now attempts to **run out their hand entirely** under special constraints. Upon a successful burn entry, the burner gets to lead cards and continue playing combinations *one after another* without waiting for turn rotation, **with the goal of shedding all their remaining cards** in one go ⁴⁸. However, to make this fair, the burner must adhere to a strict rule: **every combination they play during the burn (except possibly their final set of 3s) must contain at least one Joker** ³⁰. This means the burner should ideally have a supply of Jokers to attach to every play, making each one a gouji牌, which prevents others (except the opposite) from intervening. If at any point the burner has a combination to play but no Joker available to attach (and the combination isn't just 3s at the very end), then the burn **cannot continue** and is considered failed – the burner has essentially "burned out".
- While the burner is playing out their hand, **only two parties can interfere:** the burner's opposite (duitóu) can still try to beat any given play (since each play is a gouji牌, the opposite has right of response) ⁴⁸, and *additionally* any other player *could* also attempt **another burn** (called a *re-burn* or *counter-burn*) if the burner's opposite doesn't stop them. In practice, burns can cascade – e.g. burner from Team X jumps in, then a player from Team Y counter-burns them, etc. To keep it simple, an implementation might limit it to one burn at a time and resolve duels sequentially.
- **Burn Success or Failure:** A burn is **successful** if the burning player manages to play all their cards (empty their hand) under these conditions without being stopped ⁴⁸. If they do, the round ends (that player finishes as Head or whatever rank they cleared out in) and the **original player who was burned is left with cards**. Importantly, the player who got burned (whose turn was interrupted) is considered to have lost that exchange – on the next deal, they will have to give a **burn tribute** to the burner (one high card) ³⁰. If the burn is **unsuccessful** – meaning the burner was **stopped** by someone or made an illegal play or couldn't continue – then the burner suffers a severe penalty: they immediately count as having lost the round (usually they are assigned 大落 rank automatically) ⁴⁸. The round might continue among remaining players, but the burner is out with all their cards considered "dead" in hand (for scoring, they're last). Additionally, if a burn fails, the burn-initiator's team does **not** have to pay a burn tribute (since the burn didn't succeed). If a **counter-burn (反烧)** occurs (i.e. a second burn layered on the first), the penalties can double – often the tribute owed by the originally burned player is doubled, etc., but these are variant details ⁴⁸. Standard play rarely sees more than one burn in a round due to its high risk. *(In summary, burning is a high-risk, high-reward move that can turn a round on its head. For AI training, it drastically increases the action space complexity, as agents must consider sequences of plays and not just one move.)*
- **Burn Restrictions:** A player **cannot initiate a burn** if their side has already achieved an open point in the round, or if they themselves have not "qualified" to burn. One common rule is *"no burn before open point"* – meaning if neither team has opened the point yet, burning is disallowed unless the burner has no choice (like they have no 4's, which some

rules consider “born to burn” scenario) ⁴⁹ ³³ . However, rules on this vary by region. A conservative approach: allow burning at any time a gouji is in play and it’s not your side’s gouji, as long as you enforce the joker-attachment rule. Another restriction: if a player has not yet played a card in the round (“no head”), some versions say they cannot burn (to prevent ruining the open point mechanic) ⁴⁴ . We will omit these variants in standard play for simplicity.

