

NMJL 2026 Card Analysis

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Introduction

Hi Mah Jongg Fans. This report gives statistical analysis of the National Mah Jongg League (NMJL) 2026 Standard Hands Card. I include a card format summary in [Appendix A](#). The statistics show hands that tend to be easiest to get Mah Jongg. Our JLMahJongg app is used to evaluate the hands by playing four bots against each other for 12,000 games. The hands are ranked in order of those that win most.

I also include a general discussion of the 2026 card and some suggested ways to get more familiar with a card. [Appendix B](#) explains my hand vs. line terminology and some common American Mah Jongg mistakes. [Appendix C](#) is the JLMahJongg card editor manual for any pros that want another way to get familiar with the card (ha ha).

Easiest 2026 Hands

Table 1 shows the 2026 card lines ranked in order of easiest to hardest. The number of unique hands is also listed for each line. See [here](#) for a definition of unique hands. A line representing more unique hands will tend to be easier.

Caveats:

1. Based on four bots playing using calculations of each potential hand's win probability. Bots are not trying to make any particular hand, just the hand calculated to be most likely to win at the time. Calculations are simplified, but fairly accurate, to make implementation practical. **Your results may vary.**
2. You still need to evaluate the tiles you have in a game and determine what you think is best. Easier hands here are only easier in a statistical sense, and some other hands may be better for your tiles.
3. These results are from a random sample of 12,000 games. A different set of samples will produce somewhat different results. These results are not exact.

The easiest hand is Consecutive Run line 2 by a large margin. On the 2025 card the easiest hand is the similar hand, Consecutive Run line 4. 2026 Consecutive Run line 2 has 3 consecutive singles in the second spot of the overall run of 5, instead of first. The 2025 hand has a run of 3 singles in the first position. The 2026 line is even easier because it can be the same suit in addition to any 3 suits.

Any Like Numbers lines are hard again. Line 3 ranked lower than expected, even though the three pairs do make it difficult. There was a problem with my App generating this line. It was missing 24 of the possible hands. After this is corrected, I still expect this line to rank low (hard). Another possible reason is that some other line(s), such as Quints line 1, also Any Like Numbers, is similar enough to always be chosen instead. The pro bots will tend to choose Quints line one over other “Any Like Numbers” lines because it has much higher value. For Any Like Numbers line 3 to rank higher it needs to be the best hand for one of the 4 computer players at some point AND end up getting Mah Jongg. This is difficult for any line with 3 pairs and two kongs unless you happen to get all 3 pairs (without and before getting something easier or someone else winning). I assume NMJL did not make it concealed to not make it even harder. I will update the results after I fix the line 3 problem.

I could generate these results in an alternate, but more difficult way. I could have one of the bots trying to make a particular line for all the random games (12,000 in these results). This would give a ranking of how hard that line is if you are specifically trying to make it against 3 players maximizing their win probability. I would have to repeat the 12,000 random game sets 54 times (for each line). I would then have 54 different ranking tables, one for each line. I might try this and report the results. It may take a while. I mention this, in part, to highlight that the lower-ranked lines can be made and are not impossible if you are specifically trying to make them.

Table 1. Easiest 2026 Category/Line Ranked by Win Percentage

| Rank | Category | Line | X/C | Value | Number of Unique Hands | Win % of 12,000 Games |
|------|-----------------|------|-----|-------|------------------------|-----------------------|
| 1 | Consecutive Run | 2 | X | 25 | 45 | 23.29 |
| 2 | Consecutive Run | 4 | X | 25 | 54 | 9.43 |
| 3 | Consecutive Run | 7 | X | 25 | 63 | 8.50 |
| 4 | Winds - Dragons | 2 | X | 25 | 54 | 7.02 |
| 5 | Consecutive Run | 5 | X | 25 | 63 | 5.78 |
| 6 | Winds - Dragons | 3 | X | 30 | 15 | 4.77 |
| 7 | 2468 | 7 | X | 25 | 24 | 4.06 |
| 8 | 13579 | 2 | X | 25 | 12 | 3.34 |
| 9 | Quints | 3 | X | 40 | 216 | 2.79 |
| 10 | Winds - Dragons | 4 | X | 25 | 12 | 2.68 |
| 11 | Winds - Dragons | 1 | X | 25 | 2 | 2.15 |
| 12 | 13579 | 4 | X | 25 | 15 | 2.14 |
| 13 | 2468 | 6 | X | 25 | 12 | 1.63 |
| 14 | Consecutive Run | 6 | X | 25 | 24 | 1.54 |
| 15 | Consecutive Run | 3 | X | 25 | 42 | 1.51 |
| 16 | Winds - Dragons | 5 | X | 25 | 12 | 1.33 |
| 17 | 369 | 1 | X | 25 | 12 | 1.33 |
| 18 | 2468 | 4 | X | 25 | 6 | 1.29 |
| 19 | Winds - Dragons | 6 | X | 25 | 3 | 1.27 |
| 20 | 2026 | 3 | X | 45 | 6 | 1.26 |
| 21 | 13579 | 1 | X | 25 | 9 | 1.24 |
| 22 | 2468 | 1 | X | 25 | 9 | 1.19 |

| Rank | Category | Line | X/C | Value | Number of Unique Hands | Win % of 12,000 Games |
|------|------------------|------|-----|-------|------------------------|-----------------------|
| 23 | 13579 | 9 | C | 30 | 6 | 1.11 |
| 24 | 369 | 3 | X | 25 | 9 | 1.00 |
| 25 | 369 | 5 | X | 25 | 9 | 1.00 |
| 26 | 369 | 6 | C | 30 | 6 | 0.96 |
| 27 | 13579 | 5 | X | 30 | 6 | 0.83 |
| 28 | 13579 | 6 | X | 25 | 12 | 0.75 |
| 29 | 2468 | 8 | C | 30 | 3 | 0.65 |
| 30 | 2026 | 1 | X | 25 | 6 | 0.55 |
| 31 | Winds - Dragons | 7 | X | 25 | 6 | 0.44 |
| 32 | Consecutive Run | 1 | X | 25 | 6 | 0.41 |
| 33 | 2026 | 2 | X | 25 | 12 | 0.36 |
| 34 | 369 | 4 | X | 25 | 6 | 0.36 |
| 35 | 2468 | 5 | X | 25 | 3 | 0.35 |
| 36 | Quints | 1 | X | 40 | 27 | 0.28 |
| 37 | Any Like Numbers | 2 | X | 25 | 27 | 0.15 |
| 38 | Quints | 2 | X | 45 | 21 | 0.15 |
| 39 | 2468 | 2 | X | 25 | 6 | 0.15 |
| 40 | 369 | 2 | X | 25 | 6 | 0.13 |
| 41 | 13579 | 7 | X | 25 | 9 | 0.12 |
| 42 | 2026 | 4 | X | 25 | 6 | 0.11 |
| 43 | 13579 | 3 | X | 30 | 6 | 0.10 |
| 44 | Winds - Dragons | 8 | C | 30 | 3 | 0.10 |
| 45 | Any Like Numbers | 1 | X | 30 | 27 | 0.09 |
| 46 | Consecutive Run | 8 | C | 35 | 18 | 0.06 |
| 47 | 13579 | 8 | C | 35 | 6 | 0.04 |
| 48 | Single And Pairs | 3 | C | 50 | 6 | 0.04 |
| 49 | Any Like Numbers | 3 | X | 25 | 81 | 0.03 |
| 50 | Single And Pairs | 1 | C | 50 | 9 | 0.03 |
| 51 | Single And Pairs | 5 | C | 50 | 3 | 0.02 |
| 52 | 2468 | 3 | X | 30 | 3 | 0.01 |
| 53 | Single And Pairs | 2 | C | 50 | 3 | 0.01 |
| 54 | Single And Pairs | 4 | C | 50 | 9 | 0.00 |
| 55 | Single And Pairs | 6 | C | 50 | 1 | 0.00 |

The win percentages for all 2026 lines are shown in Table 2 in the order on the card. Expander codes for each line are shown in case anyone wants to use the JLMahJongg card editor. The JLMahJongg card editor manual is included in [Appendix C](#) for convenience. If an expander code is not shown, the default of T = "These Numbers Only" is used. You don't need to enter the default code of T in the editor. The expander code along with the number of colors defines all the different hands represented by a given line. If anyone is brave (or crazy) enough to try this, I would like to know.

Table 2. Win Percentage by 2026 Card Category/Line

| Category | Line | X/C | Value | Expander Code (EC) | Win % (of 12,000) |
|------------------|------|-----|-------|--------------------|-------------------|
| 2026 | 1 | X | 25 | | 0.55 |
| | 2 | X | 25 | K26 | 0.36 |
| | 3 | X | 25 | | 1.26 |
| | 4 | X | 30 | | 0.11 |
| 2468 | 1 | X | 25 | | 1.19 |
| | 2 | X | 30 | | 0.13 |
| | 3 | X | 30 | | 0.01 |
| | 4 | X | 25 | | 1.29 |
| | 5 | X | 25 | | 0.35 |
| | 6 | X | 25 | K2468 | 1.63 |
| | 7 | X | 30 | | 4.06 |
| | 8 | C | 30 | | 0.65 |
| Any Like Numbers | 1 | X | 30 | L | 0.09 |
| | 2 | X | 25 | L | 0.15 |
| | 3 | X | 25 | *4 L | 0.03 |
| Quints | 1 | X | 40 | L | 0.28 |
| | 2 | X | 45 | Va | 0.15 |
| | 3 | X | 40 | UQ14 | 2.79 |
| Consecutive Run | 1 | X | 25 | | 0.41 |
| | 2 | X | 25 | Va | 23.39 |
| | 3 | X | 25 | Va | 1.51 |
| | 4 | X | 25 | Va | 9.43 |
| | 5 | X | 25 | Va | 5.78 |
| | 6 | X | 30 | Va | 1.54 |
| | 7 | X | 25 | Va | 8.50 |
| | 8 | C | 35 | Va | 0.06 |
| 13579 | 1 | X | 25 | | 1.24 |
| | 2 | X | 25 | | 3.34 |
| | 3 | X | 25 | | 0.10 |
| | 4 | X | 25 | H01234 | 2.14 |
| | 5 | X | 25 | | 0.83 |
| | 6 | X | 25 | | 0.75 |
| | 7 | X | 30 | | 0.12 |
| | 8 | X | 25 | | 0.04 |
| | 9 | C | 25 | | 1.11 |
| Winds-Dragons | 1 | X | 25 | | 2.15 |
| | 2 | X | 25 | *0123 Va | 7.02 |
| | 3 | X | 25 | Lo | 4.77 |
| | 4 | X | 25 | Le | 2.68 |
| | 5 | X | 25 | KNEWS | 1.33 |
| | 6 | X | 25 | | 1.27 |
| | 7 | X | 25 | | 0.44 |

| | | | | | |
|-------------------------|----------|----------|-----------|-------------|-------------|
| | 8 | C | 30 | | 0.10 |
| 369 | 1 | X | 25 | | 1.33 |
| | 2 | X | 25 | | 0.13 |
| | 3 | X | 25 | | 1.00 |
| | 4 | X | 30 | | 0.36 |
| | 5 | X | 25 | H123 | 1.00 |
| | 6 | C | 30 | | 0.96 |
| Single And Pairs | 1 | C | 50 | L | 0.03 |
| | 2 | C | 50 | | 0.00 |
| | 3 | C | 50 | | 0.04 |
| | 4 | C | 50 | Va | 0.00 |
| | 5 | C | 50 | | 0.02 |
| | 6 | C | 75 | | 0.00 |

Table 3 compares some statistics between the 2025 card and the 2026 card.

Table 3. Additional Winning Hand Statistics with Comparison Between 2025 and 2026

| | 2026 | 2025 |
|---|------|------|
| Average Tiles Left | 35.4 | 38.1 |
| Jokerless % | 2.0 | 2.6 |
| Concealed (Closed) % | 3.1 | 1.3 |
| Drew Own % | 54.7 | 55.2 |
| Higher than 25 value % | 12.8 | 14.9 |
| Wall Games % | 11.4 | 9.7 |
| East Win % | 27.0 | 27.8 |
| Winds-Dragons Line 1 Win % | 2.2 | 2.7 |
| 2468 Line 1 Win % | 1.2 | 1.1 |
| Consecutive Run Line 1 Win % | 0.4 | 0.9 |
| Consecutive Run (2026 Line 2 vs. 2025 Line 4) Win % | 23.4 | 11.0 |
| Number of Closed Lines | 12 | 13 |
| Number of >25 Value Lines | 24 | 22 |
| Total Unique Hands | 1077 | 1002 |

Comments on 2026 Hands

I have not used the 2026 card much yet but will give initial reactions. Overall, many of the lines appear harder than the 2025 card. For example, hands with a six flowers set are hard to make. Flowers are very useful on the 2026 card. There are also many singles and pairs. Many 2026 lines are like 2025 lines, but only one is the same, WINDS-DRAGONS line 1.

