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# Software Testing Homework 3: Task 2 Explanation

To get as many possible unique errors as possible with at most 250 test cases, the first step was to analyze the task 1 results and see what parameter combinations/interactions produce different errors. I started analyzing from the 9-way interactions, but figured out that if the goal is to keep the number of test cases below 250, it's very difficult to achieve if the interactions have strength greater than 3 (might be possible with 4, but I wasn't able to achieve that). Firstly, it became evident from the analysis of the results that the parameter set {people, accommodation, region, duration} seems to be more closely related to producing errors than other combinations that include some of these parameters. I tested this set out with 4-way interactions, but that produced too many test cases so the next logical step was to try out 3-way interactions on the same set. With this level of interaction I was able to produce enough unique errors and stay below the test case limit. I found the similar pattern for the set {year, month, week} where the parameters seem to be more closely related and for this reason, I checked the 3-way interactions for these parameters. The variables "name" and "service" didn't seem to fall into any particular larger set so I checked those for 1-way interactions just so that for every parameter there would have some strength defined. The algorithm used was IPOG and in the end with these particular defined relations I was able to find 3 unique errors.