22. **Continuing Play:** After any gouji duels or burns are resolved, play continues with whoever won control last. If no special events are happening, the turn order is simply sequential around the table with players playing higher combos or passing. Teammates will generally cooperate by not unnecessarily outbidding each other’s winning plays (“covering” your partner’s card is usually bad etiquette unless strategic). Because of the partnership, one common strategy is to **“feed” your partner wins** – e.g. if your partner leads a combo that opponents can’t beat, you also pass even if you technically could beat it, so that your partner can run again or discard more cards. This aligns with the Gou Ji adage “高手不争科” – *“an expert doesn’t rush to grab the Head”* ⁵⁰ , meaning sometimes a strong player will refrain from finishing first in order to help their team’s overall position (perhaps aiming for a 1-2 finish instead of just 1st). All communication of strategy must be implicit through play (see **Communication**). The play phase goes on until players start running out of cards...
23. **Playing the Last Cards – “Bie San” Rule:** All 3s (the lowest cards) are subject to the “憋三” rule, which states that **a 3 can only be played as the last card(s) in your hand** ³¹ . You are not allowed to lead or play a 3 (single or set) if you still have any other card in your hand. This means typically players will hold onto 3s until they have no other choice – usually, a player’s final turn will involve them playing out their remaining 3s (often as a pair or four of a kind if they have multiple) to go out. If a player is down to only 3s in hand, they may play them, of course. If a player *ends the round without ever getting to play their 3(s)* because some other player went out first, that player is said to have been “stifled” (憋住) – they literally got stuck with their 3s unplayed ³¹ . Being “憋三” is a mark of being thwarted; as noted, it incurs a tribute penalty next round (憋贡). Strategically, players sometimes attempt to **“choke” an opponent’s 3s** by ending the game before the opponent can play them (for instance, intentionally going out while the opponent is known to hold 3s). This adds an interesting layer: even a losing team might prefer one of their players go out 3rd (denying the other team a chance to play 3) to force a stifled tribute from an opponent. In summary: do not play 3s until they are literally your last cards – it’s illegal to do otherwise. And if you have no 3 in hand due to trading, you don’t worry about this rule.
24. **Round End and Ranking:** A round continues until **five of the six players have emptied their hands**, or until a condition like a team sweep triggers an early stop. The instant a player plays their last card(s), they are considered to have “gone out” and take the next available finishing position. The finish order (called 走科排序, ranking by finishing) uses old examination terms:
25. **头科 (tóu kē)** – *Head Rank*, the 1st player to finish ²⁵ . This player’s team has achieved the coveted top spot for the round.
26. **二科 (èr kē)** – *Second Rank*, the 2nd player to finish ²⁵ .
27. **三科 (sān kē)** – *Third Rank*, 3rd to finish ²⁵ .
28. **四科 (sì kē)** – *Fourth Rank*, 4th to finish ²⁵ .
29. **二落 (èr luò)** – *Second-to-Last (Small Drop)*, 5th to finish (or rather, 5th to *not* finish – the second-to-last player left with cards) ²⁵ .
30. **大落 (dà luò)** – *Last (Big Drop)*, the last player holding any cards when the round ends ²⁵ . This player didn’t get rid of all cards and loses the round outright. Normally, play stops as soon as there is only one player left with cards. That remaining person is automatically **大落**, and their team suffers the worst outcome of the round. If that last player still had multiple cards, they don’t continue playing because the round is over at that point – they simply are stuck with those cards. If a **串三户 (sweep)** happened (one team took 1st, 2nd, 3rd),

the round actually ends early *when the third player of that team goes out*, leaving three opponents with cards in hand. Those opponents are then collectively considered 4th, 5th, 6th in order of card count or threat (some rules just assign them 4th, 5th, 6th arbitrarily since all three still had cards; for tribute purposes, all three are treated as losers) ²⁶. In a revolution scenario with 5 players, the ranks would skip one position (the revolter is assigned 3rd/4th as mentioned). In any case, by round's end each player can be labeled with one of these ranks.

31. **Post-Round Outcome:** Once ranking is determined, the following happens:
32. **Tributes for Next Round:** The appropriate tribute obligations are noted for the next round (as described in step 2). Typically: the 大落 and 二落 prepare to give their highest cards to 头科 and 二科 respectively ²⁵; anyone who got their 3s stuck (憋三) identifies who stifled them to give a 闷贡; if someone opened point and their opposite didn't, note the 点贡; if a burn succeeded, note the 烧贡, etc. All these will be executed once cards are dealt in the next round. (In a computer program, you'd store these flags per player/team between rounds.)
33. **Scoring:** If playing with a scoring system, calculate points for each player or team (see **Scoring** section below). In informal play, many do not keep a score and simply play round by round for fun, using the tribute system as the only continuity. In formal or competitive play, scoring is used to track match progress.
34. **Prepare Next Round:** If this was not the final round, the next round begins. Players typically **rotate the deal/lead** as mentioned (often the Head leads next round's first play). Teams **do not change** – partnerships remain the same across rounds (unless a rotation house rule is in effect, which is not standard) ⁵¹. Play then continues to the next round starting again at step 1 (deal cards, exchange tributes, etc.).

