Question 1
Not yet answered
Marked out of 1.00
Flag question

Enter the MAP performance of the LTR model using the 3 features where PL2 was used to generate the sample . **Report the performance rounded to 4 decimal places.**

Answer:

Question 2
Not yet answered
Marked out of 1.00
Flag question

Enter the P@5 performance of the LTR model using the 3 features where PL2 was used to generate the sample. **Report the performance rounded to 4 decimal places.**

Answer:

Question 3
Not yet answered
Marked out of 1.00
Flag question

Using the AP measure, enter the returned p-value of the t-test comparing the performance of the LTR model with the 3 features to the PL2 baseline on the "hp" topic set.

Answer:

Question 4
Not yet answered
Marked out of 1.00
Flag question

Using the P@5 measure, enter the returned p-value of the t-test comparing the performance of the LTR model with the 3 features to the PL2 baseline on the "hp" topic set.

Answer:

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Question 5
Not yet answered
Marked out of 1.00
Flag question

Now state if the deployed LTR system (which re-ranks the PL2 sample) is better by a statistically significant margin than PL2 on the AP metric.

Select one:

- True
- False

Question 6
Not yet answered
Marked out of 1.00
Flag question

Now state if the deployed LTR system (which re-ranks the PL2 sample) is better by a statistically significant margin than PL2 on the P@5 metric.

Select one:

- True
- False

Question 7
Not yet answered
Not graded
Flag question

Insert your source code for your URL length implementation, which counts the number of slash characters ("/") in the URL (henceforth called **URL-slashes**).

Following software engineering best practices, **add comments as appropriate** in your code to explain its main logic. **Add also the tests** you conducted to check your code works as expected. Marks can be *lost* in the following Q8-18 questions if the code is not properly commented/tested.

NB: a **2-bands penalty** will be applied for not pasting your full code for Q2 (a) if you answer the following questions (Q8-18).

Question **8**

Not yet answered

Marked out of 2.00

Flag question

Using your URL-slashes ranker to re-rank the PL2 candidate set alone, enter the *Docno* of the top-ranked document for the query 'cryption'.

Answer:

Question **9**

Not yet answered

Marked out of 0.50

Flag question

Enter the MAP performance of re-ranking PL2 using your URL-slashes feature implementation. **Report performances rounded to 4 decimal places.**

Answer:

Question **10**

Not yet answered

Marked out of 0.50

Flag question

Enter the P@5 performance of re-ranking PL2 using your URL-slashes feature implementation. **Report performances rounded to 4 decimal places.**

Answer:

Question **11**

Not yet answered

Marked out of 0.50

Flag question

Now use your URL-slashes feature as a 4th feature in a LTR model. Enter the MAP performance of the resulting LTR model with 4 features. **Report performances rounded to 4 decimals.**

Answer:

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Question **12**

Not yet answered

Marked out of 0.50

Flag question

Enter the P@5 performance of the resulting LTR model with 4 features (the initial 3 + your URL-slashes feature). **Report performances rounded to 4 decimals.**

Answer:

Question **13**

Not yet answered

Marked out of 0.50

Flag question

Enter the number of queries that have been improved according to the AP measure after the deployment of the 4-features LTR model with respect to the LTR baseline (3 features).

Answer:

Question **14**

Not yet answered

Marked out of 0.50

Flag question

Enter the number of queries that have been improved according to the P@5 measure after the deployment of the 4-features LTR model with respect to the LTR baseline (3 features).

Answer:

Question **15**

Not yet answered

Marked out of 0.50

Flag question

Enter the returned p-value of the t-test comparing the resulting 4-features LTR model to the LTR baseline (3 features) on the MAP metric.

Answer:

Question **16**

Not yet answered

Marked out of 0.50

Flag question

Enter the returned p-value of the t-test comparing the resulting 4-features LTR model to the LTR baseline (3 features) on the P@5 metric.

Answer:

Question **17**

Not yet answered

Marked out of 2.00

Flag question

Using the outcome of the t-test, state which of the following statements is correct.

