Task 1:

A) Using the target audience and metric for success, calculate the total change in conversion rate between the two versions. *1 mark, show working.*

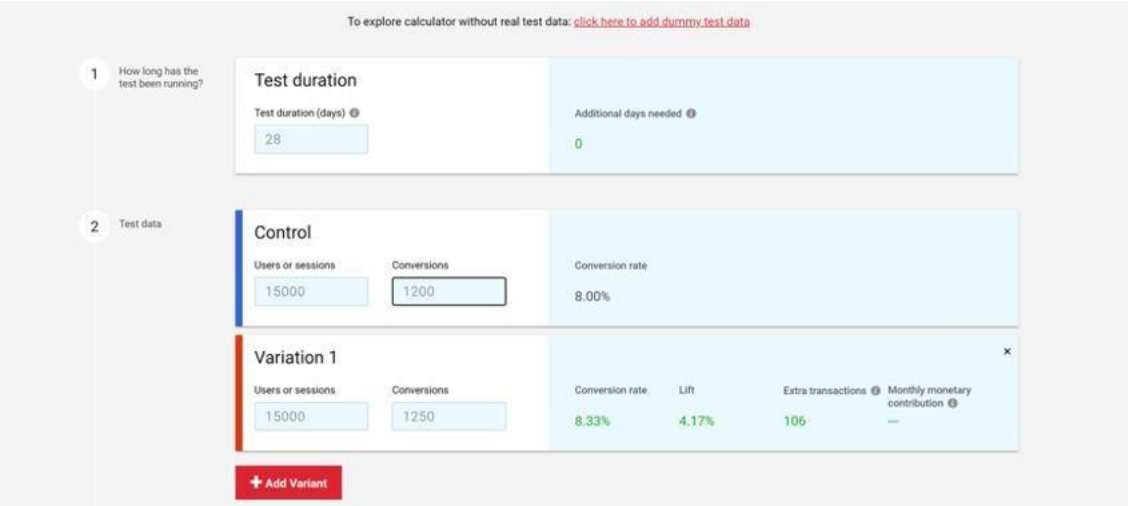
Calculation of Total Change in Conversion Rate: Conversion Rate (CR) is defined as the percentage of visitors who complete the sign-up process.
For Version A:

Total Visitors (New+ Returning) = 5000 (New) + 10000 (Returning) = 15000
Conversion Rate_A = (Sign-ups_A / Total Visitors) * 100 = (1200 / 15000) * 100 ≈ 8%

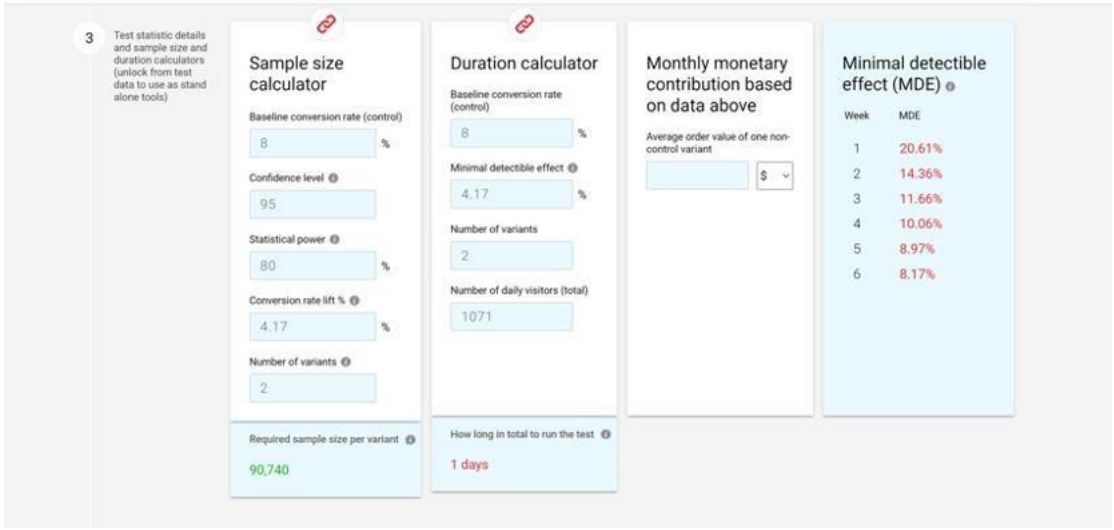
For Version B:

Conversion Rate_B = (Sign-ups_B / Total Visitors) * 100 = (1250 / 15000) * 100 ≈ 8.33%

I also used CXL.com to make the calculation: The data has been collected for 28 days accounting for variability in in web traffic. Since I want to compare Version A with the new Version B I decided to take total returning visitors which is 10 000 on both versions and then added total new visitors which was the same for version A and B 5000 visitors, afterwards I put in the new sign ups (which is the conversion) in control on cxl.com which for version A was 1200 and for version B 1250 which I put in variation 1.



B) Is the change in conversion rate above or below the Minimal Detectable Effect (MDE) and what is the implication? *1 mark.*



The change in the conversation the total change between version A and version B was calculated:

Total Change in Conversion Rate = Conversion Rate_B - Conversion Rate_A = 8.33% - 8% = 0.33%, which is 0.33 % and is below the MDE and the change is not statically significant.

