Analysing the Best Bet online game
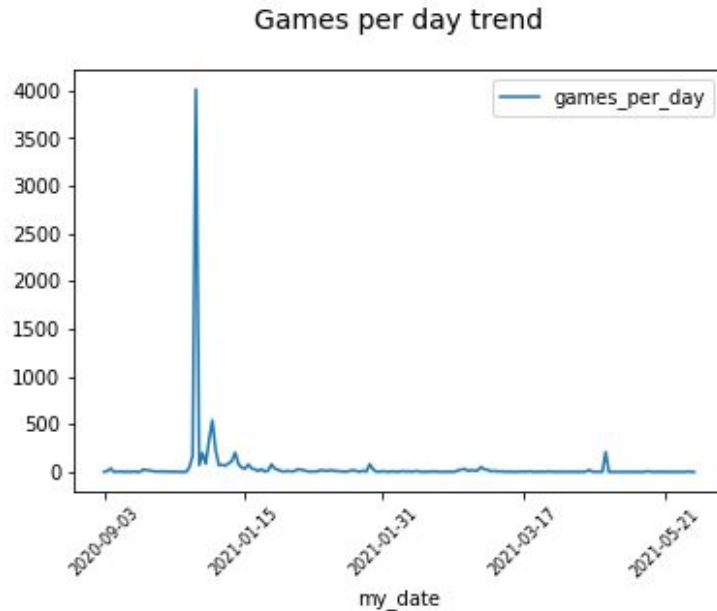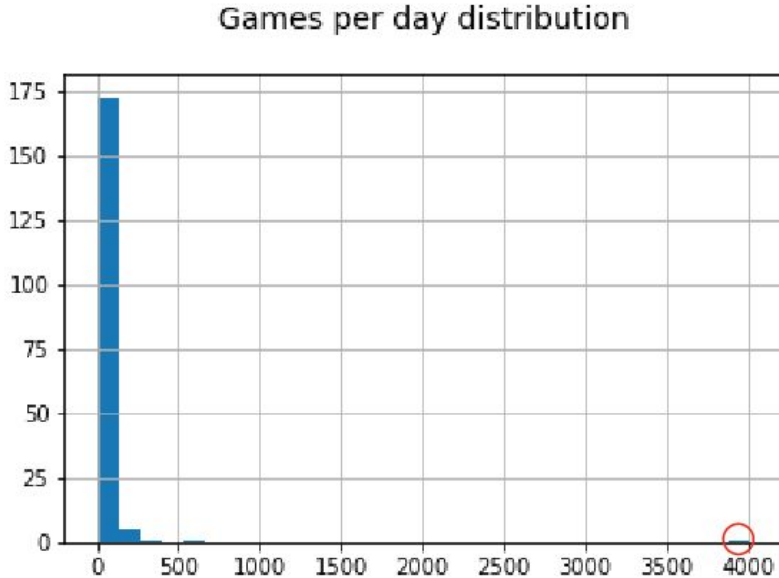
Data Analysis by Andras Petre

Introducion

- This is a game just like in casinos. You have 10 000 unit starting stack and your goal is to win as much as you can. A game has 50 rounds. In each round you'll get a deal. Some deals are better , some are worse.

- The dataset contains over 400 000 rows, from September 2020 to May 2021.

- This project aims is to segment the data and discover some statistical values in the dataset e.g. how many games were played per day? How many game ended with the players losing?

- The main findings in the data have been presented in graphical format and the data analysis has been carried out in Python and SQL

- The Python libraries used include Pandas, Numpy, Matplotlib

How many games are played per day?

Games per day trend

- The trend chart show, that there is one outstanding case where about 4000 games were played on one day.

- On the other days of that period there were below 500 games played on one day

How many games are played per day?

Games per day distribution

- In the histogram we can see, that mostly about 170 games were played on one day.

- We can also see here, that there is the one case when about 4000 games were played.

