1. Compute the ranks for documents using the tf-idf model.
   For the terms $t_1$, $t_2$, $t_3$, $t_4$, $t_5$, and $t_6$,
   the vector of document 1 is $(2, 0, 1, 2, 0, 0)$,
   the vector of document 2 is $(0, 3, 2, 1, 1, 1)$, and
   the vector of query is $(0, 0, 0, 3, 0, 4)$.
   Assume that these vectors already contain the tf-idf values so you do not
   have to do any further term weighting.