This cycle repeats for the predetermined length of the game. A match might be a fixed number of rounds or played to a target score.

Bidding and Leveling Rules

Despite the term “bidding,” Gou Ji does not have a bidding phase in the way that Bridge or some trick-takers do. However, there are a couple of mechanics that resemble bids or wagers within the gameplay context:

- **Point Challenge (宣点):** Before the play of cards in a round (after dealing and tributes), if both you and your duitóu each have at least one 4 in hand, either of you (or both) may declare a “**point challenge**” (宣点, xuān diǎn) ⁵². This is essentially a wager between opposites on who will successfully open the point. A player might declare “I will open” (宣点) and the opposite can also counter-declare. The implications are:
 - If one side declared and manages to **open the point while the other side did not**, the side that failed must pay an extra penalty: typically **2 extra cards as point tribute** in the next deal to the successful opener ⁵². (These 2 cards are in addition to any normal point tribute they already owe – effectively doubling the punishment for losing the wager.)
 - If both sides declared a challenge and only one side opened, the losing side pays **double** the usual penalty (so 2 cards, and if both declared, often it stacks to 4 cards or 2 each to the two opponents – tables vary) ⁵². If *both* succeed in opening (or both fail to open), the challenges cancel out – usually no extra penalty (or each might owe 2 to each other, which cancels as an exchange).
 - In essence, 宣点 ups the stakes. It's a way of saying “I bet I can open and you can't.” If you're confident in your hand (strong bombs, etc.), you might declare to pressure your opposite. In an implementation, this can be an optional action each opposite pair can take before play begins, stored as a boolean flag. The outcome is resolved after the round (when we see who actually opened). Not all casual games include 宣点, but it is part of many standard rule sets, especially in

Qingdao region play ⁵². If neither player says anything, no extra point tributes beyond the normal one will apply.

- **No other bidding:** There is no concept of bidding for trump or bidding a contract of tricks/points. The gameplay itself (playing bombs, etc.) takes the place of any auction.

“Leveling” in Gou Ji typically refers to the concept of progressing through rounds and improving one’s position or “level” of play. Unlike the related game 升级 (“Upgrade”/81-Points) where a number rank is incremented as a goal, in Gou Ji *the notion of level is tied to finishing positions and score*. Key points:

- **Round Rankings and Levels:** Each round, players achieve a rank (科) as described. One could think of 头科 as “Level 1”, 二科 as “Level 2”, etc., *but these don’t carry over explicitly*. However, players often track streaks – e.g. someone who gets Head rank consecutively is performing at a high “level”. There is no built-in concept of cumulative level advancement other than score.
- **Accumulating Score (积分):** In formal play, the score acts as a leveling mechanism. Teams accumulate points from round to round (details in **Scoring**). A higher score means a higher standing – effectively a higher “level” in the match. Some rule sets say a team that reaches a certain score difference wins immediately (similar to leveling up to victory).
- **Failure to Open (“点” levels):** There is a minor concept called “点级” in some rule discussions: if a team fails to open point multiple rounds in a row, they’re said to be “stuck at level 1/level 2” etc. For example, “三级点” means a team didn’t open for three rounds straight ⁵³. This has no direct rule effect in standard play except perhaps pride; but some variants penalize repeated failure to open (to encourage aggressive play). Standard Gou Ji does not have a formal penalty beyond the point tributes already imposed.
- **Team Rotation / Reassignment:** In long sessions, some groups choose to **rotate teammates** or positions after certain conditions (for example, after a team is swept “串三户” a few times, they might reshuffle teams to balance skill). This is an **optional, non-standard** practice – by default, the two teams remain fixed throughout the match ⁵⁴. If implementing an online platform, you might allow seat shuffling between games, but within a single game/match teams stay the same. There is no concept of leveling to “promote” a player to another team; any change of team is outside the core rules.

In summary, Gou Ji’s “bidding” and “leveling” elements are subtle. The game is more about dynamic advantages gained through play (open point, tributes, scoring points) rather than explicit bid/level phases. The **progression mechanics** are driven by the flow of cards and the accumulating score/tributes that carry over, rather than a trump level or contract. This makes it well-suited for reinforcement learning – each round’s outcome provides feedback (rewards/penalties) that carry into the next round via the changed card distribution (through tributes) and scores.