I am happy there are no totally new line types on the 2026 card. I did not have to add to the card language code for the first time in five years. This should mean fewer questions about what lines mean. The sets of size 6 (Sextet?) are new to me but as far as I know, the app can handle them, at least for flowers.

A more subtle characteristic is the many opportunities for pivoting between hands. This is because many lines share common parts. This is especially true in the 2026 and 2468 categories. The many pivoting options make it harder to use the “Best Hands” feature because the “Best” hand can change rapidly and often.

The following are preliminary comments on each category.

2026: Nothing unusual except no closed line this year. Remember, as always, that zero in year hands (white dragon) has no suit. It can be used with any other suit.

2468: There are 3 non-concealed higher value lines (2,3, and 7) that are harder because they have multiple pairs or six flowers and four singles (2468). Note that 2 pairs of three flowers (line 7) is hard to implement correctly in an app, so watch out for bugs.

ANY LIKE NUMBERS: All lines are as hard or harder than 2025; and 2025 was already hard. A single set of six flowers, need I say more. Also, it has no closed hand to make it a little easier, I guess. The last line (3) may confuse some because they ran out of colors again. The green DD really should be some other color because its suit does not need to match the green 1111. You only know this because it says, “Any Dragon.” Note our JLMahJongg card display will show these “Any Suit” sets in purple. Tiles without a suit (Flowers, Winds) are shown in black in the JLMahJongg card displays. Line 3 was never used as a winning hand in any of the 12,000 games. This line is difficult to make due to the 3 pairs combined with 2 kongs. Part of the reason for the low ranking was this line was missing 24 of the possible unique hands that should have been generated. I will fix this in the next update.

QUINTS: Line 3 is relatively attractive because it is worth 40 points and has many unique hands (216). This is because the two quint sets can be any two unlike numbers. Quints line 3 ranked as the 8th easiest hand, pretty good for a quint. Probably because of all the other hands with six flowers or many singles and pairs.

CONSECUTIVE RUN: This category always has many of the easiest lines because the runs represent many unique hands. Line 2 stands out as the easiest hand by far with a 21%-win rating. Line 2 is similar to the 2025 card line 4, which was also one of the easiest. 2026 line 2 is even easier because it can be any three suits or all one suit. 2025 line 4 was only three suits. The combination of making this line easier and the other lines harder makes it stand out. Three singles in a run is easier to get than one might think. Line 6 has another 6-flower set that will get you 30 points.

13579: This category has two Concealed (C) lines and two harder eXposed (X) lines with value of 30. The higher-value lines, 3 and 7, each have three pairs. The NMJL doubled down on the “Floating Pair and matching Kongs” hands and included one as line 4 of this category. They added another “Floating Pair” in 369 line 5.

WINDS-DRAGONS: Line 2 is like 2025 line 2 and is again one of the easiest hands to make. I think the run of 4 singles and Pung of dragons is easier to make than the two pairs and run of 3 singles on the 2025 card.

369: This category ranks in the middle of the difficulty range. Line 5 is another “Floating Pair with matching Kongs” hand that also has a pair of flowers. This line type was new last year and tends to be confusing if you are not familiar with it. All the other lines are straightforward.

SINGLES AND PAIRS: These are all hard to make, as expected, but straightforward. Remember it is impossible to use jokers for any of these hands. Line 3 ranked the highest and was still only 45th out of 54 lines.

Getting Familiar with the 2026 Card

Of course, playing with the new card is a good way to get familiar with it. I will also suggest a few other ways here. You can play with real people or bots; either online or with an app. Some apps, including JLMahJongg, can give recommended hands. These suggestions can be both a blessing and a curse. They can help you learn how to recognize the best hands for a particular set of tiles. They can also help you learn when you should change hands (called pivoting). However, it is easy to get too dependent on these AI recommendations. The apps also tend to recommend the easiest hands to make and therefore do not necessarily make you familiar with all hands.

You can always try to make any hand from the 13 of 14 tiles you start with. Some hands will be easier than others depending on what tiles you pass and draw; and what other players do. When you have picked a category or hand(s) to try to make, your tile passing and discard choices tend to make the best hand or category converge to what you are trying to make. Someone complained about JLMahJongg saying they loved it at first, but it got boring because it was not random enough and they could predict what would happen. It took me a while to understand this complaint. While the dealt tiles are completely random (technically pseudo-random), the recommended best hands and how you play are not random. Some hands are more likely to be recommended than others. This is just a fact of the card and hand characteristics. The easiest hands should be about the same, both in the apps and in games with all real people.

In addition to playing with the card, here are some suggested ways to get more familiar.

1. Pick a few lines (hand patterns) on the card and try to determine how many unique hands the line represents. Try to write out all the possible 14-tile combinations that satisfy the line definition on the card. If you want, you can check your count using the JLMahJongg card editor. How to do this is described [here](#). Below is a definition of what is meant by “unique hands.” A line’s number of unique hands influences how many of your tiles are likely to match at the start of a game.

Unique Hands Definition and Example

Each card line is an example pattern that shows specific sets of 14 tiles giving you Mah Jongg. The category (Any Like Numbers, for example) and/or text next to the pattern give alternate ways the pattern can be used – typically saying “Any This” or “Any That.” If you take the text and the pattern(s) on the line and generate all the specific sets of 14 tiles that satisfy the requirements, the resulting number of ways to get Mah Jongg for that line is the number of “Unique Hands.” An example may make this clearer. Consider 2026, ANY LIKE NUMBERS line 1: g1111 FFFFFF r1111, where g means green and r means red, or in color, 1111 FFFFFF 1111. The form with colors specified with letters r, g, and b before the set is used by the JLMahJongg card editor. Flowers and winds don’t have a suit (ideally, they should be black not green, red, or blue). Two or three different colors mean two or three

different suits must be used for the number sets. Since this is a “Like Number” category (MJCL expander code L), the 1’s can be any number from 1 to 9. To simplify, just count hands for the number 1 and multiply the result by 9. It is important to note that the colors don’t mean a particular suit, just which sets need to be either the same or different suits. Writing out all the possibilities for 2 suits at a time:

1. 1111 (bams) FFFFFFFF 1111 (craks)
2. 1111 (craks) FFFFFFFF 1111 (bams)
3. 1111(bams) FFFFFFFF 1111 (dots)
4. 1111(dots) FFFFFFFF 1111 (bams)
5. 1111 (craks) FFFFFFFF 1111 (dots)
6. 1111(dots) FFFFFFFF 1111 (craks)

I intentionally picked a line that has hands that are not “Unique” to indicate what “Unique” means. Hands 1 and 2 are the same except the order of bams and craks is swapped. These two hands are really the same (not unique) because they are just the same tiles in a different order. This is also true for each pair of hands above, 3&4 and 5&6. Eliminating the “Non-Unique” or redundant hands and rewriting all the unique hands:

1. 1111 (bams) FFFFFFFF 1111 (craks)
2. 1111(bams) FFFFFFFF 1111 (dots)
3. 1111 (craks) FFFFFFFF 1111 (dots)

So, for ANY LIKE NUMBERS line 1, there are 3 “Unique Hands” per like number. The total number of unique hands is then 3 per like number x 9 possible like numbers = 27.

Remember the tile order does not make a difference to if it’s Mah Jongg or not (but if you put them in a different order than on the card (6202 instead of 2026, for example, other players will complain). Lines with more unique hands tend to be easier because there are more ways to make Mah Jongg. But the difficulty level also depends on the set sizes and values.

Notes: The JLMahJongg card editor shows the number of unique hands in a category and line by selecting a line in the edit mode.

There is an easy hidden way in JLMahJongg to see a card’s total number of unique hands. When a game is first started select the “Def” button to show the Defense display. This shows information you can know about your opponent’s hands based on what is eXposed, discarded, and in your hand. A number at the top of each opponent’s data column gives the total number hands they can still make based on what you can know. At the beginning of the game before any exposures or discards, this will be equal to the total number of unique hands.

Why I define “Unique Hands”: I define “Unique Hands” because it is relatively easy to calculate and represents the minimum number of different hands my app needs to store. This stored-hand database is used to verify Mah Jongg and to enable playing by the “bots.” There are other calculations that would be more directly related to how easy a hand is to make. One could calculate the number of

different combinations of different physical tiles that provide some number of matches to a particular Mah Jongg hand. This would be more closely related to the odds of making that hand.

- Use an app training feature to practice selecting hands and tiles to pass. JLMahJongg includes the ability to randomly deal you 13 or 14 tiles. You can try to select what line or category you would try to make and then check with what the app recommends. You can do this repeatedly with new random tiles without playing a full game. Example JLMahJongg Training displays are shown in Figures 1 and 2 using the Random Draw feature. The tile buttons for every tile type that take up most of the display are for entering a specific set of tiles to evaluate. The example shown here uses a randomly selected set of tiles. Figure 1 shows a display after selection “Random Draw”, sorting by suit, and “Show Pass.” The numbers above the tiles are the tile value rankings. The recommended tiles to pass are highlighted in blue. These are the tiles with the lowest rank. Lower ranked tiles are less useful for potential hands. Tiles in the best hand are ranked above 10.

You can see the best (recommended hands) by pressing the “Best” button. Figure 2 shows the resulting popup display. In this case category 2468 line 7 is best with 7 matches and 30.6% odds of getting Mah Jongg before the tiles run out. You can also show a display with the best hands in each category.

You should try to determine which tiles you would pass and what category/hand you would try to make before looking at the tile rankings and recommendations. Pressing “Random Draw” again will give a new set of tiles to practice on.



Figure 1. Training display with tile ranks and recommended tiles to pass shown



Figure 2. Training display with best hands shown.

3. Watch four computer players (CP or bots) play against each other using the JLMahJongg Demo feature. You can adjust the speed and select if the game stops the first time something new happens (step vs run). The demo can be used to watch what hands the CP's try to make. This is an easy way to get more familiar with the hands.

If you are glutton for Mah Jongg punishment, you might want to try the below suggestions. Part of the reason I recommend these is because one of the things that helps me most in getting familiar with a new card is figuring out how to code it into my app. This involves determining exactly what is meant by each line and determining what I call the "Expander Codes (EC)" used in my Mah Jongg Card Language (MJCL).

4. Read the Appendix C manual for the JLMahJongg Card Editor. Note the card editor is not required to play using the app. The card editor lets you define your own card or input a standard card. You don't need to enter the most recent standard NMJL cards because those are already available from the card menu. However, if you do enter a card yourself, you can view the card when playing the app. NMJL cards are not normally viewable in the app due to copyright restrictions. The JLMahJongg card view also has an option optimized for anyone colorblind.

Here are a few notes on using the card editor:

- a. The last entered category and line are highlighted in red. This means they are selected.

- b. You don't need the card entries under "Values" if they are the default of "X25"
 - c. F and D do not need to be capitalized
 - d. Make sure the line entry box is selected before entering a new line
 - e. You don't need to specify the default first set color of green (g). You only need to specify a color change once (all following sets will be the same color until another color change).
 - f. For example, the MJCL code for the first 2026 line is: 222 000 r2222 6666 X25 (in the code editor you don't need to enter the X25 because it is the default & spaces are optional)
 - g. You should name a standard card you enter something other than 2025 or 2026 to make sure the app will display it and it can be distinguished from the built-in cards in the card menu.
5. Try entering a few lines, categories, or the whole card using the JLMahJongg card editor.
6. Bonus: If you have The MAHJONG Line's "2026 Big Card," try entering that in the card editor. This will not make you more familiar with the 2026 NMJL card, but will help get familiar with cards in general, the Big Card, and the card editor. One thing I like about the Big Card format is that it doesn't repeat the redundant information about the number of suits in the parentheses. The colors of the sets tell you this already. Not including the number of suits text makes it clearer what is important about how the pattern is expanded. My next report will give statistics and expander codes for the "2026 Big Card."