NB: note that wrong answers will be penalised in the marking

Select one or more:

- a. Adding the URL-slashes feature to the learned model resulted in a significantly increased P@5 performance compared to the baseline
- b. Adding the URL-slashes feature to the learned model did not result into a significant MAP performance difference compared to the baseline
- c. Adding the URL-slashes feature to the learned model resulted in a significantly increased MAP performance compared to the baseline
- d. Adding the URL-slashes feature to the learned model resulted in a significantly decreased P@5 performance compared to the baseline
- e. Adding the URL-slashes feature to the learned model did not result into a significant P@5 performance compared to the baseline
- f. Adding the URL-slashes feature to the learned model resulted in a significantly decreased MAP performance compared to the baseline

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Question **18**

Not yet answered

Marked out of 2.00

Flag question

Consider your resulting 4-features LTR model. If you rank all features by feature importance, then your URL-slashes feature is at what rank? **(Evidence supporting your answer must be shown in the form of a graph in your submitted notebook, or marks can be lost)**

Select one:

- a. 2
- b. 3
- c. 4
- d. 1

Question **19**

Not yet answered

Not graded

Flag question

Insert your source code for your URL length implementation, which accounts for the URL type (henceforth called **URL-type**).

Following software engineering best practices, **add comments as appropriate** in your code to explain its main logic. **Add also the tests** you conducted to check your code works as expected. Marks can be *lost* in the following Q20-32 questions if the code is not properly commented/tested and/or if it is unclear.

NB: a **2-bands penalty** will be applied for not pasting your full code for Q2 (b) (URL-type) if you answer the following questions (Q20-32).

Question **20**

Not yet answered

Marked out of 2.00

Flag question

Using your URL-type ranker to re-rank the PL2 candidate set alone, enter the *Docno* of the top--ranked document for the query 'aaie'

Answer:

Question **21**

Not yet answered

Marked out of 1.00

Flag question

Enter the MAP performance of re-ranking the PL2 candidate set using your URL-type feature implementation. **Report performances rounded to 4 decimal places**.

Answer:

Question **22**

Not yet answered

Marked out of 1.00

Flag question

Enter the P@5 performance of re-ranking the PL2 candidate set using your URL-type feature implementation. **Report performances rounded to 4 decimal places**.

Answer:

Question **23**

Not yet answered

Marked out of 0.50

Flag question

Now use your URL-type feature as a 4th feature in an LTR model. Enter the MAP performance of the resulting LTR model with 4 features. **Report performances rounded to 4 decimals.**

Answer:

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Question **24**

Not yet answered

Marked out of 0.50

Flag question

Enter the P@5 performance of the resulting LTR model with 4 features (the initial 3 + your URL-type feature). **Report performances rounded to 4 decimals.**

Answer:

Question **25**

Not yet answered

Marked out of 0.50

Flag question

Enter the number of queries that have been improved according to the AP metric after the deployment of the 4-feature LTR model (with URL-type) with respect to the LTR baseline (3 features).

Answer:

Question **26**

Not yet answered

Marked out of 0.50

Flag question

Enter the number of queries that have been improved according to the P@5 metric after the deployment of the 4-feature LTR model (with URL-type) with respect to the LTR baseline (3 features).

Answer:

Question **27**

Not yet answered

Marked out of 0.50

Flag question

Enter the returned p-value of the t-test comparing the resulting 4-features LTR model (with URL-type) to the LTR baseline (3 features) on the MAP measure.

Answer:

Question **28**

Not yet answered

Marked out of 0.50

Flag question

Enter the returned p-value of the t-test comparing the resulting 4-features LTR model (with URL-type) to the LTR baseline (3 features) on the P@5 measure.

Answer:

Question **29**

Not yet answered

Marked out of 1.00

Flag question

Using the t-test outcome, state if adding the URL-type feature to the baseline LTR model results in a significantly increased performance in terms of MAP.

Select one:

- True
- False

Question **30**

Not yet answered

Marked out of 1.00

Flag question

Using the t-test outcome, state if adding the URL-type feature to the baseline LTR model results in a significantly increased performance in terms of P@5.

Select one:

- True
- False

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Question **31**

Not yet answered

Marked out of 2.00

Flag question

Consider your resulting 4-features LTR model. If you rank all features by feature importance, then your URL-type feature is at what rank? **(Evidence supporting your answer must be shown in the form of a graph in your submitted notebook, or marks can be lost)**

Answer:

Question **32**

Not yet answered

Marked out of 1.00

Flag question

Using the MAP measure, which of the two implemented URL Length feature instantiations you recommend to use for the "hp" topic set?

