INFO/CS 4300: Language and Information
The Inverted Index Algorithm for Cosine Similarity

Name: _____

NetID: _____

Algorithm sketch

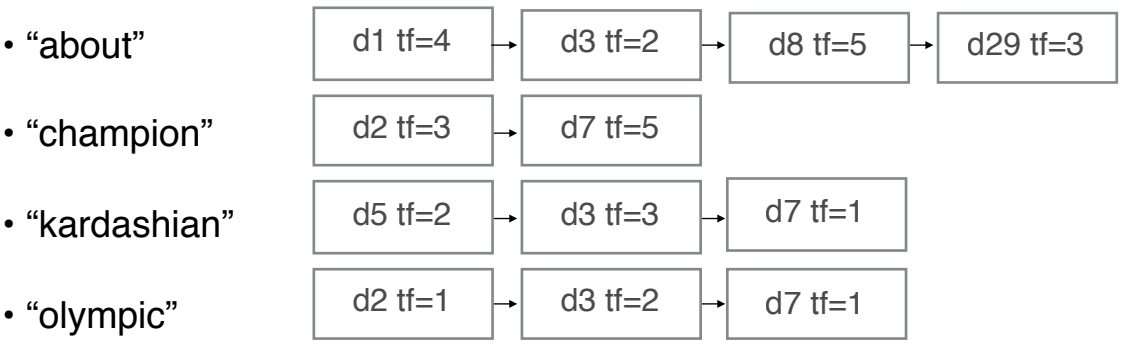
Iterate through all query terms q_i:
for each term, **iterate** through its postings d_j:
update the respective **accumulators** by $w_{iq} * w_{ij}$

return sorted documents by their final **accumulator** scores
(after normalizing each accumulator by the document norm)

Instantiation: $IDF_i = N / DF_i$, $N = 300$, DF_i = number of docs that contain q_i

$w_{ij} = tf_{ij} * IDF_i$
$w_{iq} = 1$ for all terms in the query, $w_{iq} = 0$ otherwise
For this example, do not normalize by the document norm

Inverted index



IDF values

Key	Value
"about"	
"champion"	
"kardashian"	
"olympic"	

Accumulators

Key	Value

Final ranking