Appendix A – Card Format Summary

American Mah Jongg Cards

There are many American Mah Jongg card alternatives. Players can use any card they agree on. The most-used cards are the yearly National Mah Jongg League (NMJL) Cards.

National Mah Jongg League Cards. NMJL Cards may be ordered online at www.nationalmahjonggleague.org or on Amazon (but be careful not to order fake NMJL cards on Amazon or elsewhere). NMJL has both regular-sized and larger print cards for slightly more. You can usually start ordering new cards near the beginning of the year. However, the new NMJL cards don't start being distributed until late March to April.

The hardest thing to learn is how to read a new Mah Jongg card. Here's an explanation of how to read a card. Each card defines all the different 14-tile hands achieving Mah Jongg (winning).

American Mah Jongg cards have several hand **categories, typically 9 or 10 (also called groups or sections)**. Common categories are: 2025, 2468, ANY LIKE NUMBERS, QUINTS, CONSECUTIVE RUN, 13579, WINDS-DRAGONS, 369, and SINGLES AND PAIRS. The categories can change from year to year. Usually, most of the specific hand patterns in each category DO change from year to year.

Under each category name are lines (also called hands) that define the specific Mah Jongg hands for that category. Each line contains 4 things from left to right:

- 1) 1 or 2 **EXAMPLES** of 14-tile patterns indicating 14-tile hands achieving Mah Jongg
- 2) In parentheses, instructions on how the above example pattern(s) can be expanded with alternate sets of 14 tiles that also represent Mah Jongg
- 3) An X (eXposed) or C (Concealed or Closed) indication for hands from that line
- 4) The base value for hands defined by the line. Harder hands typically have higher values.

Example Hand Pattern(s)

The example pattern(s), along with the instructions define what specific 14-tile hands qualify for Mah Jongg. A pattern can represent anywhere from one to hundreds of specific hands. Each pattern is made up of sets that are usually separated by spaces. Sets **ALWAYS** have multiples of the same exact tile. **If the values are different, it's different sets.** Often a run, year category, or wind category are not separated by spaces, but are still all singles (or pairs). For example, 123 is a run of three singles, 1, 2, and 3. More examples of all singles: NEWS, 2026, 2468, 369, EW. This example is 3 pairs: 336699.

Depending on the specific category, line, and instructions, each set may also take on different values from the example(s) shown (possibly different values, suits, winds, or dragons). Each set has a color. NMJL cards use 3 colors: Dark Blue (or Black), Green, and Red. The colors indicate if the sets need to be the same or different suits. Unless indicated otherwise in the instructions, sets with the same color must be the same suit and sets with different colors must be different suits. Note that the color does NOT indicate the specific suit (green is not necessarily bams). If all the tiles are the same suit on NMJL cards and the Big Card, the sets are all dark blue or black. If there must be 3 different suits, one set will be dark blue, one set will be red, and one set will be green. Sets in the same color must generally

be the same suit. Note that Flowers and Winds do not have a suit, so they are always dark blue (or may look black). Sometimes the instructions say a particular run or dragon (usually in dark blue) can be any suit. Dragon suits are usually indicated by color. One exception is the white dragon (usually called “soap”) when used as a zero. Number zero does not have a suit (if grouped with other numbers, the other numbers don’t need to be dots, the white dragon suit). Another exception is if it says the dragon(s) or other set can be any suit (then color doesn’t matter).

Instructions

To the right of the example pattern(s) are instructions in parentheses that hopefully clarify what is meant by the preceding pattern(s). Sometimes you need to ask for clarification from the creator of the card. Most NMJL instructions start with “Any Y suits” where Y is 1, 2 or 3. I have never seen a case where the number of suits part of the instruction is needed and is not redundant with the number of colors. The instruction of “Any Suit” is needed, if that is what is intended. Often showing a set that can be any suit in one of the suit colors (green, red & blue for NMJL) is confusing and you do need to read the instructions in this case. The rest of the instruction is usually needed to understand how the example pattern(s) can (or can’t) be expanded.

Sometimes the instructions start in the category name and apply to all category hands unless the instructions say otherwise (“These Nos. Only,” for example). This is true for “ANY LIKE NUMBERS” and “CONSECUTIVE RUN.” In these two categories you can think of the instructions as starting with the category name. In “ANY LIKE NUMBERS” the “1”s can ALL be replaced by any other single (alike) number (All 2’s, all 3’s, ... all 9’s). In “CONSECUTIVE RUN” a set sequence with increasing values starting at 1 can be replaced by sets starting at other numbers. For example, the three sets, 111 222 333, can be replaced by any three sets starting with any other number from 2 to 7. You can’t start at 8 or 9 in this case because you would run out of numbers. You also can’t start or end with zero (You just can’t). Because set order doesn’t matter until you claim Mah Jongg, technically you can order the sets going either up or down in your hand before you have called Mah Jongg. But you should put them in the expected order when claiming Mah Jongg.

Values of Hands

Each hand listed on the card has an assigned base value, most often 25. The value determines how many points or money a winner gets with that hand. The values are doubled for all players if the winning tile is picked from the wall rather than called. If a tile is called for Mah Jongg, only the person discarding the winning tile pays double. Except singles and pairs hands on NMJL cards, values are also doubled for winning hands that are jokerless. The value is four times the base value from all players if both jokerless and picked on your own tile for Mah Jongg.

Appendix B – Terminology and Common Mistakes

This appendix explains some of my terminology and the top 3 mistakes I see made and asked about.

Terminology:

I make a distinction between “lines” and “hands.” The “lines” are the example patterns on the card (1 or 2 on each card line). A hand is a specific set of 14 tiles that qualifies for Mah Jongg. Each line on the card can possibly represent many hands. The example pattern(s) on the line can be expanded according to what is written next to the pattern(s) in parentheses. The instructions in parentheses correspond to what I call “expander codes.” The expander codes determine what additional hands qualify for Mah Jongg in addition to the example pattern(s) shown on the line. The Mah Jong Card Language (MJCL) used by the JLMahJongg card editor uses the lines as written on the card and the expander codes to automatically generate all the possible hands.

Each pattern and hand is made up of some number of sets; all sets always add to 14 tiles total. A set is one or more tiles that are exactly the same (can’t be different suits if they are the same number). Names for different set sizes: 1=Single, 2=Pair, 3=Pung, 4= Kong, 5=Quint, 6=Sextet? (not sure about name for 6, first time I’ve seen is on the 2026 card).

Common Mistakes:

1. Thinking you can use a joker in a single or a pair set. You can’t, ever. Even for Mah Jongg. Runs of singles are all singles, **can’t** use joker(s). SINGLES and PAIRS category hands are **ALL** singles and pairs, **can’t** use joker(s). 2026 is all singles, **can’t** use joker(s). NEWS is all singles, **can’t** use jokers.
2. Thinking you can call a tile for a single or pair set that is not for Mah Jongg. See 1 above for examples of single and/or pair sets. You **can’t** call a tile for any of these unless for Mah Jongg. Note: JLMahJongg intentionally lets beginner-level players try to call any tile, even if for a single or pair and not Mah Jongg. If you try to call a tile you can’t call, JLMahJongg will explain why you can’t and let you cancel the call. In a real game, you would have to be able to use any called tile correctly in some hand or your hand would be dead. At levels above beginner, JLMahJongg does not let you call tiles that you can’t call to speed up the game. American Mah Jongg is set based. A set is one or more of the same exact tile. You can NEVER call a tile (eXpose) for a run unless it is for Mah Jongg. A run always has more than 1 different tile. To help avoid confusion, American Mah Jongg does not use a term for run of 3 singles. In other Mah Jongg variants, a run of 3 singles in the same suit is called a “Chow.” If American Mah Jongg gave it a name you would be more likely to think you can call and expose it (other than for Mah Jongg).
3. Forgetting that you are playing a concealed (closed) hand and calling a tile that is not for Mah Jongg. I’ve seen many cases where people ask why they didn’t have Mah Jongg and they had eXposed a set and later tried to call Mah Jongg for a Concealed hand.

Appendix C – JLMahJongg Card Editor Manual

JLMahJongg lets you create your own winning hands list (cards) used to play American Mah Jongg. You can define two types of cards: 1) National Mah Jongg League (NMJL) Standard, and 2) Custom (anything else). You can only store one of your own of each card type, standard and custom, at a time. Note that deleting the browser storage (cookies) will delete the card data for the browser version and you will have to enter the card again. Card data for the standard 2025 or 2026 cards can be selected without using the card editor. However, you will not be able to view a standard NMJL card in the app unless you enter it using the card editor. You can still play using your NMJL cards.

The host can send a custom card automatically to other players.

I define a language called Mah Jongg Card Language (MJCL) that is used to enter custom or standard cards into JLMahJongg. This language and how to enter cards are described in this appendix. I have attempted to make the card language match the standard card format as closely as possible. It can take less than 15 minutes to enter a card. Once a card is entered, it is available to view in the app in future games.

A card has 3 things: 1) card name, 2) card categories, and 3) lines in each category. You enter these into JLMahJongg using its Card Editor. Most of what you input defines the lines on the card.

Each line can have either 1 or 2 base patterns that define the winning hands for that line. The base patterns are what you see on a standard printed card. Each base pattern contains sets of tiles. The number of tiles in each base pattern must equal 14, the number of tiles in a winning hand.

Each line contains the following:

- A) Sets in the hand – each set has a specified number of tile types. Tile types are: numbers 1 to 9; Dragons, D for any suit, or G for Green, R for Red, and 0 (zero, not O) for White; Flowers, F; and Winds, N E W & S. Numbers and dragons have suits that must be specified if the sets are not all the same suit. Flowers and winds do not have a suit, so no suit specifier is needed for these. There can be up to two base patterns on a line that are separated by either the OR character (| “the shift \ on the keyboard”) or the letter o (lower case O). Note that spaces can be used to make the sets and lines clearer, but are not needed.
- B) Expander codes – expander codes indicate how the base pattern of sets is repeated to generate multiple hands represented by the base pattern. The codes correspond to some of the text in parentheses on a standard card line.
- C) Exposed (X) or Closed (C) hand indicator (**NOTE: X must be upper case**)
- D) Base hand value

Specifying suits. The number of specific suits is specified by indicating each set’s color by preceding it with a letter for the color: green (g), red (r), or blue (b). The default color is green (g) and does not need to be entered if it is the first color. Sets with different colors need to be different suits. Sets with the same color need to be the same suit. The suit starts out as the default, green, if it is not specified. The suit will stay the default until a new color is specified on the line. If a set needs to be specified as a specific suit, it can be

preceded by a specific character for the suit (m=bam, c=crak, d=dot). NOTE: Bam is NOT “b” because “b” is used for blue. Specific suits are rarely used on standard cards (other than 0 for white dragons in year sets).

Expander Codes. The expander codes cause the pattern to be replicated according to the expander code (except the default T=These numbers only). This corresponds to some of the wording explaining the line on standard cards. The expander code options are:

T = These numbers only – does not expand (default),

Ichr = Like singles defined by chr (the single set marked by the first character in chr will also be replaced by all the following characters in chr. For example, INEWS (chr=NEWS) replaces a single North, N, with the additional winds E, W, and S.

The below expanders work similarly to the above Ichr for different size sets:

Achr = Like pairs defined by chr,

Pchr = Like pungs (sets of 3) defined by chr,

Kchr = Like kongs (sets of 4) defined by chr,

Qchr = Like quints (sets of 5) defined by chr,

Zchr = Like (any set sizes) - any set sizes defined by chr, (for example, ZENWS, replace any set sizes of E with the additional winds N, W, and S,

Lchr = Like numbers (replaces pattern number 1 (or 2 if even numbers) by 1 to 9, or if chr is “o” or “e” replaces by odd or even numbers only),

Uchr = Unlike number sets (chr = I, A, P, K, or Q followed by the 2 tile types replaced by the unlike numbers). For example, **UK18** means kong sets with 1’s and 8’s replaced by any 2 unlike numbers between 1 and 9),

Vchr = Consecutive run (replaces consecutive number runs starting with 1 (or 2 if even run) by all possible runs up to ending with 9). Can use chr as “a,” “o,” or “e” for all, odd, or even number runs.

