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Parcial 1 - Help the leaders – Brute force & Backtracking

- Description of the algorithm - why does it work?

The algorithm has a basic function of reading the inputs, sorting them from longest to shortest, making the combinations of the topics and then deleting the combinations that have pairs that are not allowed to be together. Although, the code is rather complex, this is because of the nature of backtracking. It does the basic thing the algorithm was already supposed to do, but it double checks everything before making any decision.

- Description of the backtracking mechanism: what is the criterion you use to define that it does not make sense to continue with the exploration of the solution and the last decision made should be undone?

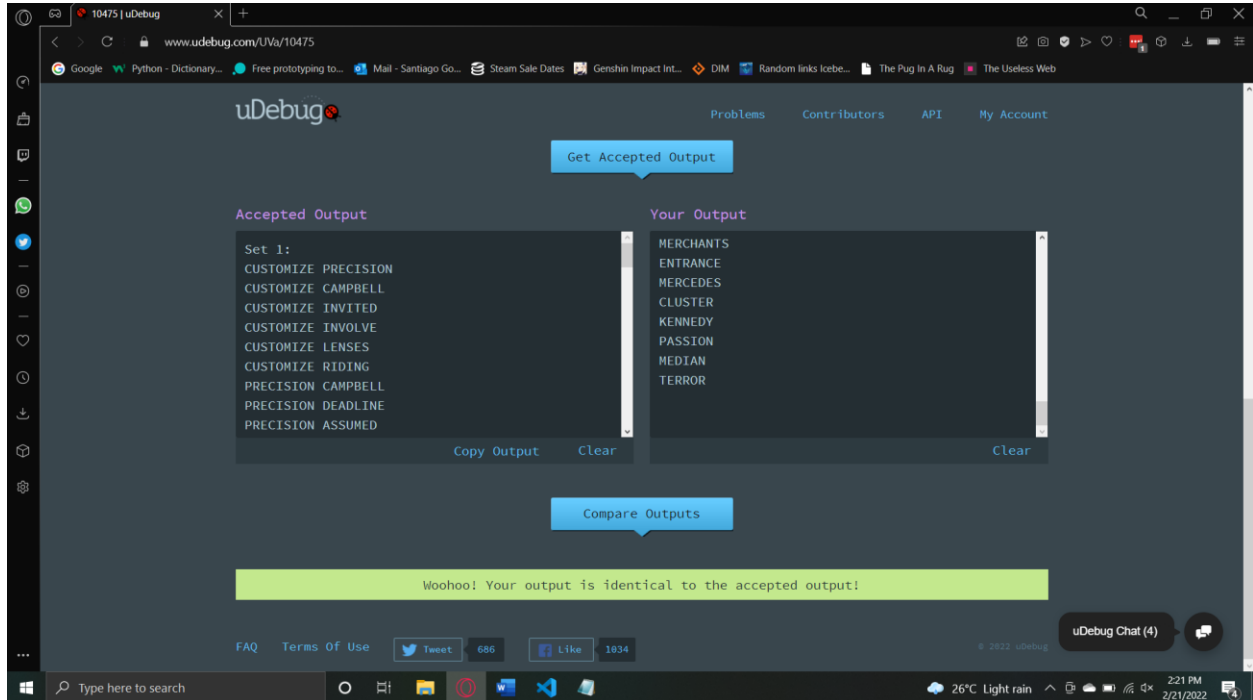
This is explained inside the code, from lines 78 to 82

The code can be found in [this link](#).

- How would the algorithm change if instead of asking for all solutions it asked for one solution? Justify your answer.

Considering that the algorithm still works for the same purpose, all it has to do is just stop at the first set of topics that doesn't have a prohibited pair and give it as the answer, the rest of the algorithm stays the same.

uDebug input 1 (Morass)



Online Judge, accepted

#	Problem	Verdict	Language	Run Time	Submission Date
27252587	10475 Help the Leaders	Accepted	PYTH3	0.200	2022-02-21 15:56:41
27252576	10475 Help the Leaders	Presentation error	PYTH3	0.180	2022-02-21 15:52:53
27252575	10475 Help the Leaders	Presentation error	PYTH3	0.190	2022-02-21 15:52:49
27252566	10475 Help the Leaders	Presentation error	PYTH3	0.200	2022-02-21 15:50:19

Please note: The code has multiple explanations on how things work and what a lot of variables are (these variables are the ones that are used the most/are not temporary.)

Also, I had a problem the day I finished the code, Online Judge would not let me log in, so the code was taken from the account of a classmate who had some time to spare and help me run the code in the page.