C) Recommendation: The observed difference is below the MDE and therefore it's not a big deal statistically. I would suggest being careful before making strong conclusions just based on current findings. To get a clearer picture I would suggest thinking about the length of the experiment, how many people were involved, and if there could be any outside factor that influenced the results. If there is any possibility, I would recommend running the experiment a bit longer or gather more data to make sure that the findings are dependable before deciding to do any major changes on the website.

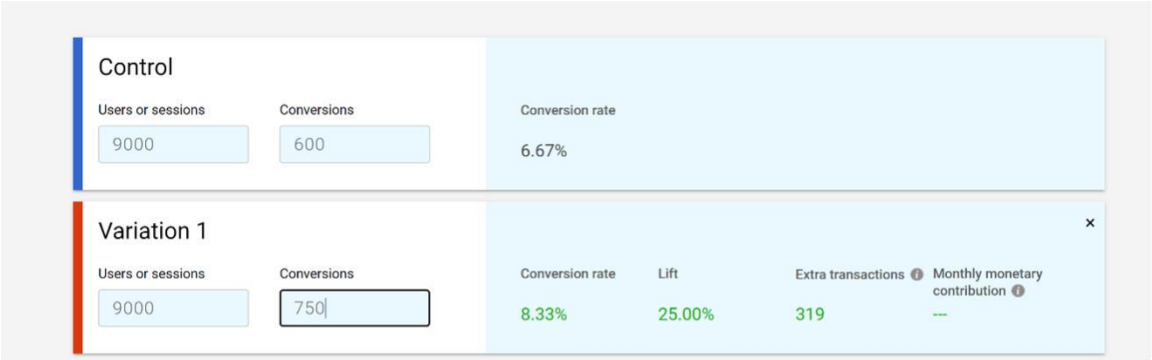
Task 2

A) Recalculate the change in conversion rate between the two versions using the target audience and metric for success, but this time segment between mobile and desktop visitors. *2 marks, show working.*

For Version A:

Mobile Visitors_A = 3000 (New) + 6000 (Returning) = 9000
Desktop Visitors_A = 2000 (New) + 4000 (Returning) = 6000
Conversion Rate_Mobile_A = (Sign-ups_Mobile_A / Mobile Visitors_A) * 100 = (600 / 9000) * 100 ≈ 6.67%
Conversion Rate_Desktop_A = (Sign-ups_Desktop_A / Desktop Visitors_A) * 100 =
(600 / 6000) * 100 = 10%

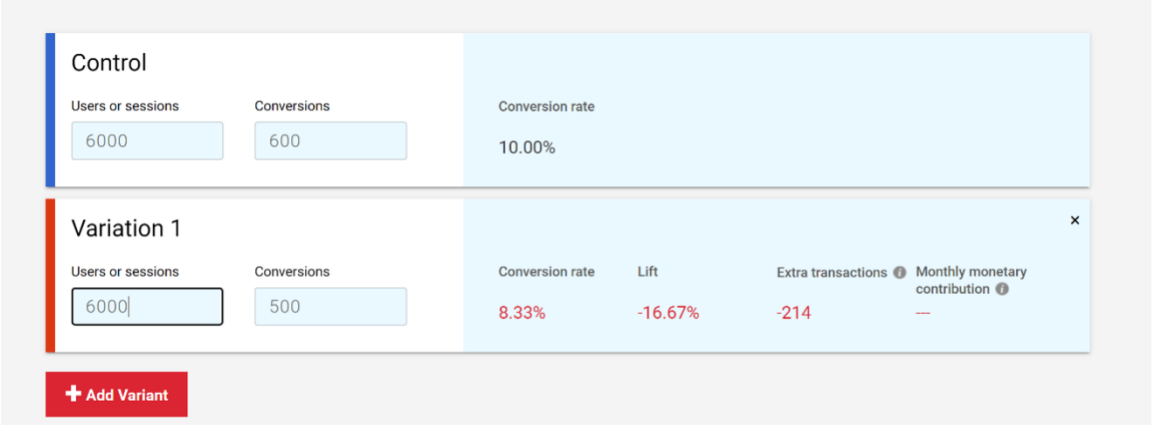
CXL calculator



For version B:

Mobile Visitors_B = 3000 (New) + 6000 (Returning) = 9000
Desktop Visitors_B = 2000 (New) + 4000 (Returning) = 6000
Conversion Rate_Mobile_B = (Sign-ups_Mobile_B / Mobile Visitors_B) * 100 = (750 / 9000) * 100 ≈ 8.33%
Conversion Rate_Desktop_B = (Sign-ups_Desktop_B / Desktop Visitors_B) * 100 =
(500 / 6000) * 100 ≈ 8.33%

CXL calculator



What observations can you make based on segmenting by device? *2 marks.*

The impact of Version B is positive for mobile users, suggesting that the streamlined form and additional motivational elements are effective.
For desktop users, Version A appears to be performing better. It may be worthwhile to investigate why Version B is not as effective on desktop and consider potential adjustments.

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What is your recommendation for the fitness program's website and why? *2 marks.*

Recommendation:

Version B exhibits superior performance with an overall increase in the conversion rate, driven by a notable rise in mobile conversions that surpasses the dip in desktop conversions. Given the importance of mobile users in our target audience, implementing Version B is advantageous. To address the desktop conversion decline, a thorough analysis and user feedback are recommended to guide necessary adjustments. In summary, Version B is recommended for implementation due to its better performance and strategic alignment with our mobile-centric audience.