The University of Melbourne

Department of Computing and Information Systems

COMP90049

Knowledge Technologies Sample

Mid-semester Test

Length:	This paper	r has 4	nages	including	this cover	r nage
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Authorised materials: None

Calculators: Not permitted

Time: 50 minutes, with no reading time

Instructions to students: This exam is worth a total of 10 marks and counts for 10% of your final grade. Please answer all questions in the provided spaces on the test page. Please write your student ID in the space provided below. The test may not be removed from the test venue.

Student id:	

Examiner's use only:

Q1	Q2	Q3	Q4	Q5	Q6

COMP90049 Knowledge Technologies Mid-semester Test

Sample

Total marks: 10

Students must attempt all questions

1.	1. Describe, with the aid of an example, the difference between "concrete tasks" and tasks." (1 mark)	"knowledge
2.	2. For the "regular expression":	
	$\S(he)a[t]{1,2}i$?	
	which of the following strings would the expression match (circle each)? (1 mark)	
	(a) eai	
	(b) heatt	
	(c) cheaters	
	(d) space heating	

3.	Use the "global edit distance," as shown in the lectures, to find the distance from (deleting) the	е
	string led to (inserting) the string deed, based on the following parameter vector:	

$$[m, i, d, r] = [-3, 1, 4, 2]$$

Use as much of the matrix below as you need. (2 marks)

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- 4. For the "Soundex algorithm":
 - (a) Apply it to the strings carter and clinton, using the following modified table: (1 mark)

aeiouwy	(
bdgjlmnrvz	1
cfhkpqstx	2

(b)	Briefly describe how you	might use your	results in par	t (a) to perform	n "approximate	matching"
	for the string collins.	(1 mark)				

	In the context of Information Retrieval, what does it mean for a document to be "relevant"? mark)
(Given the following document collection: A: morning afternoon evening good B: good good good vibrations
	Use the cosine similarity to determine the "document ranking" for the query Q: good morning pased on the following TF-IDF model: (3 marks)
	$w_{d,t} = f_{d,t} \qquad w_{q,t} = \frac{N}{f_t}$

- End of Test -