***snum** = Wild card for suit on sets in the list given by snum. Note that the set number starts at zero and only sets up to number 9 (single digit set number) can be set as a wild suit (any suit). This expander code is used along with the code, “a” before the sets that can be any suit. This “a” code shows the “wild” sets that can be any suit in color purple. Note: this should be the first expander code if there are more than one.

>chr = Replace a specific set number with a set of alternate values. The code, chr, is the set number to be replaced followed by the values to replace (see comments on * above).

Ychr = Replace pairs after the first pair with the specified value. The code chr can be “o” for odd numbers, “e” for even numbers, or a specific set of values.

Hchrs = Set each of the set numbers in the range defined by chrs to a pair, one at a time. Each of the other sets in the range is set to a single. The first set in the range needs to be initialized to a pair. Following Kongs match the number of the pair.

= Sets of different numbers are used in any order, regardless of set size. Currently implemented only for 3 different number sets (for example, 3,6,9).

~ = Opposite winds (if have NN and SS, replace with EE WW or vice versa).

!chrs = restrict like numbers, unlike numbers, or a run to only numbers in chrs. Note that this is not a separate expander stage (limited to 2 stages), but modifies a like, unlike, or run stage. This code must come first before any other expander codes.

For some examples of how these expanders are used, see the below values for the 2026 card. If you are brave enough to try to use our card editor and Mah Jongg Card Language (MJCL) to enter the 2026 card, here are some expander code hints:

2468 lines 6&7: K2468

Any Like Numbers line 3: *4 L

Quints line 3: UQ14

13579 line 4: H01234

Winds – Dragons line 2: *0123

Winds - Dragons line 3: Lo

Winds - Dragons line 4: Le

369 line 5: H123

Current Expander Code Restrictions: I sometimes don't implement an expander code combination until it is needed for a specific standard or custom card we are supporting. The editor is limited to 2 sequential expander stages. A single first stage can be any of the expander options. The L and Y stages cannot currently have a second stage. The only expander options that can currently be used for a second stage are: K, V, Z, U, *, L, and Y. If two stages are used sequentially, the order should not matter if the above two restrictions are satisfied.

Example Card Definition. Below is the MahJongg Card Language code for the JLMahJongg Basic1 card.

Basic1

"2468"

FF 222 444 666 888 X25

222 4444 r666 8888 X25

22 444 r66 888 bDDDD X30

"Like Numbers"

FF 1111 NEWS DDDD L X25

FF 1111 NEWS r1111 L X25

FF 1111 r1111 b1111 L X25

"Consecutive Run"

111 222 333 44 DDD Va X25

111 2222 r333 4444 Va X25

FFF 1111 r2222 b333 Va X25

"13579"

11 333 5555 777 99 X25

11 333 55 r55 777 99 X25

FF 111 r33 55 77 b999 X30

"Winds/Dragons"

NNNN EEEE WWWWW SS X25

FF 111 DDD rDDD bDDD Va X25

FFFF EEE 1111 WWW V X25

FFF DDDD rDDD bDDDD X25

FF NNN EEE WWW SSS C30

"369"

FFF 333 6666 9999 X25

333 6666 r666 9999 X25

FF 333 666 999 DDD X25

"Singles & Pairs"

FF 11 22 33 44 55 66 Va C50

NN 11 22 33 44 55 66 Va C50

SS 11 22 33 44 55 66 Va C50

DD 11 22 33 44 55 66 Va C50

The Basic1 card that this code produces is:

Basic1 Mah Jongg Card

| | | VALUES |
|--|---|--------|
| Category 1: 2468 (Even Numbers) | | |
| Line 1:FF 222 444 666 888 | (any 1 suit) | X 25 |
| Line 2:222 4444 666 8888 | (any 2 suits) | X 25 |
| Line 3:22 444 66 888 DDDD | (any 3 suits) | X 30 |
| Category 2: Like Numbers | | |
| Line 1:FF 1111 N E W S DDDD | (any 1 suit, matching Dragons) | X 25 |
| Line 2:FF 1111 N E W S 1111 | (any 2 suits) | X 25 |
| Line 3:FF 1111 1111 1111 | (3 suits) | X 25 |
| Category 3: Consecutive Run | | |
| Line 1:111 222 333 44 DDD | (any 1 suit, any 4 cons. #'s, matching Dragons) | X 25 |
| Line 2:111 2222 333 4444 | (any 2 suits, any 4 consecutive #'s) | X 25 |
| Line 3:FFF 1111 2222 333 | (3 suits, any 3 consecutive #'s) | X 25 |
| Category 4: 13579 (Odd Numbers) | | |
| Line 1:11 333 5555 777 99 | (any 1 suit) | X 25 |
| Line 2:11 333 55 55 777 99 | (any 2 suits) | X 25 |
| Line 3:FF 111 33 55 77 999 | (3 suits) | X 30 |
| Category 5: Winds/Dragons | | |
| Line 1: NNNN EEEE WWWW SS | | X 25 |
| Line 2:FF 111 DDD DDD DDD | (any No., 3 dragon sets, 3 suits) | X 25 |
| Line 3:FFFF EEE 1111 WWW | (any No., any 1 suit) | X 25 |
| Line 4:FFF DDDD DDD DDDD | (3 suits) | X 25 |
| Line 5:FF NNN EEE WWW SSS | | C 30 |
| Category 6: 369 | | |
| Line 1:FFF 3333 6666 9999 | (any 1 suit) | X 25 |
| Line 2:333 6666 666 9999 | (any 2 suits) | X 25 |
| Line 3:FF 333 666 999 DDD | (any 1 suit, matching Dragons) | X 25 |
| Category 7: Singles & Pairs | | |
| Line 1:FF 11 22 33 44 55 66 | (any 1 suit, any 6 consecutive #'s) | C 50 |
| Line 2:NN 11 22 33 44 55 66 | (any 1 suit & North, any 6 consecutive #'s) | C 50 |
| Line 3:SS 11 22 33 44 55 66 | (any 1 suit & South, any 6 consecutive #'s) | C 50 |
| Line 4:DD 11 22 33 44 55 66 | (any 1 suit, any 6 cons. #'s, matching Dragon) | C 50 |

Card Editor Interface

The card editor is accessed from Advanced Setup by pressing the “Card Editor” button. The “Card Editor” button will only be available if your skill level is set to higher than “Beginner” and you are not currently in a game (may need to enable the network).

A card editor display will be shown. What is shown depends on the number of previously-stored cards. If no cards are saved (first time using the editor), then a blank editor is shown as in Figure E2. The editor starts with three drop-down boxes:

- 1) Card Type – Either “Standard” or “Custom”: Determines type of card being created or edited.
- 2) Mode – Either “Enter” or “Edit”: Determines if you are entering new categories or lines (Enter) or editing an existing category or line (Edit).
- 3) View – Either “Code” or “Card”: “Code” view shows the MJL code as entered or “Card” view shows what the card will look like when viewed in the game or printed.

Depending on your device type and operating system, your display may not look exactly like the ones shown here. In particular, the drop-down boxes might not show the down arrow on the right indicating it has a drop-down menu. Even if the arrow is not shown, you can still click in or select the box to show the menu.

The “Close” button in the middle closes the editor window and returns to the lobby.

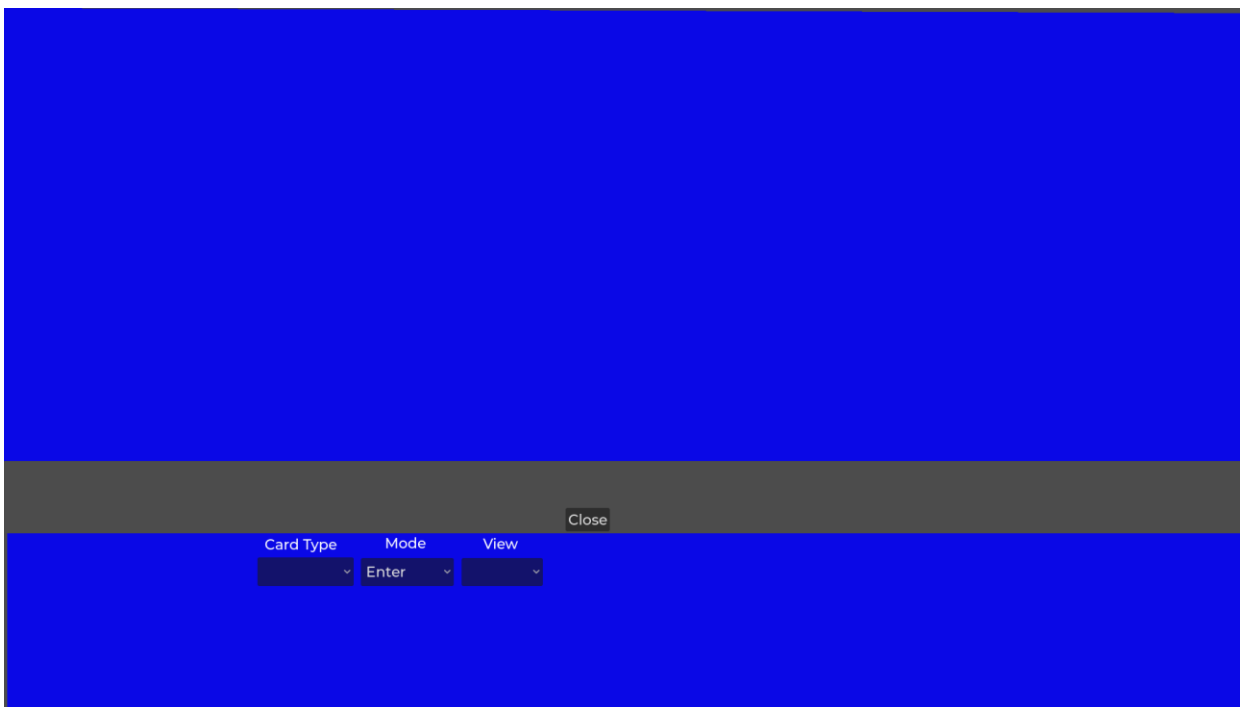


Figure E2. Card Editor Screen with No Saved Cards.

To start entering a card, first select the card type from the “Card Type” drop-down box. You can select either Custom or Standard. Figure E3 shows the display after selecting a standard card. The process for entering and editing standard and custom cards is the same.

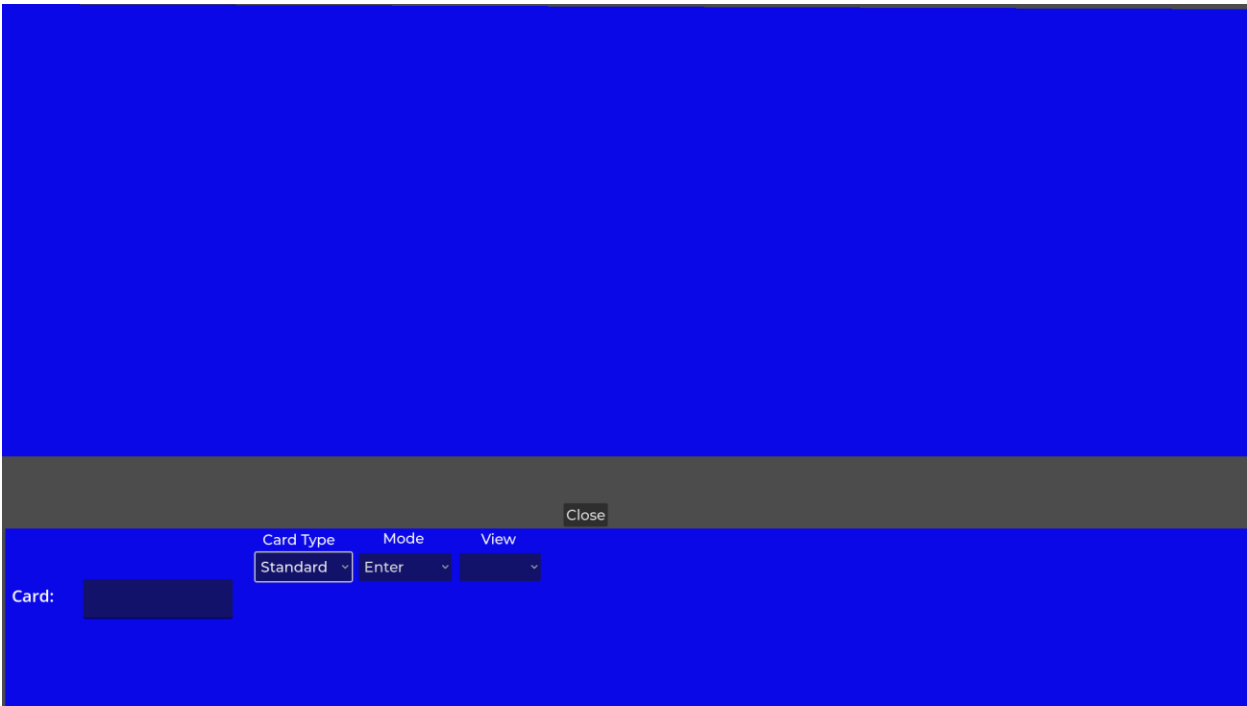


Figure E3. Editor with Standard Card Selected, Ready to Enter Card Name.

