## Roulette-The Casino Game

Roulette is played with a wheel, a small ivory ball, and a betting layout. The wheel turns on a spindle and is divided into 37(European wheels) or 38(American wheels) slots. 36 of the slots are numbered from 1 through 36, of which half are red and the other black. There is also a green slot marked 0 and (on American wheels) a green slot marked 00.

Players place bets against the house on the layout and a croupier(croup-e-a) called the tourneur spins the wheel in one direction and either tosses the ball into the wheel, or spins the ball, in the opposite direction. When the ball comes to a rest in one of the slots the bets are settled.

Losing bets are cleared from the layout and bets made on or in combination with the winning number are settled according to the following table:

| Bets Placed on: (one of which wins) | Odds paid |
| :--- | ---: |
| A single number | 35 -to-1 |
| Two Numbers | 17-to-1 |
| Three Numbers | 11 -to-1 |
| Four Numbers | 8 -to-1 |
| Six Numbers | 5 -to-1 |
| 1st, 2nd, and 3rd Column | 2 -to-1 |
| 1st, 2nd, and 3rd Dozen | 2 -to-1 |
| Low, High, Black, Red, Even, Odd | 1 -to-1 |

The following graphic shows the various bets that can be made on the inside of the layout. The inside of the layout is the area where bets can be made on single numbers. This area excludes the 1st, 2nd, and 3rd columns and dozens, low, high, odd, even, red, and black bets.


In many casinoes bets can be placed even while the wheel and ball are spinning. A croupier will let you know if it is too late to place a bet.

A minimum of three or four chips on the inside of the layout is normally required. Chip denominations are normally a minimum of 25- or 50-cents.

View these topics to learn more about playing this game:

How To Play This Game<br>Saving and Restoring Game Data<br>Setting Ball Velocity<br>What the Winning Numbers Window Shows<br>Strategy

## How To Play This Game

To play this game select one of these buttons $\square \square \square \square$ to choose the color of chips you want to use.

Click the left mouse button over the number or group of numbers you want to place bets on. Remove bets by clicking the right mouse button over the number or group of numbers you have placed bets on.

Five or ten chips at a time can be placed or removed by pressing and holding the Ctrl(5) or Shift(10) key while clicking the appropriate mouse button.

The selection points for placing bets are quite small on the inside of the layout. The following graphic shows the placement of chips on the layout. The selection points are indicated by the black rectangles on the chips. Notice the location of chips and selection points around the numbers $0,00,2$, and 5 . The numbers above the graphic indicate what numbers are covered by the dark magenta chips. Some of the chips around the number 2 are offset to make room for the extra bets that can be placed around it.


The selection points for the outside bets(columns, dozens, high, low, etc.,) are approximately the same dimensions as the enclosing rectangle for that bet.

## Changing Wheels

You may change from the American to European wheel at anytime. The Winning Numbers window maintains a separate list for each wheel. When auto-saving, and when switching wheels, the table will automatically be cleared of any chips and they will be added back to your total, if necessary. However, chips are not removed from the table when saving while playing.

## Dragging and Dropping

Bets may also be placed by clicking the left mouse button over the stack of chips beside the layout and dragging the chip to the location you want to place a bet. Pressing the Ctrl key while releasing the left mouse button will place 5 chips at that location. Pressing the Shift key while releasing the left mouse button will place 10 chips at that location.

Other players can place bets by choosing a different color. The previous player's chips will be cleared from the layout and the next player can begin placing bets.

When all bets have been made press the spin button. When the ball stops spinning, losing bets will be cleared from the layout and the scorebox will show the amount won. This amount does not include chips that are remaining on the layout.

See these topics for additional information about this game:
Roulette-The Casino Game (includes Payoff Chart and Sample Bets)
Saving and Restoring Game Data
Setting Ball Velocity
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## Setting Ball Velocity

This option allows you to set the initial speed of the ball from 5-to-100 ppl (pixels per loop.) The speed you set will depend on the speed of your CPU, type of graphics adapter, and personal preference.

The speed of 24 ppl was set for a $486-33 \mathrm{Mhz}$ with an ISA-Bus, frame-buffered, VGA or SVGA display adapter running in 16-color mode.

Experiment with setting the speed until you have it the way you want it. You can save this setting by using the Save and Restore Game Data Options.

To speed-up play, you can also use the Random Number Generator Option. The computer will randomly pick a number and the winning number will be displayed in a message box.

