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Eco B2000
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Results Lab 1

Goal: Decide if the dice brings up 5 more often than a fair die would.

Number of Rolls	Chosen: 5
20	0.1785
50	0.1660
100	0.1720
1000	0.1675

In my simulation of experiments with 20, 50, 100 and 1000 rolls each, I focused on how often a 5 appeared. On average, about 16-17% of the rolls were fives.
A five dice has the same probability for every face ⅙. The probability shows a 5 is still a ⅙. It does not matter which face you pick.

Playlist Experiment

I created a playlist in Apple Music with 20 songs by different artists and genres which allowed me to test if shuffle tends to repeat the same artist too often. I turned on the shuffle and recorded the first 10 songs that played. I repeated this process five times to create five shuffle trials.

Null hypothesis H0: Shuffle is completely random. Each song has equal probability 1/N (N = 20 songs) of being chosen at any point, regardless of artist.
Alternative hypothesis H1: Shuffle is not random. Some artists are repeated more often and expected.

<u>Results of 5 trials</u>

- The Weeknd's songs appeared very often in early positions (in test 1, three of his songs came up within the first 6 plays).
- Ava Max appeared in 3 of the 5 tests.
- Some artists did not appear at all in a trial, even though probability suggests they should show up in about half of them when listening to about 10 songs.

My experiment suggests that apple music's shuffle might not be purely random. Certain artists seemed to appear more often than expected. However, this is based on only 5 trials, so the sample is small.