

Analysis of student balance in the online school

Performed by
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Task and Goal

Task:

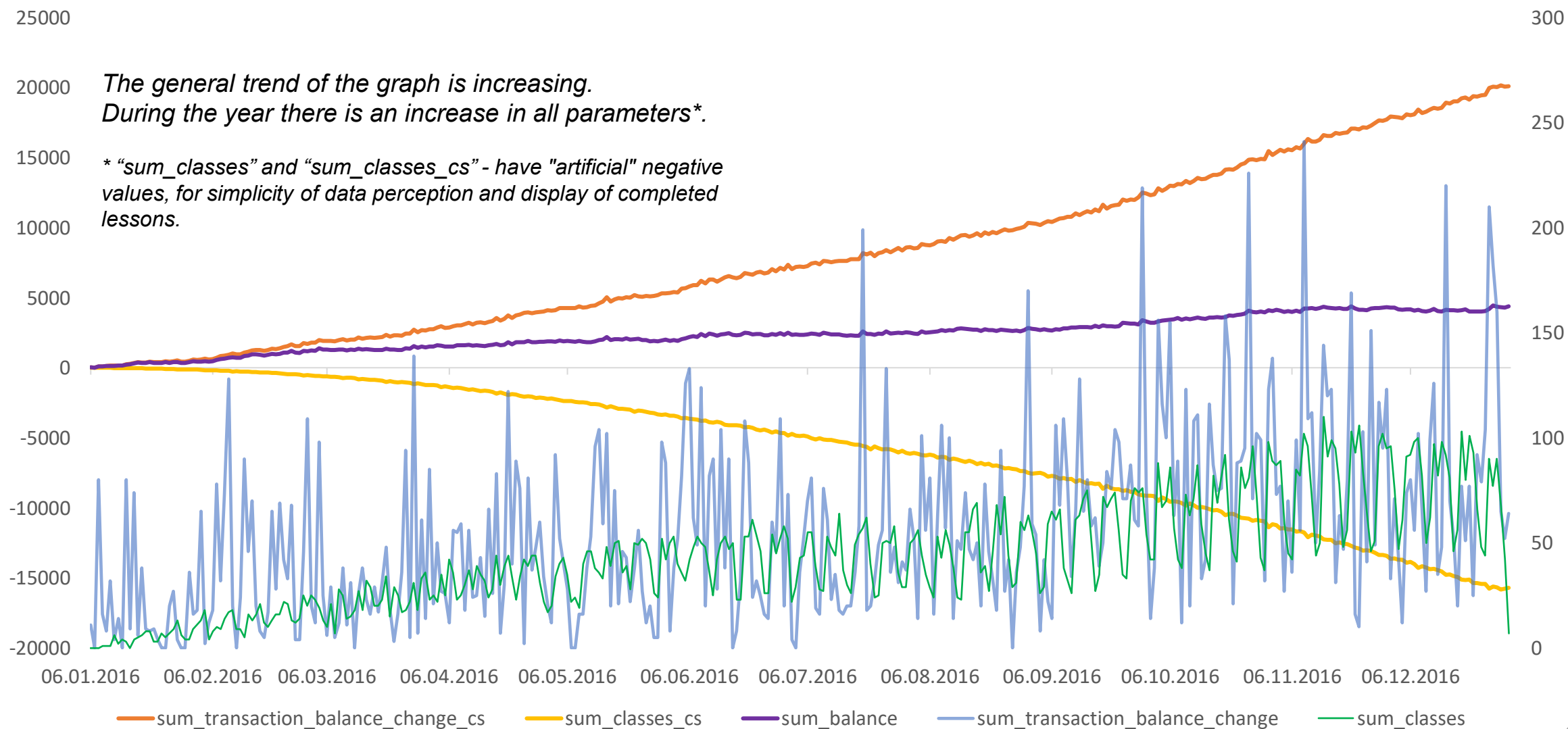
- Check the accuracy data, look up on the possible debugs. Write the questions and hypothesis for Data Engineer and owners the tables.
- Create a query for modelling the changes of lessons and transactions balances students during the year and analyse this changes:
 - *Create a query that joins the lesson and transaction tables with the student table.*
 - *Calculate the differences in balances between each record for each student to track changes over time.*
 - *Use aggregate functions to summarize and analyse the changes in balances.*

Target is to simulate changes in student balances, identify patterns and trends, streamline the lesson and payment management process, and create a user-friendly spreadsheet to track each student's balances for each day.

Questions and hypothesis for data engineers and table holders

Questions and hypothesis	Department
1. The crux of the issue is that some students pay less than the number of lessons they have (the result of CTE query "balances"). Possible cause is incorrect or incomplete data in the system. To eliminate the anomaly, one can enter additional filtering on payment operations to display only real payments for lessons.	Data Engineer
2. One should pay attention to the balance of lessons at the end of the year. Why are there paid but not completed lessons? Is this true?	Data Engineer
3. What caused the strong emissions (increase or fall) during the year for the field "sum_transaction_change" on the final chart? Were there any marketing offers, additional advertising companies, etc during this period?	Marketing
4. Are the drop emissions caused by technical problems (payment problem, longer transaction time, holidays/weekends, server problem, website problem)?	Data Engineer
5. Is growth and then a sharp fall associated with advertising channels? (Was there a sharp transition from old channels to new ones?)	Marketing
6. Was there a landing or site change that could have affected the influx or outflow of users?	Designers

Dynamics of changes in the total number of lessons and transactions on students' balances for 2016



Dynamics of changes in the number of lessons per week during 2016