Next enter the card name in the Card box and press Enter. For this example, we show starting to enter a “2024” card. The display after entering the name is shown in Figure E4. Note that the editor mode is set to “Enter.” The “Enter” mode is used when adding new categories or lines to a card.

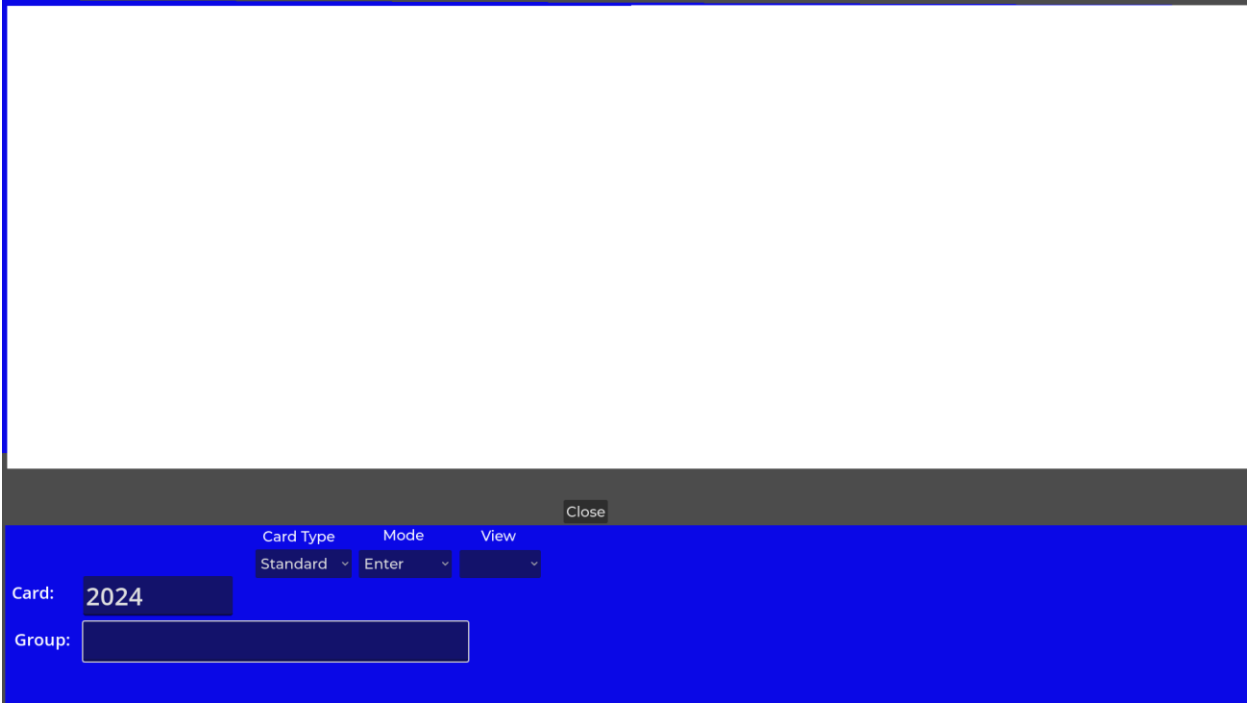


Figure E4. Example Card Editor Standard Card Entry with Card Named “2024”.

Next enter the first category name in the Category box and press Enter. The first 2024 card category is called “2024” and is shown entered in Figure E5.

The editor mode has automatically changed to “Edit”.

Also, the “View” has automatically been set to “Code.” There are 2 view types: 1) Card, and 2) Code. The Code view shows the Mahjongg Card Language code as you have entered it. The “Card” view shows how the card will look when formatted for display/printing or during play. You can switch between Code and Card view at any time using the drop-down box under “View.” You can use either view, but Code view is more useful for creating or editing a card.

Buttons named “Codes” and “Process” buttons are now shown. The “Codes” button pops up a reference list of expander codes. An example is shown [here](#). The “Process” button evaluates the card and generates the number of unique hands defined by the whole card, each category, and each line. These values are displayed when a line is selected if the card has been processed. You only need to use the “Process” button if you want to see these card statistics. An example is shown [here](#). The “Process” button is shown here because you can see the card statistics for this 1-line card. A card with a single category and line is a valid card.

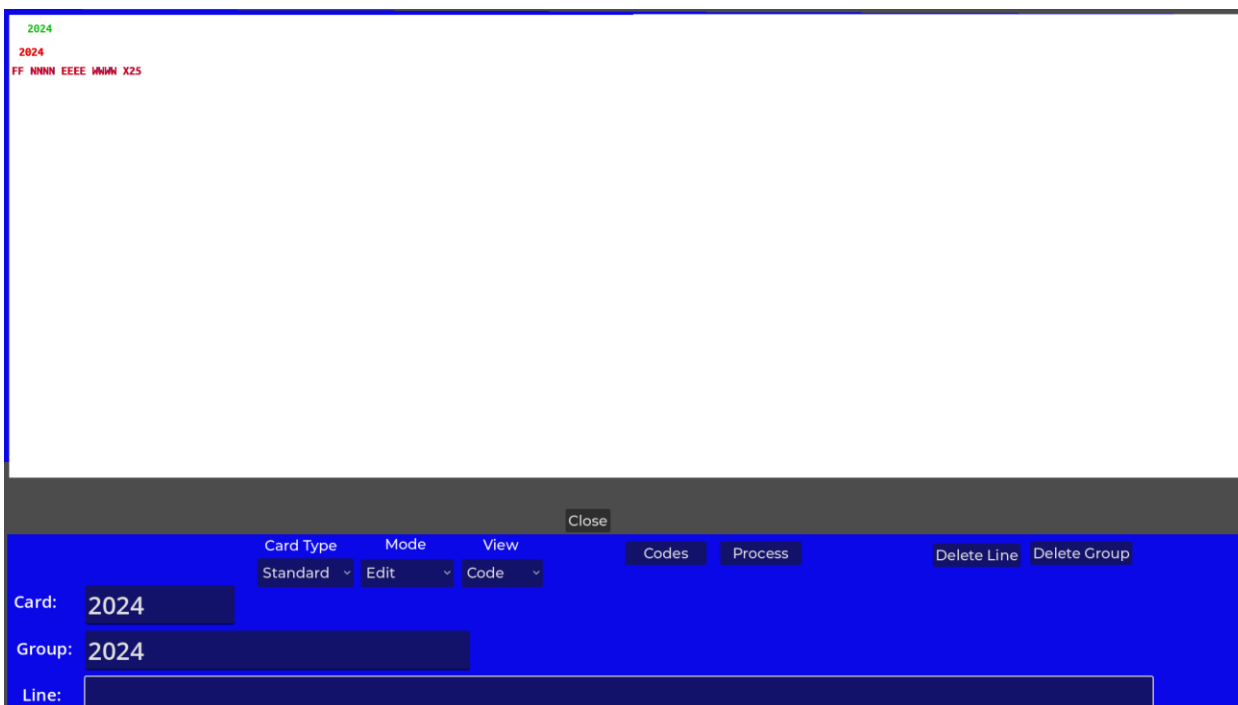


Figure E5. Card Editor after the First Category Called “2024” is Entered.

When the new category name is entered, the category and a default line are shown in the card display at the top. The default View when entering a new card is “Code” view. The purpose of the default line is to make sure you can select the 2024 category. Only lines can be selected, not categories. To select a category, you must click on a line in that category. Therefore, all categories must always have at least one line. If a category without a line were created and then a different category was selected, it would not be possible to edit or delete the empty category, and you would need to delete the whole card and start again. The default line prevents this potential problem. The default line is “FF NNNN EEEE WWWW X25”. When the new category is entered:

- 1) The selected category and a blank line are shown in the “Category:” and “Line:” boxes, respectively.

- 2) The empty Line: box is selected so it is ready to accept a new line.
- 3) The Code display shows the new category and line in red, indicating they are the current selection.
- 4) Buttons called “Delete Line” and “Delete Category” are now shown.

The default line is not what we want, so we need to change it to the actual first line. You just need to enter the line you want to replace the default line and press Enter. The resulting display before pressing Enter is shown in Figure E6.

Because a specific line and category are selected, they can now be deleted, if desired. If there is only one line in a category, deleting the last line deletes the category.

We need to change the default line to the actual first line of the 2024 category on the 2024 card. This first line is: “222 000 r2222 4444 X25”. The only difference between this code and the actual line on the card is that the letter “r” is used to indicate the sets following the “r” are red (they are printed in red on the physical card). The “X25” on the line is the default, so that does not need to be typed in.

Figure E6 shows this correct first line typed in, but not entered yet. Figure E6 is before the line is entered by pressing Enter. You can modify the line until you enter it.

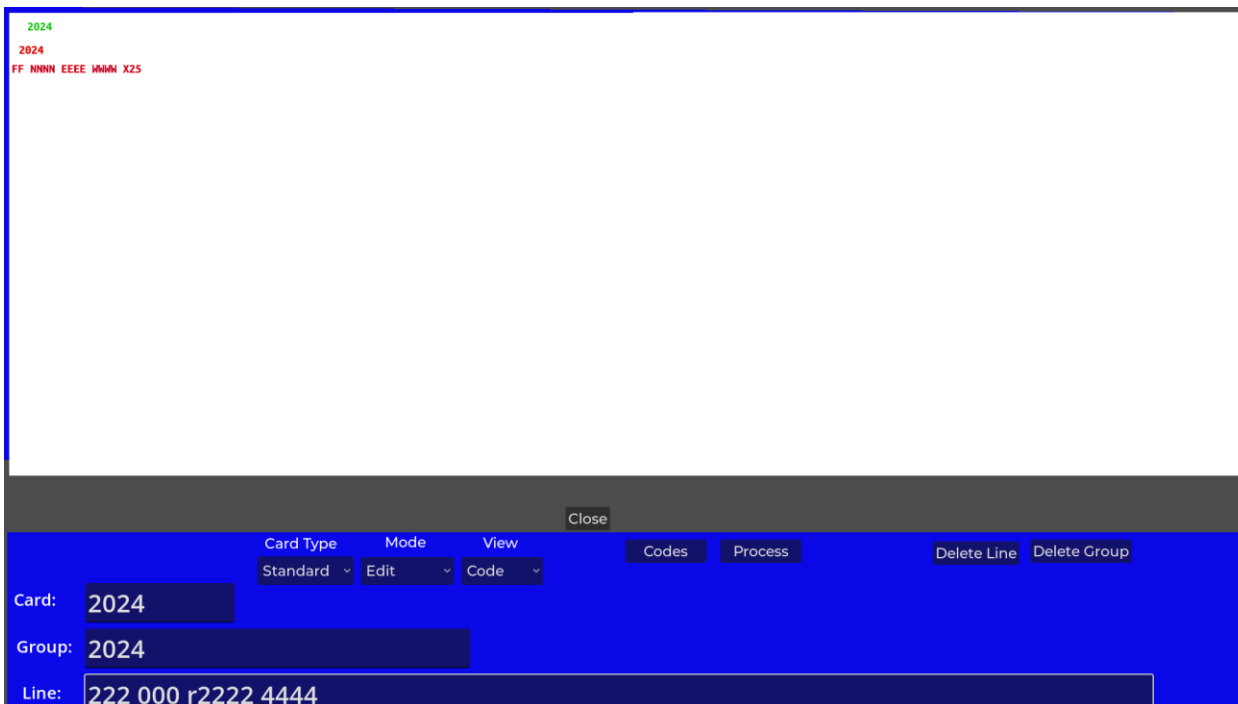


Figure E6. After Typing the New Line but not Entered Yet.