- On an "average" day were played about 300 games per day

Average number of games per day

- During the period of the 9 month there were more than 8800 games played

- **Mean** of the played games per day is : **2272**
- **Median** of the played games per day is: **250**

- We can say, that the outstanding 4000 games/day value increases significantly the mean result, while the median is much more closer to the mostly occurring values (about 170 games/day)

How many games ended with the players losing?

- There are 1218 games, where the players score went to 0 during the 50 round of the game

- This is about 13,8% of all games, which shows, that the players are quite conscious, careful, they risk few and instead of winning a huge sum at once, they try to go step by step to increase their prize.
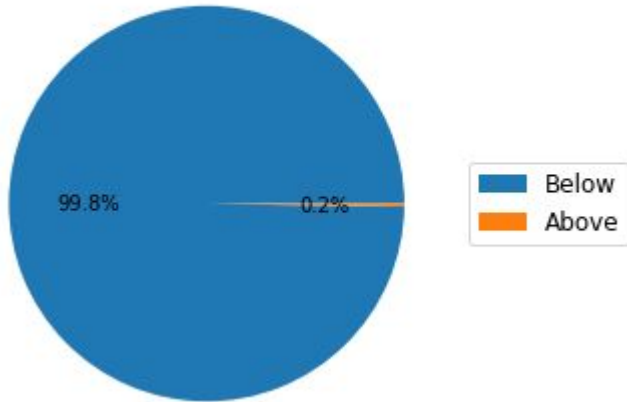
What's the average (mean) score?

- Score: the number of stack (prize) at the end of a game (after 50 round)

- The mean score is about 62 004 941, which is a quite high value, and can't represent good enough the dataset

- That can cause the maximum score, which is an outlier, and its value is 475 582 458 100

- The median score is 56250, which is a more realistic number

How many people are above the average score?

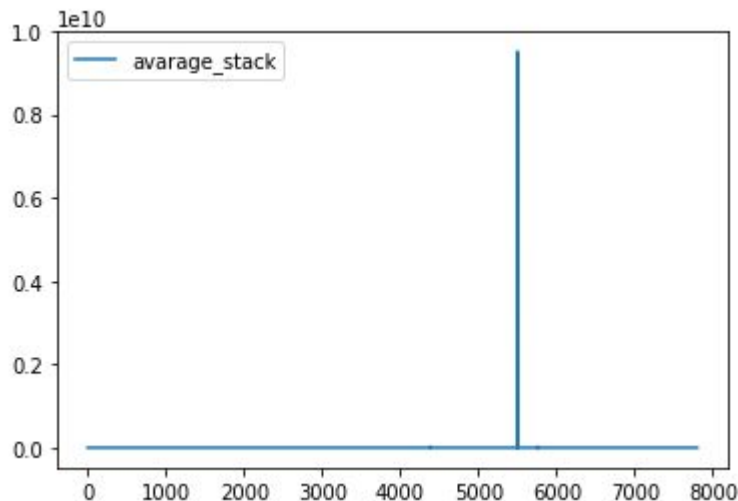Relationship to avarage

99.8%   0.2%

Below
Above

- The pie chart on the left shows us, how extreme are the maximum and the mean values of the score

