

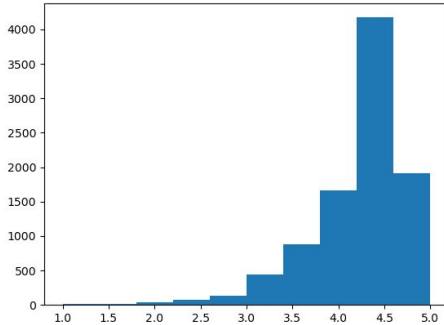
GOOGLE PLAY VS. APPLE STORE

Would it be better to integrate Google Play or Apple Store apps into our operating systems?

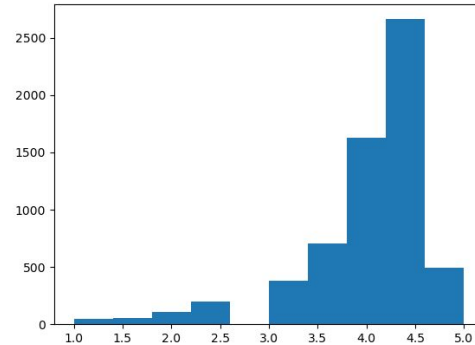
Both app reviews are virtually identical

- (Average review of Google Play) - (Average review of Apple Store) = Observed difference of 0.14206
- But is it meaningful enough to decide?

Google Play
Average rating is 4.136237



Apple Store
Average rating is 4.132658

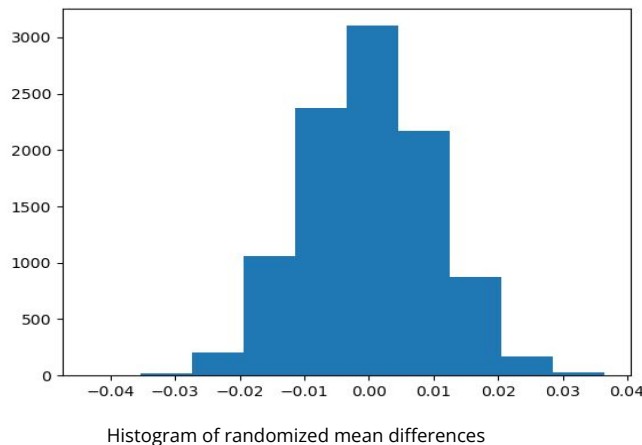


What to do?

- Perform statistical testing
- Not normally distributed data
- **Permutation test**
 - determines whether these two apps are significantly different from each other

What is our decision?

- Observed mean difference: 0.14206
- Difference in permutation means: 0.001103 (*by using 10,000 permutations*)
- Observed difference is much different from the permutation means



Google Play

We recommend to integrate only **Google Play** into the operating systems.

Here's how we do it:

- Assume platform (Google or Apple) doesn't affect ratings.
- Calculate the actual difference in mean ratings (0.14206).
- Shuffle ratings while keeping the platform unchanged.
- Calculate mean rating difference for each shuffle.
- Find the average of all these differences (permutation difference).
 - If observed difference is similar to permutation difference, platform has no impact on ratings.
 - **If permutation difference differs significantly from observed difference, platform impacts ratings.**
- The difference was significant enough to decide Google's platform would have an impact