

# Programming assignment 4 report

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## Evaluation value by trec tool

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	MAP	Precision@R	NDCG@20
UL	0.1589	0.1781	0.2251
UJM	0.1443	0.1637	0.2147
UDS	0.0060	0.0086	0.0125
BL	0.0059	0.0086	0.0127

## Standard error

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We typed command like "`./trec_eval -c -m Rprec ../train.pages.cbor-hierarchical.qrels ../UnigramLanguageModel-JM.run > ../Rprec_ujm_test.txt`" to get MAP, Precision@R and NDCG as Programming Assignment 2. However, this time we just got one results. (mean value of MAP, Precision@R and NDCG). Based on one value, we don't know how to calculate the standard error.

## Which of these variants perform best?

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Based on the data we got, we found Unigram Language Model got highest MAP, Precision@R and NDCG@20. From the results above we could say Unigram Language Model performed best, however, we didn't have result of standard error, so we can't make this conclusion.

## For "Brush%20rabbit"

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### UL

The brush rabbit (*Sylvilagus bachmani*), or western brush rabbit, is a species of cottontail rabbit found in western coastal regions of North America, from the Columbia River in Oregon to the southern tip of the Baja California Peninsula. Its range extends as far east as the eastern sides of the Sierra Nevada and Cascade mountain ranges.

### UJM

The brush rabbit (*Sylvilagus bachmani*), or western brush rabbit, is a species of cottontail rabbit found in western coastal regions of North America, from the Columbia River in Oregon to the southern tip of the Baja California Peninsula. Its range extends as far east as the eastern sides of the Sierra Nevada and Cascade mountain ranges.

### UDS

None

### BL

None

From our results of performing UDS and BL, we didn't get any results of query "Brush%20rabbit". We thought there may be something wrong in our code. But we checked for many times, we thought we implemented UDS and BL in the right way. If we found where the bug is later, we will update the results.