Select one:

- a. Neither – both instantiations do not significantly improve the baseline
- b. Type – URL-type significantly improves the LTR baseline and URL-slashes does not
- c. Both – both instantiations significantly improve the LTR baseline
- d. Type – URL-type is higher than the LTR baseline while URL-slashes is not
- e. Slashes – URL-slashes is significantly higher than URL-type
- f. Type – URL-type is significantly higher than URL-slashes

Question **33**

Not yet answered

Not graded

Flag question

Insert your source code for your AvgMinDist implementation.

Following software engineering best practices, **add comments as appropriate** in your code to explain its main logic. **Add also the tests** you conducted to check your code works as expected. Marks can be *lost* in the following Q34-Q45 questions if the code is not properly commented/tested and/or if it is not clear.

NB: a **2-bands penalty** will be applied if you do not paste your full source code and attempt the following quiz questions in Q3 (Q34-44).

Question **34**

Not yet answered

Not graded

Flag question

Describe your source code for the AvgMinDist feature. Your description should be concise and to-the-point but should also be sufficiently detailed to describe and justify your design choices, as well as explain how your solution works.

A **2-bands** penalty will be applied if you provide no description of your source code, or if the description is poor/incomplete and you answer the following questions (Q35-Q45).

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Question **35**

Not yet answered

Marked out of 1.00

Flag question

Now consider the outputs of the Q3 test cases. In particular, enter the response for test case 1.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **36**

Not yet answered

Marked out of 1.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 2.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **37**

Not yet answered

Marked out of 1.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 3.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

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Question **38**

Not yet answered

Marked out of 1.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 4.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **39**

Not yet answered

Marked out of 1.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 5.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **40**

Not yet answered

Marked out of 1.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 6.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **41**

Not yet answered

Marked out of 1.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 7.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **42**

Not yet answered

Marked out of 2.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 8.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

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Question **43**

Not yet answered

Marked out of 2.00

Flag question

Now, using the outputs of the Q3 test cases, enter the returned response for test case 9.

This should either be a docno (i.e. Gxx-xx-xxxxxx) or EQUAL.

Answer:

Question **44**

Not yet answered

Marked out of 3.00

Flag question

Now use your implemented AvgMinDist feature as a 4th feature in an LTR model (i.e. add it to the initial 3 features of the LTR baseline). Enter the MAP performance of the resulting 4-features LTR model. **Report performances rounded to 4 decimal places.**

Answer:

Question **45**

Not yet answered

Not graded

Flag question

Enter the P@5 performance of your resulting 4-features LTR model (with MinAvgDist) (**rounded to 4 decimal places**), the number of queries that have been improved by your LTR model, and the number of queries that have been hurt by your LTR model in comparison to the LTR baseline (3 features).

Enter your answer in the following form (separation by a comma and without space):

<P@5 performance>,<Number of queries improved>,<Number of queries hurt>

e.g. 0.3456,22,66

NB: marks can be *lost* from Q43, if you answer it but do not report the P@5 performance in this question as indicated above.

Question **46**
Not yet answered
Marked out of 2.00
Flag question

Now use your implemented URL Length Type and AvgMinDist features in a 5-features LTR model (i.e. add the URL Length Type and AvgMinDist features to the initial 3 features of the LTR baseline). Enter the MAP performance of the resulting 5-features LTR model. **Report performances rounded to 4 decimal places.**

Answer:

Question **47**
Not yet answered
Not graded
Flag question

Enter the P@5 performance of your resulting 5-features LTR model (with the URL Length Type and MinAvgDist features) (**rounded to 4 decimal places**), the number of queries that have been improved by your LTR model, and the number of queries that have been hurt by your LTR model in comparison to the LTR baseline (3 features).

Enter your answer in the following form (separation by a comma and without space):

<P@5 performance>,<Number of queries improved>,<Number of queries hurt>

e.g. 0.1234,11,66

NB: marks can be *lost* from Q46, if you answer it and do not report the P@5 performance as indicated above.