Figure E7 shows the display after entering the first line shown in the “Line:” box of Figure E6. The correct line is now displayed in the Code view, the mode returns to Enter, and the “Line:” box is cleared. The editor is now ready to accept additional lines for this new category.

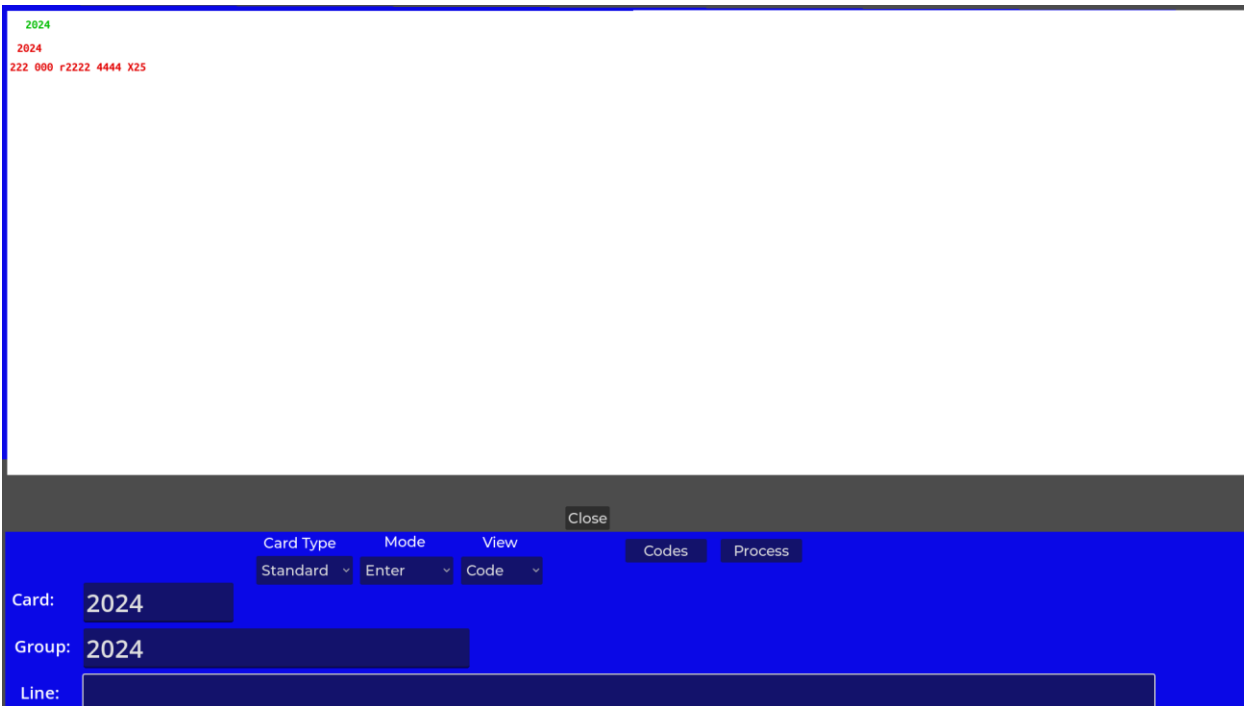


Figure E7. Card Editor after Entering the New First Line.

You can continue entering more lines by entering additional lines in the “Line:” box. Note that after each new line entered, you need to click again in the “Line:” box before entering the next line. (I haven’t figured out how to fix this yet.) We’ll show adding the 2nd 2024 category line, “FFFF 2222 0000 r24”. The resulting display is shown in Figure E8.

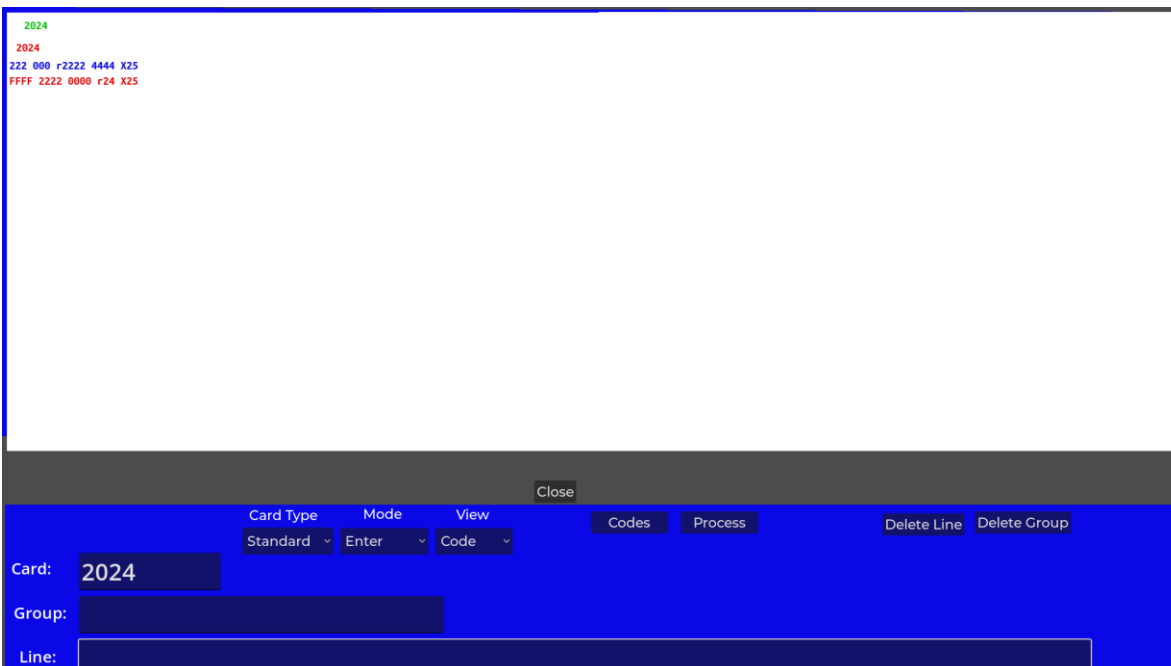


Figure E8. Card Editor with 2 Lines Entered.

If you select the “View” drop-down and then select “Card”, the display looks like Figure E9. The card view looks like a printed card would look. The sets are shown with the correct colors that indicate how many different suits are used.

This “Card” view for the card in use can be popped up during a game using the menu option “View Card”.

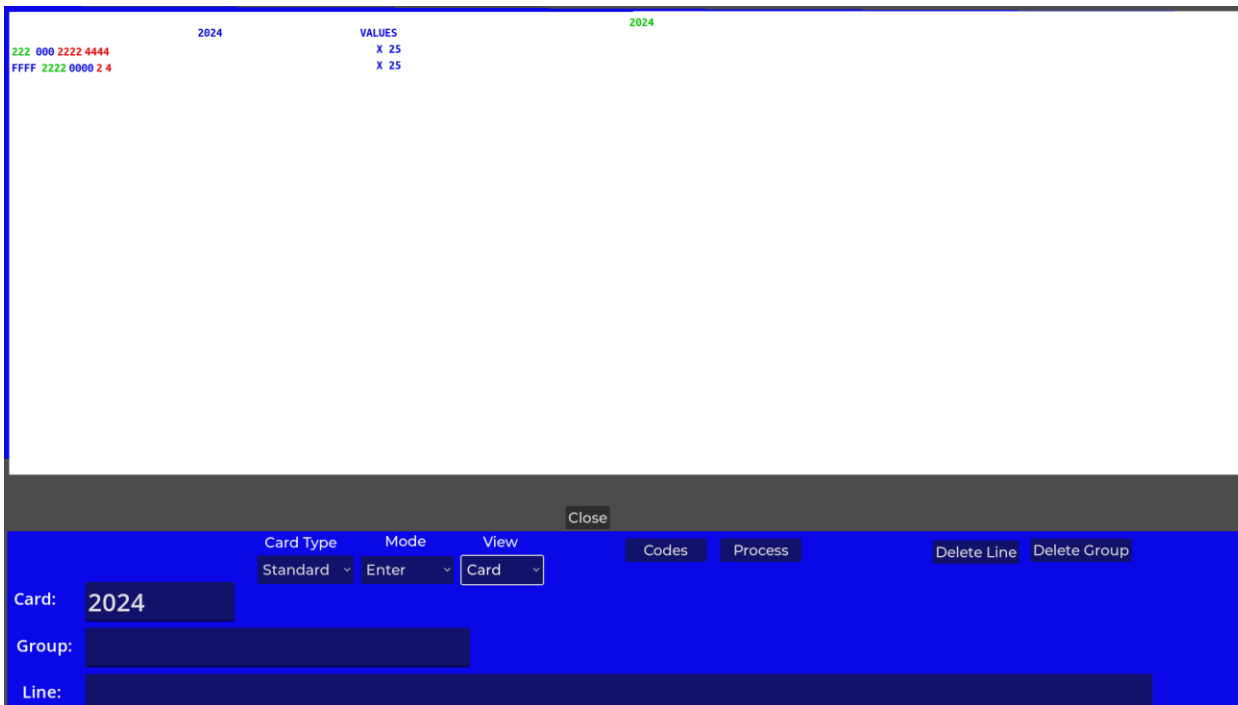


Figure E9. Example Card View (only 2 lines).

The other thing you need to do to enter a new card is add additional new categories. Without adding the rest of the lines for the 2024 category, we’ll show how to add the next category, “2468”. You can do this in either view, but we recommend entering new code in “Code” view. When in the Enter mode and the last line is selected (as in Figure E8), to enter a new category at the end, add the new category name in the “Category:” box. You can only enter either a new category or a new line – you can’t enter both a new category and a new line at the same time. To enter the new category name, click in or select the “Category:” box and enter the name, “2468” in this case. Press Enter to enter the new category name and create the new category. The result is shown in Figure E10.

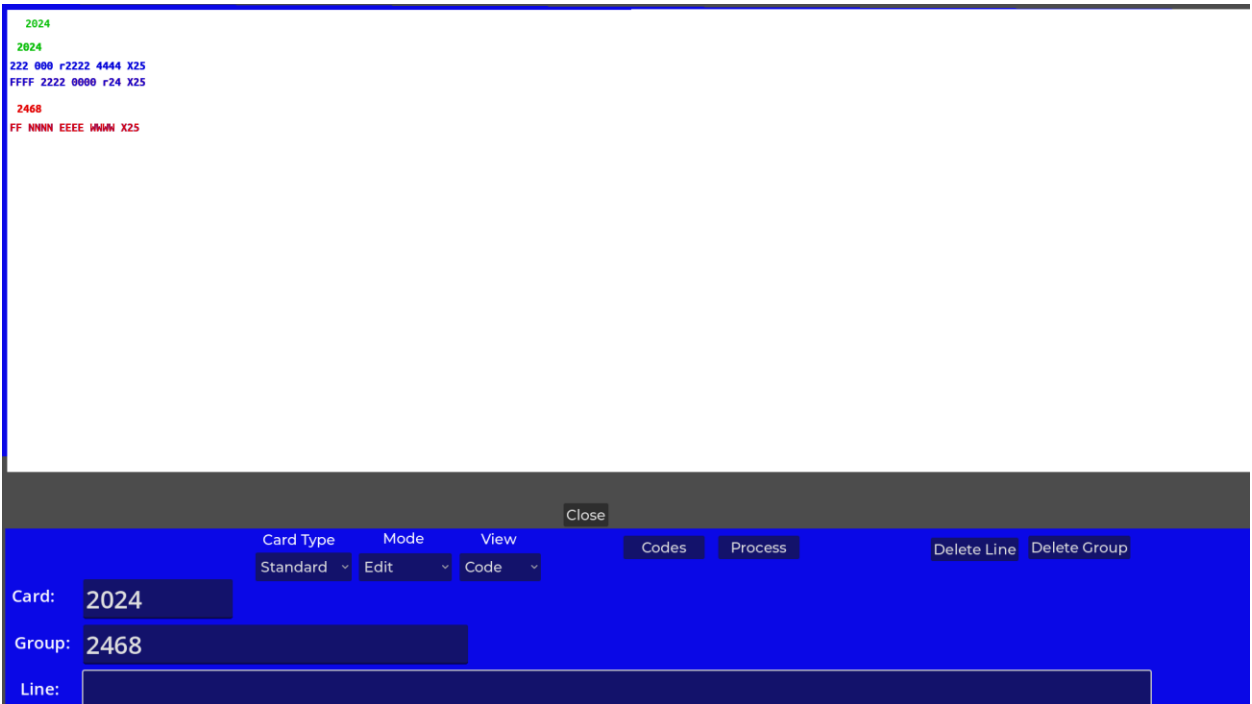


Figure E10. *Second Category Added.*

As in the first category, type the first line of the second category and press Enter. The result is shown in Figure E11.

