User Guide

You will be presented with a request to “Enter a query: ” whereby you should enter the query you want conducted.

The output of the ads can be set to either full or brief but entering “output=full” or “output=brief”, respectively. Full output will print the all the details of the ad {ad Id, title, date, location, category, price, description}, whereas brief output will only print the ad Id and title.

To conduct a term search:

> You must enter a term or series of terms (separated by spaces) that you would like the results to contain. Given a series of term, only ads containing all of the terms will be printed.
>
> A term is a series of alphanumeric, underscore, and dashed characters followed, optionally, by the wildcard symbol “%”. For a term without the wildcard symbol at the end the ads printed will only be those containing an exact match. For a term ending with “%”, the ads printed will be those that contain a word beginning with the given term.

To conduct a comparison search:

> You must enter a category (location, price, date or cat) followed by a comparison sign (<,>,=,<=,>=) and a date, price location or category. Given a series of comparisons only ads that match all will be returned.

To conduct a mixture of the two:

> For a query containing both term searches and comparison searches, each term/comparison must be separated by spaces. The results returned will only be those that return true for all of the terms/comparisons. In other words, the intersection of all the results returned by each term/comparison search.

To end the program enter “q” or “quit”.

Algorithm Efficiency

When conducting a term search, for an exact value match or a wildcard match, a ranged search is conducted in order to run more efficiently and to account for duplicate terms that are associated with different ads.

For an exact value match, the ranged search begins with the first instance of the term given and concludes when there are no more exact matches to the term.

For a wildcard match, the ranged search begins with the first instance of an index beginning with the given term and concludes when there are no more indexes beginning with the term.

Testing Strategy

Whenever a minor update was made to the code, we tested the correctness of that update by inputting various values consisting of common and fringe cases. To see evidence of the correctness, we regularly used print statements (which have since been removed from our final code) to output variable values. At the completion of the code, we used the same methods to evaluate the correctness of it as a whole.

Project Breakdown

Kyla: ktwong

- Phase 1: ~1.5hr
- Phase 3 (general structure, term search): ~6hr

Nolan: nbrost

- Phase 2: ~6hr
- Phase 3 (comparison search): ~7 hr