FINAL ASSIGNMENT

1. DATA QUALITY CHECK

	item_id	test_a	test_b	test_c	test_d	test_e	test_f
1	2512	1	0	1	1	0	1
2	482	0	1	1	1	0	0
3	2446	0	1	1	0	1	0
4	1312	0	0	0	0	0	1
5	3556	1	1	0	1	0	0
6	131	0	0	0	0	1	1
7	1178	1	0	1	0	1	1
8	110	0	1	1	1	1	0
9	47	0	0	1	0	1	1
10	1696	0	0	1	1	1	1
11	3196	0	0	0	1	0	1
12	1578	1	0	0	1	0	1

2. REFORMAT THE DATA

	item_id	test_assignment	test_number	test_start_date
1	3824	1	test_f	2025-01-01 00:00:00
2	2098	0	test_b	2025-01-01 00:00:00
3	556	0	test_d	2025-01-01 00:00:00
4	3033	1	test_f	2025-01-01 00:00:00
5	445	1	test_a	2025-01-01 00:00:00
6	3332	0	test_a	2025-01-01 00:00:00
7	805	1	test_c	2025-01-01 00:00:00
8	610	1	test_e	2025-01-01 00:00:00
9	3504	0	test_a	2025-01-01 00:00:00
10	1281	0	test_c	2025-01-01 00:00:00
11	3706	0	test_b	2025-01-01 00:00:00
12	259	1	test_e	2025-01-01 00:00:00

Does this table have everything you need to compute metrics like 30-day view-binary?

- No, this table does not have all of the data required to compute a 30-day view-binary. Specifically, we will need to know the dates of the tests and the orders so we can createa 30-day window.

3. COMPUTE ORDER BINARY

	test_assignment	ordered_items	number_of_items
1	0	386	1130
2	1	363	1068

4. COMPUTE VIEW ITEM METRICS

	test_assignment	viewed_items	items_assignment	total_views	average_views
1	0	918	1130	1916	1.69557522124
2	1	890	1068	1862	1.74344569288

LIFT AND P-VALUE FOR ORDER METRICS:

Condition Success Rate
Control 31% - 37% (34%)
Treatment 31% - 37% (34%)

Improvement: -12% - 11% (-0.5%)
p-value: 0.93

When comparing orders in each condition, there is no observed difference. Further, with a p-value far above 0.05, we are unable to say whether there is any difference.

LIFT AND P-VALUE FOR VIEW METRICS:

Condition Success Rate
Control 79% - 83% (81%)
Treatment 81% - 85% (83%)

Improvement: -1.4% - 6.5% (2.6%)
p-value: 0.20

For views, the treatment condition does seem to have increased the success rate slightly. However, with a p-value of 0.2, we are unable to reject the null hypothesis and conclude that the treatment condition contributes to a higher view rate.