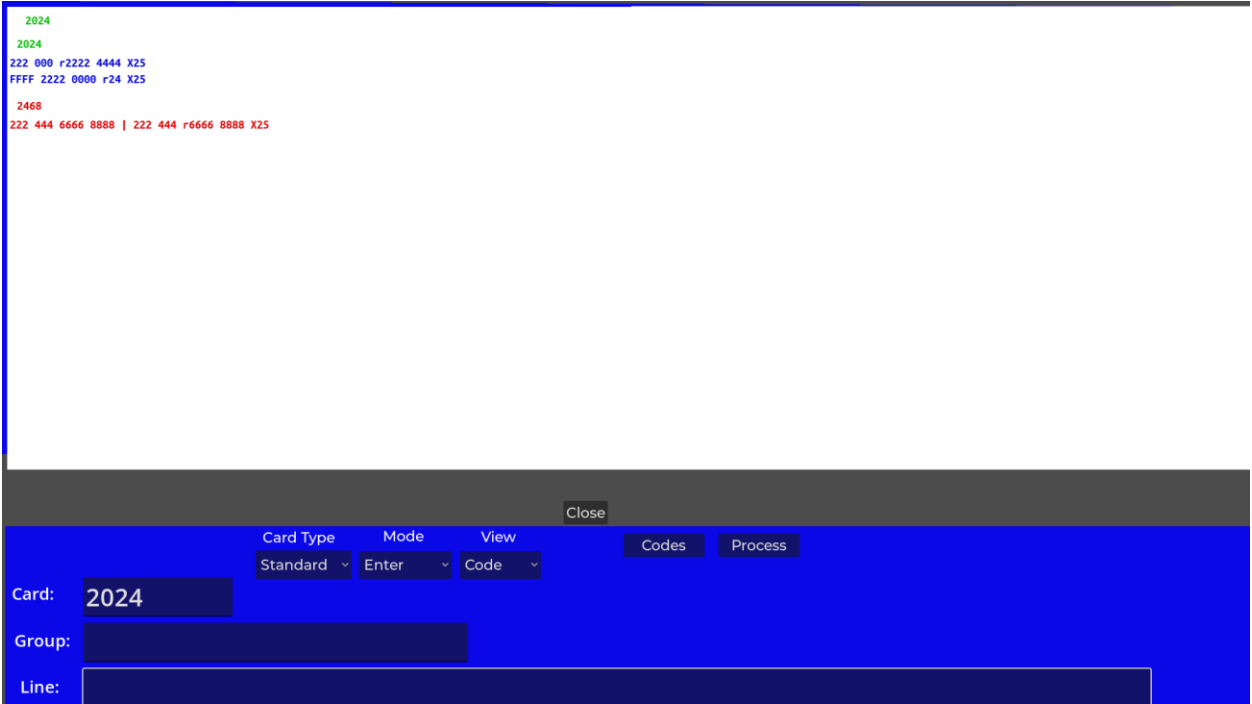


Figure E11. *First Line of Second Category Added.*

To finish adding the rest of a new card, repeat the same steps above until all categories and lines are entered. When you are done, just close the editor. The card is automatically saved whenever you make a change. The card will be automatically processed, if necessary. What you see in the View display is what is stored.

General notes about using the editor:

1. The card is automatically saved every time you make a change.
2. The “Codes” button pops up a reference list of expander codes
3. The “Process” button calculates how many unique hands are produced by each line. After processing is complete, the editor will show the number of unique hands generated by each line, category, and the whole card. To see these numbers, select a line. You don’t need to “Process” unless you want to see these card statistics.
4. Most line entries can be entered in either lower or upper case with the following exceptions: X for eXposed needs to be upper case and x for multiply needs to be lower case; o for odd is lower case, e for even is lower case, E for East is upper case.
5. The X or C designating either an eXposed or Closed hand and the hand value default to “X 25.” You only need to enter these if they are different than the default.
6. Press the close button to close the editor window and return to the lobby.
7. The “Line:” box must be reselected after each new line is entered.

Starting the Editor with an Existing Card to Modify the Card or Correct Mistakes

When the editor starts with one (standard or custom) saved card, the editor shows that card. When the editor starts with two (standard and custom) saved cards, the editor shows the standard card. You can switch to the other type of card using the Card Type dropdown.

An example after opening with an existing custom card is shown in Figure E12. The editor opens in Edit mode and Card view. There are 3 things you can do to an existing card:

- 1) Change or correct an existing category, line, or the card name
- 2) Add a new category or line
- 3) Delete a category, line, or the whole card.

The following describes editing an example existing card named “CardEx”.

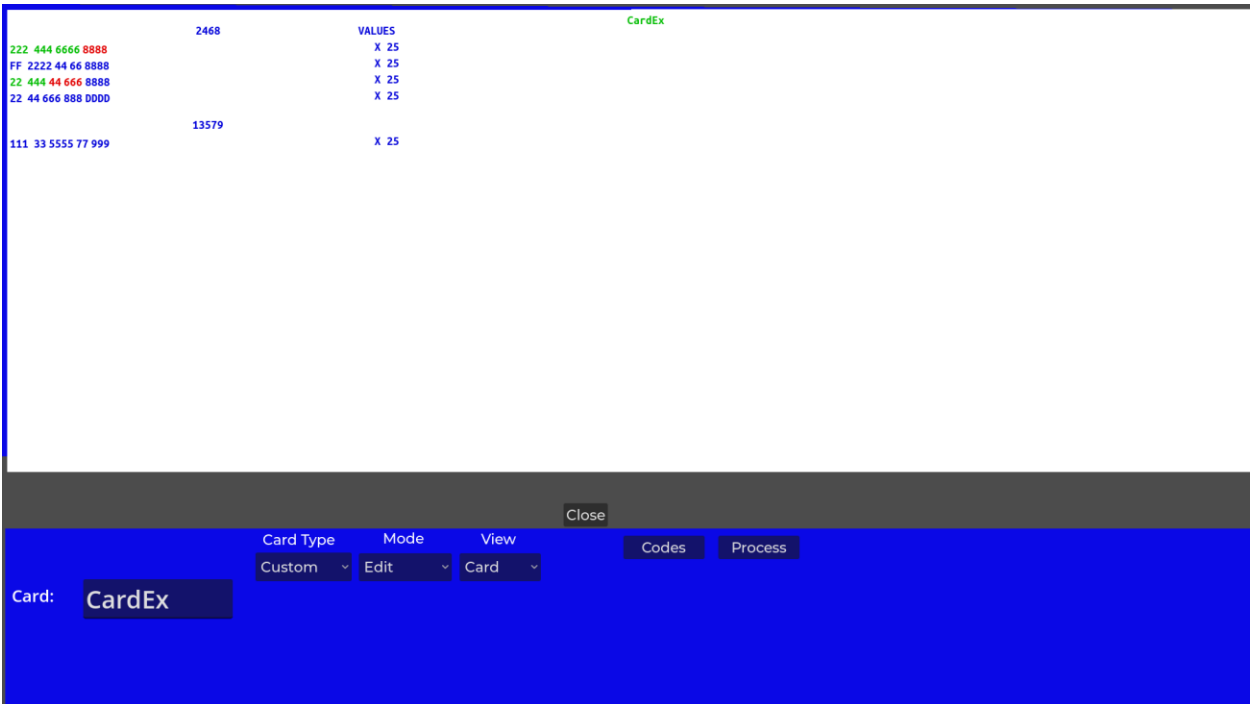


Figure E12. Example Existing Custom Card in Card View.

Changing a Category or Line

To change an existing category or line, first select the category and line either by selecting the left set when in card view or the line when in code view. If you select the third line of the 2468 category, the card display is shown as in Figure E13. The selected category and line are shown in the Category: and Line: boxes.



Figure E13. Display after selecting the 3rd Line.

For example, if we want to make the blue 8's in this line red, we can remove the "b" before the 8888 in the line code. To do this just edit the text in the "Line:" box and press Enter. The display changes to that shown in Figure E14. The blue 8's in the third line are now red.



Figure E14. Display after changing the blue 8's to red 8's in the 3rd line.

After entering the change, the editor is ready to enter a new line after the changed line. In the Card view, you can no longer see which line is selected until a line is selected again. If you enter a new line at this point, the editor will switch to code view and show the new selected line in red.

Changing the Card Name

To change the card name:

1. Enter the new card name in the "Card:" box and press or select Enter.

Entering a New Category

To enter a new category:

1. Select the last line of the last category for a category at the end or select any line in the category after where you want the new category otherwise,
2. Change to enter mode with the Mode drop-down box,
3. Type the new category name in the Category: box and select or press Enter,
4. Modify the placeholder line, "FF NNNN EEEE WWWW", that is added with the new category.

Entering a New Line

To enter a new line:

1. Select the line before where you want the new line
2. Change to enter mode with the Mode drop-down box,
3. Type the new line in the Line: box and select or press Enter.

Figure E15 shows the display after entering “DD NNNN EEEE WWWW” as a new line in the middle of the “2468” category. Note that this line was entered manually, not as a new category placeholder line.

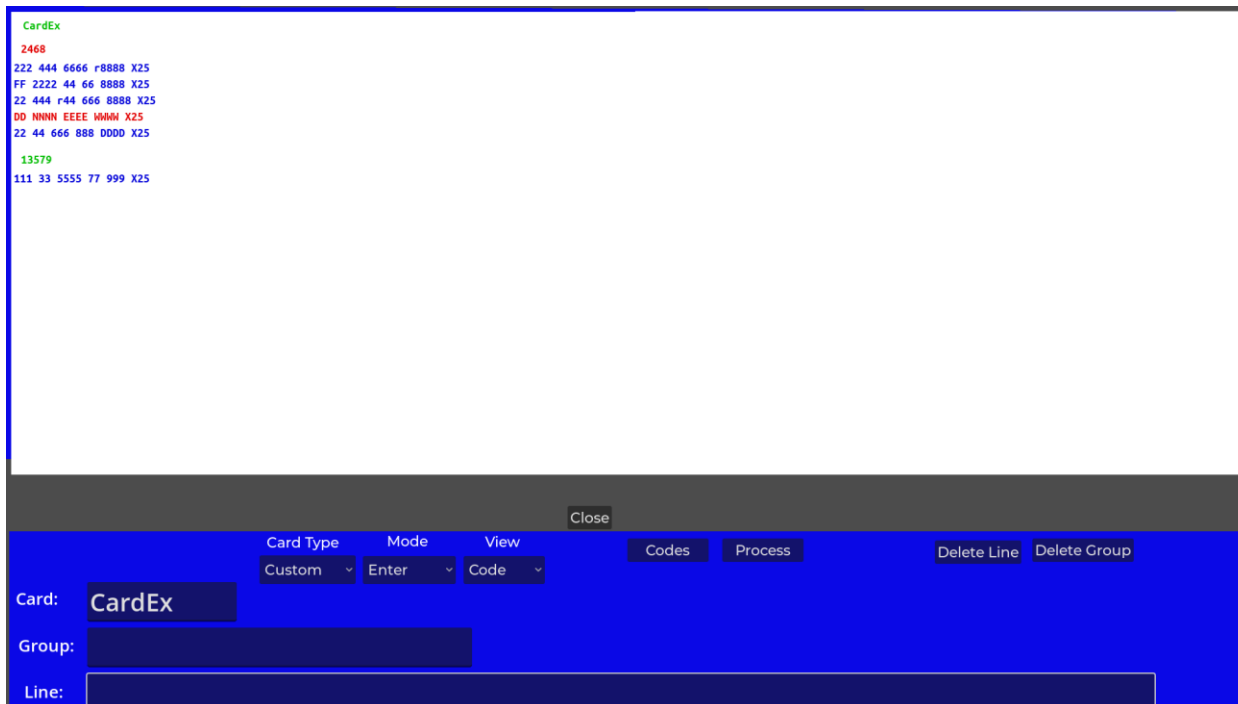


Figure E15. *Display after Inserting a New Line.*

If done with this card, press the “Process” button. The “Process” button converts the card code into a form that the app can load quickly and generates statistics about the card. When processing is complete and a line is selected, the number of unique hands defined by the card, the selected category, and the selected line are shown as in Figure E16. In this simple example, there are a total of 24 unique hands defined by the card, 21 by the 2468 category, and 6 by the selected “22 444 r44 666 8888 X25” line. This selected line corresponds to 6 unique hands because there are sets which must have 2 different suits out of the 3 possible suits (bams, craks, or dots). The 6 possibilities are: 1) bam, crak, 2) crak, bam, 3) bam, dot, 4) dot, bam, 5) dot, crack, 6) crack, dot. Note that swapping the suits (bam, crak vs crak, bam for example) is not the same hand because the 1st suit tiles, 22 444, are not the same as the second suit tiles, 44 666 8888. If the tiles for the 2 suits were the same, this would be considered only 3 unique hands.

