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| Experiment Number: | 1 |
| Experiment Title: | Top-k Strategies - Random vs Popularity |
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Purpose: To compare effectiveness of Top-K strategies.

Description: There are two groups of peers sharing a network.

The peers use the same “Like” and “Score” strategies.

* Peers will like any documents that share a tag with them
* Peers will increase their score if they like a document they have not liked before

The Top-K strategy is the only difference between the two peer groups, one uses a random top-k strategy, the other uses a strategy that favours the most popular documents (documents with the most likes).

Hypothesis: The group using Top-K random will be favoured in most cases, this is because the popularity strategy is prone to receiving the same Top-K list multiple times. With the score being based on how many new documents are liked, having a less dynamic list will be a disadvantage.

Lab 1  
File: May 12/L1.nls

Description: There are two tastes, peers and documents only receive one each. Network size is relatively small, 10 peers of each population, and 20 documents.   
  
Results: the random top-k peers and popular top-k peers are similar for the first few ticks, however the popular top-k peers quickly have their utility level off while the random top-k experience a much longer gain in utility.   
  
Conclusion: This is expected. Since the popular top-k peers select their top-k based off how many likes a document has, while only liking documents within their top-k, they are reinforcing their top-k picks each time. Having the same top-k multiple times is a disadvantage with this scoring strategy.

Popular top-k strategy also offers no advantage in this case.  
  