Scoring

While the tribute system inherently balances rounds, many implementations use a **point-based scoring system** to determine an overall winner after multiple rounds. In a standard scoring method (often called “积分制” in Qingdao rules ⁵⁵), points are awarded based on finishing positions each round, and team scores are calculated as the sum of their players’ points:

- **Head (1st place):** +4 points ⁵⁶
- **Second (2nd place):** +2 points ⁵⁶
- **Third (3rd place):** 0 points ⁵⁶
- **Fourth (4th place):** 0 points ⁵⁶
- **Fifth – “Second-Loss”:** –2 points ⁵⁶
- **Sixth – “Big-Loss”:** –4 points ⁵⁶

Each player's score for the round is then added to their team's total. Because the points for all six positions sum to zero ($+4 +2 +0 +0 -2 -4 = 0$), the **team scores in a round will be opposites**: one team will score $+X$, the other $-X$ ⁵⁷. For example, if Team A's players finished 1st, 4th, 6th, their points are $+4, 0, -4 = 0$; Team B's players (2nd, 3rd, 5th) have $+2, 0, -2 = 0$. That round would be a *tie* $0-0$. If Team A had finished 1st, 2nd, 6th ($+4 +2 -4 = +2$) and Team B 3rd, 4th, 5th ($0 +0 -2 = -2$), Team A wins the round 2 points to -2 . Over multiple rounds, these scores accumulate.

Team Score: Typically, you track the **team's cumulative score** across rounds. The sum of the three players' points each round is the team's round score ⁵⁷. You can simply keep a running total. The match ends when a predetermined condition is met, such as: - A team reaches or exceeds a target score (e.g. $+20$ points), or - A fixed number of rounds have been played (then compare scores), or - A certain time limit or number of "sweeps" is reached.

In serious "Old Gou Ji" competition (as referenced in Qingdao's "老头够级"), the **total score decides the winner of the match**, not just round wins ⁵⁵ ⁵⁸. Thus players might play more defensively knowing one round's loss can be made up in later rounds. In casual "大众够级" (popular/casual Gou Ji), sometimes no score is kept and each round is an independent event (with only tributes carrying over) ⁵⁵.

For programming and AI training, a **scoring system is recommended** to provide a performance metric. You can use the $4-2-0-0-(-2)-(-4)$ scheme above, which is widely regarded as balanced ⁵⁶. This scoring ensures that a team that consistently gets higher ranks will accumulate a lead. The maximum swing in one round is 8 points (one team gets $+4+2+0=+6$, the other gets $0+(-2)+(-4)=-6$, the difference 12, but since sum is zero it's easier to think of it as 6 vs -6). In reinforcement learning terms, you might reward agents based on these point outcomes.

Alternate Scoring: Some variations might assign slightly different values (e.g. $+2, +1, 0, 0, -1, -2$ in a simpler scheme ⁵⁹), or only award points to the team (e.g. winning team gets 2 points, losing team 0 each round). The $4-2-0-0-(-2)-(-4)$ system is an "official" style which ensures symmetry and that a sweep (1st, 2nd, 3rd by one team) yields the maximum points ($+4+2+0 = +6$ for winners vs -6 for losers). A normal round split like 1st/3rd/5th vs 2nd/4th/6th results in $+4+0-2=+2$ for one team and $+2+0-4=-2$ for the other (2-point win for the first team).

Winning the Match: Decide on your match structure. Common approaches: - Play to a certain score (e.g. first team to $+20$ points wins the match). - Play a fixed number of rounds (say 8 or 12 rounds) and then highest score wins. - Play until one team 串三户 (sweeps) a set number of times. - Tournament play might be timed or fixed rounds with score.

For AI training, treating each round as an episode with reward equal to the team score (or individual score) achieved is a reasonable approach. If training cooperative AI, the three players on a team could share reward signals.

Team Cooperation and Communication Constraints

Team Structure: The game is fundamentally a **3v3 team game** ("联邦" vs "联邦") ², so cooperation is critical. Partners work together to prevent the other team from getting rid of cards, even if it means not always playing the highest card. For instance, a player might refrain from beating their partner's play (even if they can) to let the partner continue, or might play a slightly weaker move to lure out opponents' jokers for a partner to burn later. This strategic harmony is often developed through experience.

