

### **Q1**

map: 0.16576065358803455

Rprec: 0.18850649350649354

recip\_rank: 0.36064814814814816

P\_5: 0.18666666666666665

P\_10: 0.14

P\_15: 0.09333333333333332

### **Q2**

map: 0.16576065358803455

Rprec: 0.18850649350649354

recip\_rank: 0.36064814814814816

P\_5: 0.18666666666666665

P\_10: 0.14

P\_15: 0.09333333333333332

### **Q3**

tfidf method is better because it considers the frequency of the token. If the token appears frequently in many documents, it means it is not necessary while if it only appears in small number of documents, it means it is really important and can be a key word for the documents. In the result of program, the score difference of ifidf is larger, which means it value more on key words.