A/B Testing Project

Task

You've received an analytical task from an international online store. Your predecessor failed to complete it: they launched an A/B test and then quit (to start a watermelon farm in Brazil). They left only the technical specifications and the test results.

Technical description

- Test name: `recommender_system_test`
- Groups: A (control), B (new payment funnel)
- Launch date: 2020-12-07
- Date when they stopped taking up new users: 2020-12-21
- End date: 2021-01-01
- Audience: 15% of the new users from the EU region
- Purpose of the test: testing changes related to the introduction of an improved recommendation system
- Expected result: within 14 days of signing up, users will show better conversion into product page views (the `product_page` event), instances of adding items to the shopping cart (`product_cart`), and purchases (`purchase`). At each stage of the funnel `product_page` → `product_cart` → `purchase`, there will be at least a 10% increase.
- Expected number of test participants: 6000

Download the test data, see whether it was carried out correctly, and analyze the results.

Description of the data

- `ab_project_marketing_events_us.csv` — the calendar of marketing events for 2020
- `final_ab_new_users_upd_us.csv` — all users who signed up in the online store from December 7 to 21, 2020
- `final_ab_events_upd_us.csv` — all events of the new users within the period from December 7, 2020 through January 1, 2021
- `final_ab_participants_upd_us.csv` — table containing test participants

Structure of `ab_project__marketing_events_us.csv`:

- `name` — the name of the marketing event
- `regions` — regions where the ad campaign will be held
- `start_dt` — campaign start date
- `finish_dt` — campaign end date

Structure of `final_ab_new_users_upd_us.csv`:

- `user_id`
- `first_date` — sign-up date
- `region`
- `device` — device used to sign up

Structure of `final_ab_events_upd_us.csv`:

- `user_id`
- `event_dt` — event date and time
- `event_name` — event type name
- `details` — additional data on the event (for instance, the order total in USD for `purchase` events)

Structure of `final_ab_participants_upd_us.csv`:

- `user_id`
- `ab_test` — test name
- `group` — the test group the user belonged to