Rocchio Report (GROUP 16)

α	β	γ	mAP@20		NDCG@20	
			RF	PsRF	RF	PsRF
1	1	0.5	0.782	0.658	0.662	0.529
0.5	0.5	0.5	0.698	0.658	0.597	0.529
1	0.5	0	0.775	0.660	0.652	0.517
Original Observations			0.594		0.434	

In case of relevance feedback (RF):

- Both mAP and NDCG increased as compared to original observations (IR System without Rocchio's algorithm).
- This happened because vectors of relevant documents (relevance score 2) from the gold standard file are added to each query vector, making each new query vector favor documents from the gold standard file, hence improving both mAP and NDCG.
- Further the non relevant docs retrieved by the IR system originally are subtracted, this decreases the score final score of the non relevant documents retrieved, further increasing the chances that a relevant doc in gold standard file which was not retrieved originally to be retrieved with the modified queries,
- To sum it up, the cancroids of query vectors move towards relevant docs in the golden standard file after Rocchio's modification. Hence IR system retrieves more docs from Golden standard file, increasing NDCG and mAP

In case of pseudo relevance feedback (PsRF)

- PsRF scores only slightly higher than original observations.
- This is because it assumes top 10 docs as relevant, so terms contained in those docs are added to the query vector, which were not present in the original query. This might improve results under the assumption that related docs contain similar terms. So. Docs in gold standard files which were not retrieved in top 20 positions might come in positions from 11 to 20, increasing scores somewhat.

RF scores are consistently higher than PsRF:

- While calculating PsRF, **no information (feedback) from the golden standard file** is ever taken.
- We only work with our own ranked list from previous parts.
- Hence no actual feedback is ever added, justifying higher scores of RF.