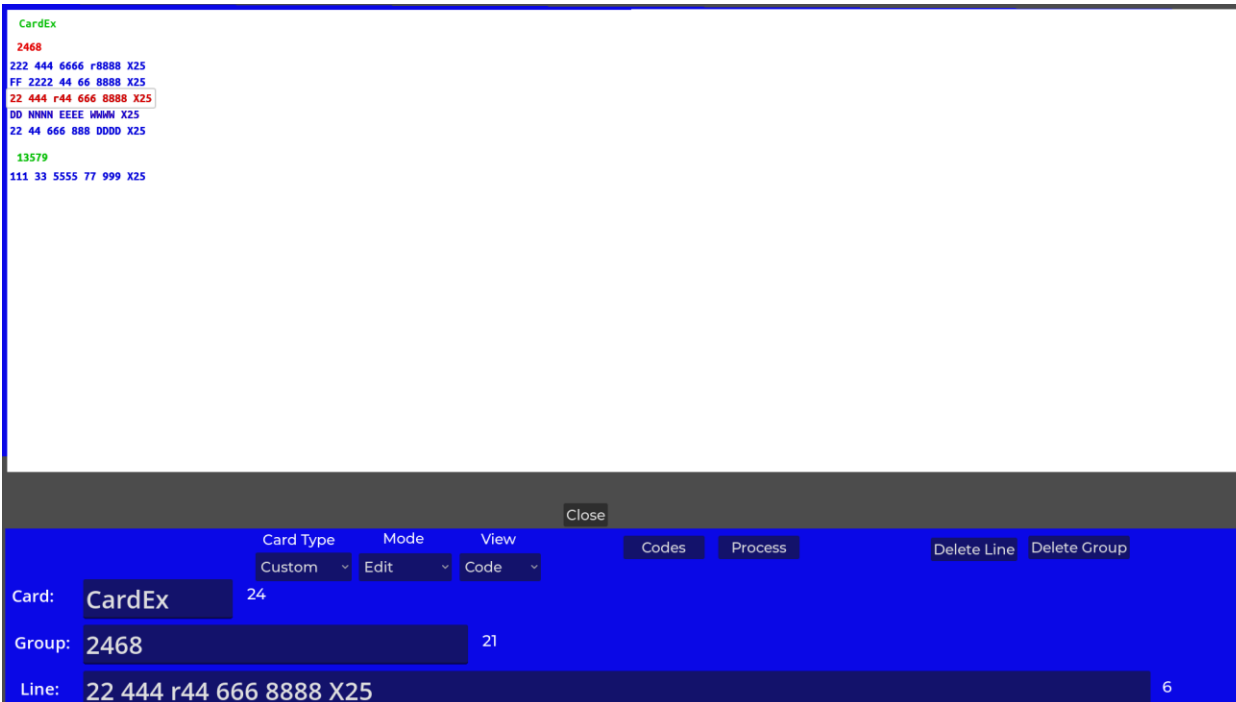


Figure E16. *Display After Selecting Process – Shows the Number of Unique Hands.*

The Codes button pops up the expander codes you can use in the line definitions. The Codes Summary popup is shown in Figure E17. The popup also lists a few other codes (“OR” code, dragon codes, and suit codes) at the bottom.

- T = These No. Only
- V = Consecutive Nos.
- L = Like Nos. (any set sizes)
- I = Like Singles
- A = Like Pairs
- P = Like Pungs (3)
- K = Like Kongs (4)
- Q = Like Quints
- U = Unlike Nos.
- a,* = Any Suit
- R = Replace Set
- Y = Replace End Pairs
- H = Replace Cons. Pairs
- | = Alternate Pattern
- 0 = White Dragon (Zero)
- R,G = Red, Green Dragon
- r,g,b = Red, Green, Blue Set

Figure E17. *Codes Summary Popup*

Deleting a Line, Category, or the Whole Card

To delete a line, select the line with the mouse (or by touching it on a touch screen). Click or press the “Delete Line” button to delete the line. If the line is the last line in a category, the category is also deleted.

To delete a category, select any line in the category you want to delete. This selects that category. Click or press the “Delete Category” button to delete the category. Deleting the last category will delete the card.

To delete a card, select the card by selecting the card name at the top of the editor display. Click or press the “Delete Card” button to delete the card. If you are using the browser version of the app, **NOTE:** clearing the cache will also delete all saved cards, in addition to your profiles.

Notes on making changes and correcting mistakes:

1. You can select a line in code view by mouse clicking or pressing on a particular line. This makes that line/category the current line and enters the “Edit” mode. The line and category selected will be shown in the Line and Category boxes. You can then edit either the line or the category. After making a change to the line or category, press enter in the line or category box. The editor will automatically return to enter mode and will enter new lines after the currently-selected line. To add new lines at the end, select the last line and change back to “Enter” mode using the mode dropdown. To enter a new category at the end, first select the last line, then change back to “Enter” mode and type a new category name in the Category: box.
2. You can delete a category or line by selecting a category/line and then pressing or selecting the “Delete Category” or “Delete Line” button. Deleting the last line of a category deletes the category.
3. You can also get back to “Enter” mode by selecting the line where you want to enter (after), then entering that line without any changes.
4. To select a line in Card view, you must select the first set on the left.
5. To select the whole card, click on or press the card name at the top. A “Delete Card” button is then shown. Pressing it will delete the card with no warning.
6. New lines added in edit mode are inserted after the selected line in a category. To insert a line before the first line in a category, you need to insert it after the first line, delete the first line, then re-enter the line you deleted after the new line.
7. New categories are inserted before the currently selected category unless the last line of the last category is selected (end of card), then the category is inserted after the last category.
8. Categories are selected by selecting any line in the category. If a new category is inserted before other categories, a placeholder line with the tiles “FF NNNN EEEE WWWW” is inserted. This is to ensure that the category can be selected. You can’t select on the category name to select it – you must select one of the category’s lines.
9. You can change the line and category text to be entered in the Line and Category boxes until you enter it (select or press Enter).
10. Any changes you make are automatically saved.
11. The editor checks the number of tiles in each hand every time you enter a new line. If you enter a hand that does not have exactly 14 tiles, an error is output on the display indicating the wrong number of

tiles (not 14). The hand is not entered until the line is corrected to have 14 tiles. No other error checking is performed. Figure E18 shows an example error after trying to enter only 13 tiles.

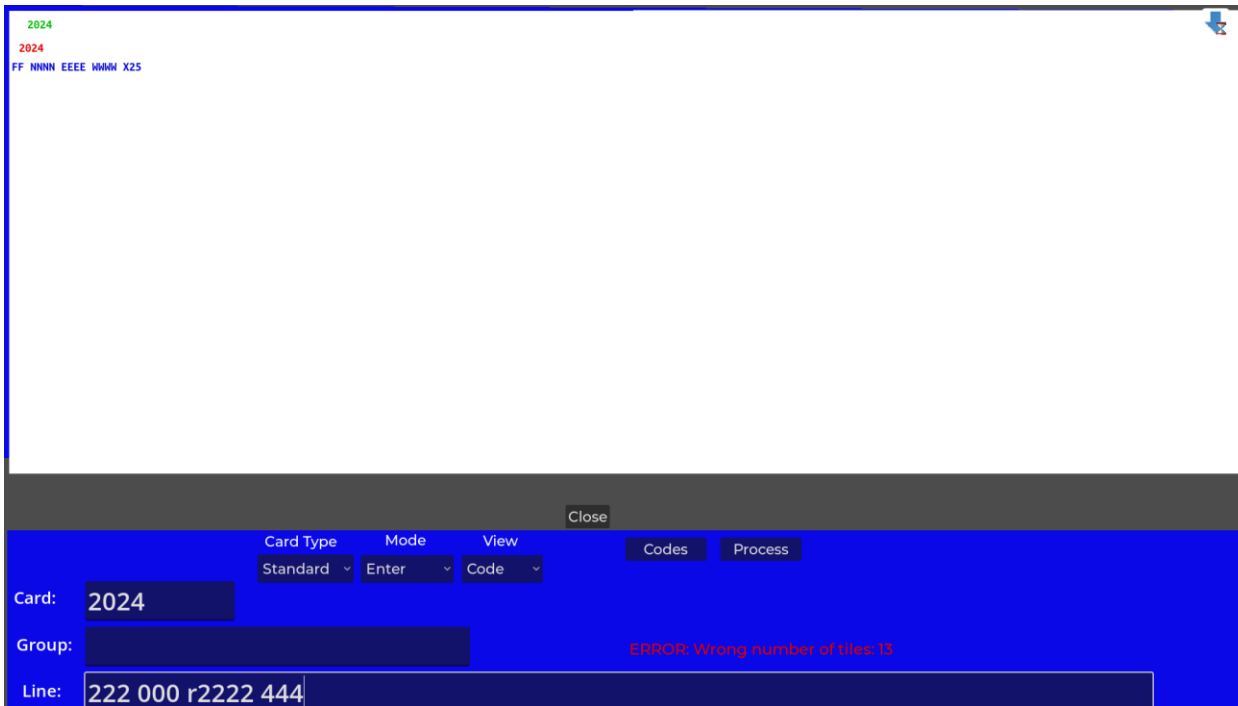


Figure E18. Example of Attempting to Enter a Line with Only 13 Tiles.

An example of a card copied in this way is shown in Figure E20.

| | 2468 | VALUES | Basic1 Winds/Dragons | VALUES |
|---|-----------------|--------|---|--------|
| FF 222 444 666 888 | | X 25 | NNNN EEEE WWW SS | X 25 |
| 222 4444 666 8888 | | X 25 | FF 111 DDD DDD DDD (Pung Any No.) | X 25 |
| 22 444 66 888 DDDD | | X 30 | FFFF EEE 1111 WWW (Kong Any No.) | X 25 |
| | | | FFF DDDD DDD DDDD | X 25 |
| | Like Numbers | | FF NNN EEE WWW SSS | C 30 |
| FF 1111 N E W S DDDD (Any Like Numbers) | | X 25 | | |
| FF 1111 N E W S 1111 (Any Like Numbers) | | X 25 | | |
| FF 1111 1111 1111 (Any Like Numbers) | | X 25 | | |
| | Consecutive Run | | | |
| 111 222 333 44 DDD (Any 4 Consec. Nos.) | | X 25 | | |
| 111 2222 333 4444 (Any 4 Consec. Nos.) | | X 25 | | |
| FFF 1111 2222 333 (Any 3 Consec. Nos.) | | X 25 | | |
| | 13579 | | | |
| 11 333 5555 777 99 | | X 25 | | |
| 11 333 55 55 777 99 | | X 25 | | |
| FF 111 33 55 77 999 | | X 30 | | |
| | | | | |
| | | | 369 | |
| | | | FFF 333 6666 9999 | X 25 |
| | | | 333 6666 666 9999 | X 25 |
| | | | FF 333 666 999 DDD | X 25 |
| | | | | |
| | | | Single & Pairs | |
| | | | FF 11 22 33 44 55 66 (Any 6 Consec. Nos.) | C 50 |
| | | | NN 11 22 33 44 55 66 (Any 6 Consec. Nos.) | C 50 |
| | | | SS 11 22 33 44 55 66 (Any 6 Consec. Nos.) | C 50 |
| | | | DD 11 22 33 44 55 66 (Any 6 Consec. Nos.) | C 50 |

Figure E20. Example of Basic1 Card Copied and Ready to Print.