No Table Talk: Explicit communication of card information is forbidden. Players cannot reveal their hands or discuss strategy during the game beyond the actions allowed by the rules. All coordination must be done via the play of cards and understanding of the game's flow. In practice, partners learn to read situations: e.g. if your partner passes quickly, maybe they want you to act; if they lead a single small card instead of a bomb, maybe they are saving a bomb for later, etc. But **speaking or signaling (winks, gestures)** about one's cards is cheating. In a programming context, each AI agent should only have access to its own hand and public information (like what has been played, how many cards everyone has, etc.) – they should not share private state.

Allowed Communication: The only “communication” in standard rules is through a few formal actions:

- The declarations like “宣点” (point challenge) before play – which is public and symmetric.
- Saying “pass” (过) when you don't play, or “yield” (let go) if you're the opposite yielding – which are part of the turn-based actions.
- In some casual settings, players say things like “咣!” (boom) humorously when playing a big bomb, or might congratulate partner – but these are not information-bearing signals, just atmosphere. These can be ignored in formal rules.

Team Rotation: As noted, teams remain constant by default. If players decide to rotate seats or change teams between games, that's outside the standard rule scope. Some clubs implement a “轮换制” where after a match, they swap partners for the next match, to ensure variety or fairness ⁵⁴. But within one game/match, you do **not** swap partners. The only “rotation” during play is the dealing/lead priority which may alternate between teams round by round (depending on who won last). Ensure in an online game that team seating is fixed once chosen.

Turn Order Rotation: By rule, turn order is fixed relative to seating. But which team starts a round can alternate. If using the rule “Head of last round leads next round,” then it could happen that one team gets several consecutive round-starts if one player on that team keeps winning head. Some groups alternate the lead irrespective of results (for fairness). There is no single official method, but it's recommended to let the game outcome decide the next start (rewarding the previous winners with initiative) ⁷.

Private vs Public Information: At any given point, what each player knows:

- Their own 36-card hand (minus any given/received tribute cards).
- How many cards each other player currently holds (this is open info as the game progresses, since you see them play cards).
- The history of cards played in the current round (including which gouji combos have been seen, which jokers are out, etc.). Good players count cards, especially critical ones like Jokers and 2s.
- Who declared a point challenge, who opened point, etc., which are all public events.
- They do *not* know the exact composition of teammates' or opponents' hands aside from what they infer.

No Psychic Bidding: Unlike Bridge, there's no bidding phase to exchange information. The closest, 宣点, is a blind bet and doesn't convey specific info (except that “I have confidence to open”, which indirectly hints “I likely have a bomb or two 4s”).

Team Strategy: The best teams use tactics like:

- **Protect the Head:** If one partner is close to going out (e.g. very few cards left), the others might sacrifice higher cards to ensure opponents can't beat that partner's plays.
- **Feed the Boss:** Identify one partner as the one who should try for 头科 (this might be the person with the strongest hand or the one who got tribute cards). The others then play support – they might play aggressively to draw out enemy wildcards, then allow the “boss” partner to play their bombs unopposed.
- **Burn coordination:** One partner might purposely *not* beat an opponent's bomb, leaving it to a third teammate who can burn it more effectively.
- **Stifle strategy:** Teams sometimes

deliberately let an opponent keep a 3 by ending the round quickly, to force that opponent into a 闷贡 next round. This requires awareness of who might still have 3s (card counting).

All of this must be done under the communication rules above. In a coded implementation, you wouldn't enforce these strategies (they emerge from good play), but you must enforce the information separation – no sharing hands. For RL training, this makes it a **partial-information, cooperative-competitive environment**.

Game State and AI Considerations

For implementing Gou Ji in an online game or a reinforcement learning environment, it's important to define the game state and action space clearly:

- **Game State Representation:** At minimum, the state should include:
 - Each player's **hand** (private to that player/agent).
 - The **current trick** or play sequence: what combination is currently on the table, who played it, and which players have passed or are still contesting.
 - Any special status like an ongoing **gouji duel** or **burn** attempt, and who the involved players are.
 - **Remaining cards count** for each player (public knowledge).
 - Which players have **finished** (and their finish order if applicable at that point).
 - Flags for whether a point has been opened by either team yet, and which player opened it if so (to prevent duplicate opens, enforce tribute logic).
 - Possibly a log of past moves (for learning algorithms to infer strategies like who might have what).
 - The **score** so far and any **pending tribute obligations** for next round (though between rounds, not during a round).