- Only 19 games (0,2%) ended with a score above the mean, while nearly 8000 (99,8%) are below the 62 004 941 score
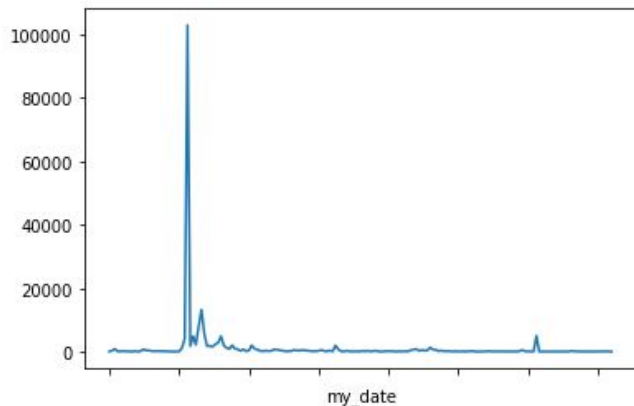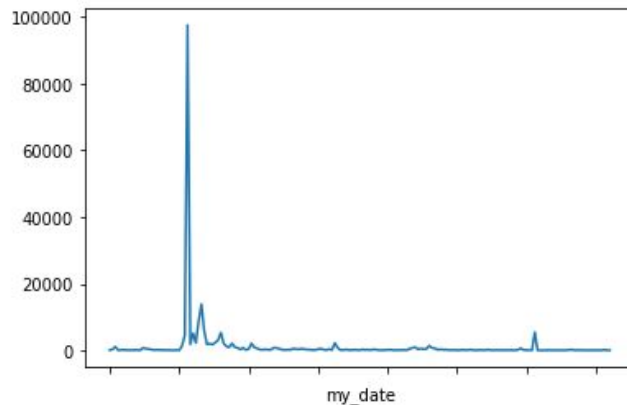
How many is the average stack per round?

- This trend chart show us more spectacular, how extreme that one outlier stack can bias the dataset

- About the 5500th round is an very lucky or clever (or both) player, who won this huge amount of prize, while the others are dwarfed by him/her

The number of wins and loses per day
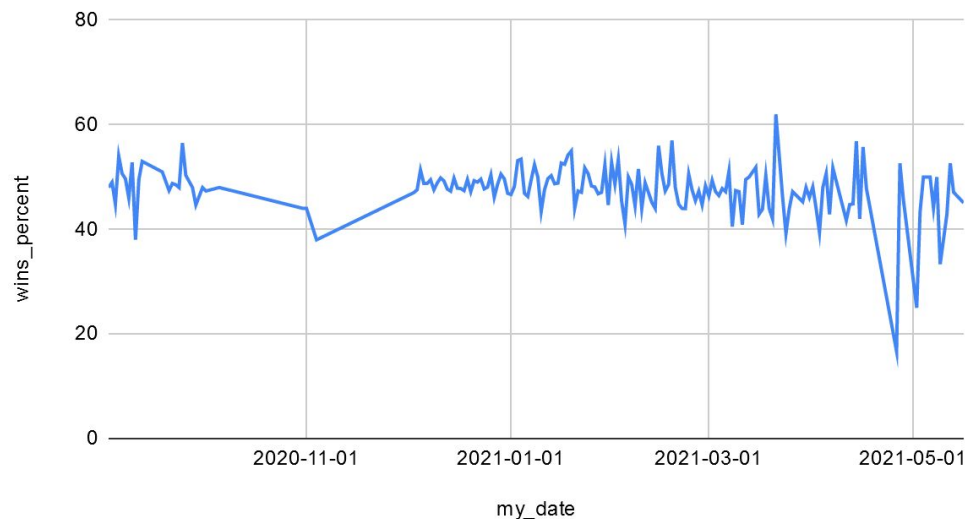
Wins trend by day

Loses trend by day

By analyzing the two trencharts above, we can't identify any differences between the wins and the loses trends. It means, that the half of the users won and the other half of them lost. We can see a couple of extreme days (outliers), but they appears on both the winners and the loser side, too.

The win ratio trend

wins_percent vs my_date

- On this trend chart you can see, that the win ratio is mostly between 40 and 60%

- Near the end of the period are some games with a win ratio under 20%

Conclusion

- There are about a 170 games played each days, however we can see a short period on 5 December 2020 when 4000 games were played, which is nearly half of the total played games.
- About 14% of the games ended with loosing, so the players final stack was 0. It's a relatively good ratio. The winning strategy is, that you should risk few in one round and go step by step to reach a significant prize.
- By analyzing the average score we can see, that there is an outstanding value and mostly of the users are below the average (mean) of the daily score.
- The numbers of the winners and losers are quite similar over the time, so it seems that this is very fair game. You can't win or lose a big sum, they equalize each other at the end.

Thank you

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