|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **bet type** | **25 bets loss % | avg loss | max loss** | **50 bets loss % | avg loss | max loss** | **100 bets loss % | avg loss | max loss** | **200 bets loss % | avg loss | max loss** |
| red | 60.64   |   1.32 | 23 | 59.46    |  2.68   | 32 | 66.64  | 5.25   | 48 | 74.98 | 10.50  | 72 |
| odd | 60.29 | 1.30   | 23 | 59.11   |   2.63   | 32 | 66.37  |     5.22 | 50 | 75.17 |  10.58  | 74 |
| 7 | 51.32 |    1.35 | 25 | 61.81    | 2.48  | 50 | 51.05 |    5.55  | 100 | 57.47 |  9.80 | 100 |

1. Are there any significant differences between the statistics on red/black bets versus odd/even bets? Should there be? **There is not and there should not be the odds are the same for both of them.**
2. How does increasing the number of bets per session affect the outcomes for the three bet types? Explain why you believe this is the case. **The odd/even and red/black bets loss% increases which doesn’t make too much sense to me but I am guessing it should be going towards the true average but it is increasing for some reason. The loss % for the single number guess was also a lot lower than I thought and even lower than the odd/even and red/black bets which really doesn’t make much sense to me.**
3. Which bet type (if any) is the best if your goal is simply to finish a session with at least as much money as you started with? **I would say red/black or odd/even because the max loss for those bets was around 50%.**
4. Which bet type (if any) is the best if your goal is win as much (or lose as little) money, on average, as you can? **Looking at the percentages, it seems betting on a single number would give you the best chance of winning as much and losing as little.**
5. Which bet type (if any) is the best if your goal is minimize the worst case (i.e., the maximum loss in a session)? **Betting on black/red or odd/even would minimize the worst case.**

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| --- | --- | --- | --- | --- |
| **bet type** | **25 bets loss % | avg loss | max loss** | **50 bets loss % | avg loss | max loss** | **100 bets loss % | avg loss | max loss** | **200 bets loss % | avg loss | max loss** |
| red | 25.04  |   3.87 | 63 | 40.19 |  6.81 | 100 | 56.10  | 12.27   | 100 | 74.34 | 19.31  | 100 |
| odd | 24.74 | 3.69   | 63 | 40.17   |   6.78  | 100 | 55.72  |  11.94 | 100 | 74.31 |  19.30  | 100 |
| 7 | 89.88 |   7.22 | 100 | 89.81 | -19.51?| 100 | 89.99 | 32.40  | 100 | 89.85 |  32.89 | 100 |

1. Does the Martingale betting system make any sense when betting on a specific number? Why or why not? **On a specific number it does not make any sense and results in loss of everything almost 90% of the time.**
2. When betting on a color, how does the Martingale strategy compare with the uniform betting strategy with respect to loss percentage? That is, are you more or less likely to come out ahead when playing a session using Martingale betting? **The loss percentage is lower with Martingale strategy. You are more likely to come out ahead using Martingale betting.**
3. When betting on a color, how does the Martingale strategy compare with the uniform betting strategy with respect to average winnings? That is, do you win (or lose) more credits on average using Martingale betting? **You lose more on average using Martingale strategy, but will also win more when you do win.**
4. When betting on a color, how does the Martingale strategy compare with the uniform betting strategy with respect to the maximum amounts lost in a session? **The max lost is higher and maxes out in all categories to 100.**
5. Is there any interpretation of your statistics that supports the claim that Martingale betting guarantees you will be a winner? **It is definitely a gamble and you could lose it all, but you are more likely to lose less if you do martingale betting strategy.**