In a turn-based program, you'd also track whose turn it is, and the turn rotation order adjusted for any duels or burns. In an RL environment, you might encode the state as observations for each agent: e.g. one-hot encodings of cards in hand, a history of last played combo, etc.

- **Action Space:** Actions in Gou Ji can be defined as:
 - **Play a Combination:** The agent chooses a set of cards from its hand to play. This action is only valid if it matches the required combination size and is higher than the current combo. (On a fresh lead, any combo is allowed; following a play, must match size and beat rank.) Representing this in code could be complex due to many possible combinations, but you can generate all valid plays from the hand and let the agent pick one.
 - **Pass:** Don't play any cards (表示过牌). This is always an available action on a turn (except if no one has played yet and you are leading – then you must play something).
 - **Burn Declaration:** If an opponent's gouji has just been played and you are eligible to burn, you could have a special action "Burn with [combo]". This is essentially the same as playing a combo, but out-of-turn. Implementation might treat burn as a response action at the moment an opponent's gouji is on table and it's not your turn – you'll need to check for burn opportunities after a gouji is played and allow an interrupt.
 - **Yield:** If it's the opposite's turn, they have a choice to "yield" (defer) instead of a normal pass. In practice, yielding can be implemented by a slight tweak: when it's the opposite's turn, allow a "yield" action which sets a flag and skips them in order, but keep track to loop back.
 - **Revolution Declaration:** At the start of a round, if applicable, an agent with no 2 or Joker can declare revolution. This is a binary decision (revolt or not).
 - **Point Challenge Declaration:** Another binary (or ternary: declare, agree, or not) action before play for opposites with 4s. You can prompt each opposite pair and record their choices.

- **Choosing Tribute Cards:** When giving a tribute, selecting the highest card can be automated (since it's forced: the system can determine the highest). But the **return tribute (还贡)** requires the receiver to choose a card to give back. So that is a decision action for the tribute-receiver. Usually they will give their lowest or a useless card, but in an AI environment, you let the agent choose (the rational choice is lowest, but maybe some bluff could be involved if variant allowed refusing tribute). In standard, since receivers can technically refuse a tribute with permission (rarely used), you might skip that complexity and always force acceptance.
- **Play 3s at end:** Not really a separate action – when a player's down to only 3s, they simply play them when it's their turn. The rule enforcement will ensure they didn't play them earlier.
- **Rewards:** For RL, you might set the final reward of a round as the team score (e.g. +6, +2, 0, -2, -6 distributed appropriately to team members or as a team reward). Intermediate rewards could be given for each card played or each opponent still with cards, etc., but a simple approach is to give a reward at round end: e.g. +1 for winning team, -1 for losing team, or scaled by the score difference. The agents must learn to cooperate to maximize these team rewards.
- **Episode Termination:** A natural episode end is when the round finishes (one player left or team swept). If playing a multi-round match, you could make an episode span the whole match. But usually it's easier to treat each round as an episode for AI training, due to the state carryover complexity. If you do multi-round episodes, ensure the state carries over tributes and scores properly, and maybe give intermediate rewards each round.
- **Complexity:** Gou Ji has a large state and action space (36 cards per hand from 216, with combinations). To reduce complexity, one might abstract certain decisions or use heuristics. For instance, AI might need to encode combinations as patterns. You could index possible combinations (there are many) or limit actions to categories like "play smallest winning combo" vs "play largest", etc., for learning. However, a comprehensive AI would consider all actual combinations.
- **Turn-Based Logic:** Ensure to implement the turn logic with all the special cases:
 - If gouji played -> restrict next action to opposite (or allow burn interrupts).
 - If burn initiated -> handle its sub-turns.
 - If open point -> end trick immediately and enforce 4s play.
 - Enforce 3s not allowed until end, enforce playing 4s after open, enforce Joker attach in burn, etc. Many of these are checks in the environment's step function.

Because of Gou Ji's complexity, a program might benefit from splitting into phases (dealing phase, tribute phase, declaration phase, play phase, scoring phase). For AI, you might even break it into subgames (some research might train separate models for card play vs tribute exchange decisions).