See these topics for more information about this game:
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## What the Winning Numbers Window Shows

The Winning Numbers Window shows the possible winning numbers in the top row, the number of times that number has come up in the middle row, and the ratio of the number of times that number has come up to the total number of spins in the bottom row. The Caption shows the total number of spins.

The percentage figures are rounded down to the nearest percentage and figures below $1 \%$ are not displayed.

See these topics for more information about this game:
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## Saving and Restoring Game Data (Option available after program is registered)

These menu options and command line arguments save and restore player money totals, ball velocity, and previous winning numbers for both wheels. The save routine does not save a preferred wheel. The game always starts out with the American wheel. You can save and restore data while playing the game by using the menu options. In addition, game data can also be automatically saved on exit and restored on entry to the program by using the following command line arguments:
/r - restores data on entry
la - saves data on exit
Command line examples:
C:IROULETTEIROULETTE.EXE /r/a
C:IROULETTEIROULETTE.EXE /a/r
C:IROULETTEIROULETTE.EXE /a
C:IROULETTEIROULETTE.EXE /r
These arguments can be set in the Program Manager's Program Item Properties Dialog Box or typed in the Run Dialog Box of the Program or File Manager. Be sure to use lowercase letters and leave one space between the path statement and the arguments.

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## Strategy

There have been many betting strategies devised to improve your chances of winning. However, none are mathematically sound.

If you are playing to win, keep the chart below in mind and remember this rule. Your reward should be greater than the risk you take.

|  | Odds Against <br> Winning | Odds Against <br> (European | Ratio of <br> Oaid/True | Ratio of <br> Paid/True |  |
| :--- | ---: | ---: | ---: | :---: | :---: |
| Place A Bet On: | Wheel) | Paid | (American) | (European) |  |
| (American Wheel) | $38: 1$ | $37: 1$ | $35: 1$ | $92.11 \%$ | $94.59 \%$ |
| A Single Number | $19: 1$ | $18.5: 1$ | $17: 1$ | $89.47 \%$ | $91.89 \%$ |
| Two Numbers | $12.67: 1$ | $12.33: 1$ | $11: 1$ | $86.82 \%$ | $89.21 \%$ |
| Three Numbers | $9.32: 1$ | $9.25: 1$ | $8: 1$ | $85.84 \%$ | $86.49 \%$ |
| Four Numbers | $6.22: 1$ | $6.17: 1$ | $5: 1$ | $80.39 \%$ | $81.04 \%$ |
| Six Numbers | $3.17: 1$ | $3.08: 1$ | $2: 1$ | $63.09 \%$ | $64.94 \%$ |
| 12 Numbers | $2.11: 1$ | $2.05: 1$ | $1: 1$ | $47.39 \%$ | $48.78 \%$ |

When gambling, however, your reward is never greater, and seldom equal to the risk you take in placing the bet. Therefore, choose the bet that gives you the greatest payoff for the given level of risk. For roulette, this means choosing the bet which gives you the greatest payoff relative to the chance of the number or numbers you have bet on coming up on the wheel.

Risk is nothing more than the expectancy of a certain event happening or not. If there are 38 numbers on the wheel and there is an equal chance that any single number will come up on the next spin of the wheel, then there is a 1 in 38 chance that the number you have bet on will win. You should not bet on a single number unless the payoff is greater than 38-to-1(38:1). If the payoff were equal to 38:1 you should not take the bet, because even if your number comes up, you will not be compensated for taking the risk in placing the bet.

If the casino pays $35: 1$ for a bet on a single number, then, at least mathematically and logically, you should not be placing a bet in the first place. But, the spinning wheel has attracted your eye and you feel lucky. Therefore, place a bet that maximizes your chance of winning and gives the highest pay back.

Using the chart above, you should place bets only on single numbers. The odds paid are closest to the true odds against this event happening. Still, in 100 spins of the wheel you could expect to lose nearly $\$ 8$ when betting $\$ 1$ per spin.

Of course mathematics isn't everything, and with your lucky rabbit's foot in your pocket you just might beat the odds--for a while. And, who can resist the temptation to place bets all around one or two numbers just to watch the mountain of chips pile up when your lucky number hits.

One last suggestion, if you play the inside, place bets on the same numbers and don't jump around if nothing happens for a while. Invariably, your numbers come up right after you move your bets and you'll find yourself saying, "Gosh darn'it, I wish I wouldn't have moved those." Have fun, and may the wheel spin your way.

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