

### **Team 3**

#### **Team Members:**

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2.1 While the output appears correct and the training works on NDCG@20 quite well, we receive a value of 0.

2.2 I am receiving a 0 on both test and train data for MAP.

2.3 This is quite poor.

3.1 The obvious reason that we can't simply have  $\text{Log}(0)$  is that it is undefined. In replacing this value we need to produce a value that is the smallest negative we could achieve. In order to do this we simply take the length of the document and assume we have a partial term. We could have  $.5 * \text{the probability of a term with 1 occurrence in } N$ .

3.2 Modifying lambda produces different rankings. If we store the MAP value in between runs, and the MAP value were to increase, we can continue proceeding in this direction for lambda. If the value were to decrease, we would move our lambda in the opposite direction. We could follow this procedure for a set amount of iterations.