Nonetheless, implementing these rules exactly will allow hosting online games with automated rule enforcement and also create a challenging environment for RL-based AI to learn cooperative and competitive strategies.

Terminology Summary

To avoid confusion, here's a quick reference of Chinese terms (Pinyin) used in Gou Ji rules, as we retained them in Pinyin per instructions:

- **联邦 (liánbāng):** Alliance or team (3 players). Two liánbāng face off in Gou Ji ². (Colloquially just called “队”/team as well – we use Dui to mean team.)
- **对头 (duìtóu):** Literally “opposing head,” meaning your direct opponent sitting across the table ³. Your duìtóu is your primary rival in many mechanics (open point, point tribute, etc.). Also called 对家 (duìjiā) in some texts.
- **头科 / 二科 / 三科...:** Rank titles for 1st, 2nd, 3rd finishers, etc. ²⁵ (“kē” sounds like ‘cur’; you can call them Head, Second, Third, Fourth).
- **大落 / 二落:** Last and second-last finishers (Big drop, Second drop) ²⁵. Often just called 大落 and 二落.
- **够级牌 (gòu jí pái):** “Enough-level card” – a qualifying high combo (bomb) defined by $\geq 5 \times 10$, $\geq 4 \times J$, $\geq 3 \times Q$, $\geq 2 \times K$, $\geq 2 \times A$, or any 2 or Joker set ¹⁹. These allow the 够级 mechanic (skipping to opposite).
- **开点 (kāi diǎn):** Open the point. Achieved by winning with a pure gouji combo. Grants privileges and avoids tribute ⁴³.
- **点贡 (diǎn gòng):** Point tribute. A high card given by the loser of the open-point contest to the winner opposite next round ²⁹.
- **烧牌 (shāo pái):** Burn card. The act of playing out of turn with a bomb to seize play ⁴⁵.
- **烧贡 (shāo gòng):** Burn tribute. Card given by a player who got burned, to the burner next round ³⁰.
- **憋三 (biē sān):** The “stifled 3” rule – 3s can only be played last, and being “憋三” means someone couldn't play their 3s (got stuck) ³¹.
- **闷贡 (mèn gòng) / 憋贡:** Stifle tribute (same concept, different slang). Paid by a player who was stuck with 3s to the player who caused it ³¹.
- **革命 (gémìng):** Revolution. A player opting out due to a bad hand (no 2, no Joker) ³⁵.
- **让牌 (ràng pái):** Yielding a card. When the opposite delays their turn to see others play ⁴².
- **过牌 (guò pái):** Passing (literally “passing card”). Skipping your play voluntarily ⁴².
- **宣点 (xuān diǎn):** Declaring point (point challenge) ⁵².
- **串三户 (chuàn sān hù):** Sweeping three gates – one team taking the top three ranks in a round ²⁶.
- **串贡 (chuàn gòng):** Sweep tribute. The opposite-to-opposite tribute from all three losing players after a sweep ²⁶.
- **四户乱缠 (sì hù luàn chán):** “Four-player entanglement.” The state of play with four players left and no open point, where special rules are suspended ⁴⁴.
- **挂牌 / 贴牌 (guà pái / tiē pái):** Hanging cards / attaching cards, i.e. using wildcards (Jokers or 2s) in combinations ¹⁶ ¹⁴.
- **明上 (míng shàng):** A variant concept of “showing trump” or doubling stakes (not in core rules) ²³.

These terms have been used throughout in Pinyin. Understanding them will help in reading Chinese sources or interfacing with Chinese-speaking players.

Sources: The above rules have been compiled and consolidated from authoritative descriptions of Gou Ji, including Chinese Wikipedia ⁶ ²⁰ ⁴³, regional rule explainers ⁶⁰ ²⁴ ³¹, and Qingdao-based publications ⁵⁶ ⁵⁷. They reflect the standard 6-player, 4-deck, 2-team version of Gou Ji as traditionally

played in Shandong, with an emphasis on clarity for implementation. These rules can directly inform an online game engine or an AI environment for Gou Ji, ensuring that the complex mechanics (like tribute exchanges, turn order exceptions, and special card powers) are unambiguous and faithfully represented.

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