Question **48**
Not yet answered
Not graded
Flag question

Report if your 5-features LTR model improves the MAP of the 4-feature models?

NB: marks can be *lost* from Q46, if you answer it and do not answer this question.

Select one:

- a. It is better than both the URL-type and the AvgMinDist 4-features LTR models
- b. It is worse than both LTR-type and AvgMinDist 4-features models
- c. It is better than the URL-type 4-features LTR model
- d. It is better than the AvgMinDist 4-features LTR model

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Question **49**
Not yet answered
Marked out of 1.00
Flag question

Consider your best performing LTR variant (with 3, 4 or 5 features) from all your previous experiments (we call it LTR deployed variant) that achieved the best MAP performance. Considering P@1 metric as the main effectiveness metric, and based on your understanding of the Web search lectures, do you consider your deployed system to be sufficiently good for deployment for homepage finding queries?

Select one:

- True
- False

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Question **50**
Not yet answered
Marked out of 1.00
Flag question

This question concerns LambdaMART. Based on your understanding of the course material and your conducted experiments, which of the following statements is correct.

NB: Note that wrong answers will be penalised in the marking

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Select one or more:

- a. The sign (positive or negative) of feature values does matter in LambdaMART
- b. It depends on the features; sometimes normalisation matters sometimes it does not
- c. It depends on the features; sometimes the sign of the feature values (positive or negative) matters sometimes it does not
- d. The normalisation of feature scores does matter in LambdaMART
- e. The sign (positive or negative) of feature values does not matter in LambdaMART
- f. The normalisation of feature scores does not matter in LambdaMART

Question **51**
Not yet answered
Marked out of 1.00
Flag question

Based on your understanding of the feature, what length of queries will benefit more from AvgMinDist?

NB: Note that wrong answers will be penalised in the marking

Select one:

- a. Longer queries, e.g. > 4 terms
- b. A few terms, e.g. 2-3
- c. A single term
- d. AvgMinDist does not benefit any query

Question **52**
Not yet answered
Marked out of 1.00
Flag question

Your AvgMinDist implementation was based on adjacent pairs of query terms. Based on your intuitions, if you replaced pairs of adjacent terms with all pairs of query terms, what types of queries would you expect this to benefit the most?

NB: Note that wrong answers will be penalised in the marking

Select one:

- a. Informational
- b. It will not benefit any queries
- c. Navigational
- d. Transactional

Question **53**

Not yet answered

Marked out of 1.00

Flag question

In this exercise, you focussed on AvgMinDist, i.e. aggregating MinDist by averaging over sequential pairs of query terms.

Now consider a query like `new york city`. Based on your intuitions, what do you think would be a more effective aggregation function?

NB: Note that wrong answers will be penalised in the marking

Select one:

- a. Average
- b. Sum
- c. Min
- d. Max

Question **54**

Not yet answered

Marked out of 1.00

Flag question

Consider your other intuitions about navigational search tasks. Name one other type of evidence you have not used in your deployed system, which typically helps improve navigational search effectiveness.

Answer:

Question **55**

Not yet answered

Not graded

Flag question

Upload your completed **.ipynb** Colab notebook for Exercise 2. It **must** show both your solutions as well as the results of your solutions.

A 2-bands penalty will be applied if you do not provide your completed notebook. Notebooks will be checked to verify the completed work and answers.

Marks can be lost if the notebook does not show evidence for the reported experimental answers submitted in the Quiz.

Maximum file size: 100MB, maximum number of files: 1

Files

You can drag and drop files here to add them.

Accepted file types

Jupyter Python file .ipynb

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Question **56**

Not yet answered

Not graded

Flag question

Enter a *realistic* estimate of the number of hours you worked on Exercise 2.

Answer:

Question **57**

Not yet answered

Not graded

Flag question

Tell us about the level of difficulty of Exercise 2.

Select one:

- a. Hard
- b. Fairly doable
- c. Too easy
- d. Very hard
- e. Easy

Question **58**

Not yet answered

Not graded

Flag question

What you liked and/or disliked about the exercise. What took you a while to figure out and what would have helped you to figure that out earlier? Any specific suggestions on how to improve the exercise?