ECS763U/ECS763P - Natural Language Processing - 2022/23 - Semester 1

Started on	Friday, 23 December 2022, 3:28 PM
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Completed on	Friday, 23 December 2022, 3:37 PM
Time taken	9 mins 10 secs
Grade	**9.00** out of 10.00 (**90**%)

Quiz navigation

1 2 3 4 5 6 7 8 9 10 11 12 13

Show one page at a time

Finish review

Question 1
Correct
Mark 1.00 out of 1.00
Flag question

A unique sentence of a natural language will always map to a single sentence of a logical representation language.

Select one:
- True
- False ✔

The correct answer is 'False'.

Question 2
Correct
Mark 1.00 out of 1.00
Flag question

The interpretation of a sentence of a formal semantic language should be flexible.

Select one:
- True
- False ✔

The correct answer is 'False'.

Question 3
Correct
Mark 1.00 out of 1.00
Flag question

If you want to calculate the semantic similarity between documents using a distributional semantics approach, you would compare the columns of a _____.

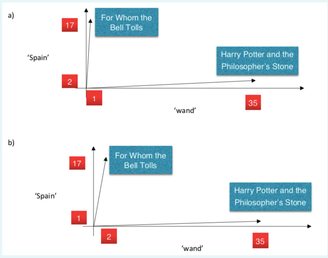
Select one:
- a. term-document matrix ✔
- b. word-context matrix

The correct answer is: term-document matrix

Question 4
Correct
Mark 1.00 out of 1.00
Flag question

See the term-document matrix for two documents, the novels `Harry Potter and the Philosopher's Stone' and `For Whom the Bell Tolls', below.
Select the correct depiction of the two vectors representing the two novels in 2-dimensional space from the two plots.

	Harry Potter and the Philosopher's Stone	For Whom the Bell Tolls
wand	35	1
Spain	2	17



Select one:
- a. a ✔
- b. b

The correct answer is: a

Question 5
Correct
Mark 1.00 out of 1.00
Flag question

A semantic representation language cannot be just any set of symbols. It has to satisfy a set of properties. Select those properties.

Select one or more:
- a. Complete
- b. Expressiveness ✔
- c. Have canonical Forms ✔
- d. Allow for ambiguity
- e. Unambiguous representations ✔
- f. Verifiability ✔
- g. Informal
- h. Grammatical

The correct answers are: Verifiability, Unambiguous representations, Have canonical Forms, Expressiveness

Question 6
Correct
Mark 1.00 out of 1.00
Flag question

The following are required for any model of First Order Logic.

Select one or more:
- a. Properties ✔
- b. Times
- c. Activities
- d. Relations ✔
- e. Events
- f. Domain of individuals ✔

The correct answers are: Domain of individuals, Properties, Relations

Question 7
Correct
Mark 1.00 out of 1.00
Flag question

Select which of the below is a semantic representation language.

Select one or more:
- a. Syntax
- b. First Order Logic ✔
- c. Abstract Meaning Representation ✔
- d. Frames ✔
- e. Context Free Grammar
- f. Logical Grammar

The correct answers are: First Order Logic, Abstract Meaning Representation, Frames

Question 8
Incorrect
Mark 0.00 out of 1.00
Flag question

Which of the following is a suitable logic translation for `John played tennis yesterday'?

Select one:
- a. $\lambda x \lambda y.\ \exists e.\ play(e) \wedge player(e,x) \wedge sport(e,y) \wedge yesterday(e)$
- b. $\exists e.\ play(e) \wedge player(e, John) \wedge sport(e, tennis) \wedge yesterday(e)$
- c. $\lambda e.\ play(e) \wedge player(e, John) \wedge sport(e, tennis) \wedge yesterday(e)$
- d. $\lambda x.\ \exists e.\ play(e) \wedge player(e,x) \wedge sport(e, tennis) \wedge yesterday(e)$ ✘
- e. $\lambda y \lambda x.\ \exists e.\ play(e) \wedge player(e,x) \wedge sport(e,y) \wedge yesterday(e)$

The correct answer is: $\exists e.\ play(e) \wedge player(e, John) \wedge sport(e, tennis) \wedge yesterday(e)$

Question 9
Correct
Mark 1.00 out of 1.00
Flag question

Consider the below document-term matrix for the documents `Love in the Time of Cholera' and `Gray's Anatomy for Students' with a vector basis of the frequency of the two terms shown. Calculate the cosine similarity between the two document vectors. Give your answer to 2 DECIMAL PLACES.

	Love in the Time of Cholera	Gray's Anatomy for Students
cholera	24	20
love	50	1

Answer: 0.48 ✔

The correct answer is: 0.48

Question 10
Correct
Mark 1.00 out of 1.00
Flag question

Consider the below document-term matrix for the documents `Othello' and `Henry V' with a vector basis of the frequency of the two terms shown. Calculate the cosine similarity between the two document vectors. Give your answer to 2 DECIMAL PLACES.

	Othello	Henry V
war	6	28
murder	20	2

Answer: 0.35 ✔

The correct answer is: 0.35

Finish review