CSCI-572 EXAM 2

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1. Input Key:Value Pairs: (0:Data Science), (1:Data is Science)

   (The line offset is the key. The content of the line is the value.)

2. JAVA_HOME should be added to PATH and HADOOP_CLASSPATH should be set.

   export PATH=${JAVA_HOME}/bin:${PATH}
   export HADOOP_CLASSPATH=${JAVA_HOME}/lib/tools.jar

3. "xxxxx": Numbers denote which reducer wrote it out.

4. 1) Lacks typical per-directory data structure to list each file in the directory.
   2) Does not support aliases (i.e. hard or sym links).

5. YES

6. Reserved Keyword: static
   Access Specifier: public (optional)

7. Ad network: The key function of an ad network is aggregation of ad space supply from publishers and matching it with advertiser demand.

   Ad exchange: An ad exchange is a technology platform that facilitates the buying and selling of media advertising inventory from "multiple" ad networks and the prices of that inventory are determined through technology-driven bidding.

8. Lower
   (Keywords that present less competition also offer lower cost-per-click prices since few marketers are targeting them.)

9. b. likely less than $200.00

10. A. Modus Ponens: Given 2 hypotheses p and p->q, Modus Ponens states that if p and p->q are true, then the conclusion q is also true.

    p
    p->q
    —------
    q

B. From fact #1, Rover barks and eats Alpo.
    So, Rover is a dog (this is fact #5).
    From #3, since Rover is a dog, Rover is brown (#6 is formed) which is what we require.

Hence shown.

11. solrconfig.xml

12. managed-schema

13. <u>solrconfig.xml:</u>
    <listener event="newSearcher"
    class="org.apache.solr.schema.ExternalFileFieldReloader" />
    <listener event="firstSearcher"
    class="org.apache.solr.schema.ExternalFileFieldReloader" />

    <u>managed-schema:</u>
    <fieldType name="external" keyField="id" defVal="0"
    class="solr.ExternalFileField"/>
    <field name="pageRankFile" type="external" stored="false" indexed="false"/>

14. The root cause is that the user-defined Mapper and Reducer classes have to be defined as static classes; because they are not, we are facing this error.

15. a. & b.

16. Cognitive Error

17. A. Deletion => 1
    B. Insertion => 1
    C. Substitution => (1 => characters are different, 0 => characters are same}

18.

	#	S	P	U	R	S
#	0	1	2	3	4	5
P	1	1	1	2	3	4
A	2	2	2	2	3	4
C	3	3	3	3	3	4
E	4	4	4	4	4	4
R	5	5	5	5	4	5
S	6	5	6	6	5	4

19. False

20. False

21. True

22. 1. intra-class similarity - should be high
2. inter-class similarity - should be low

23. a. [0,1]
b. [-1,1]
c. [0,1] ; in terms of %: 0 to 100%

24. • Morphological variants (having to do with inflections)
Eg. invented -> inventor -> inventions

• Lexical variants (similar to synonyms)
Eg. killer -> assassin
   far -> distance

• Semantic variants
Eg. like -> prefer (a more specific or less specific term)

25.

Word	Relation	Example
Breakfast	Hypernym	Meal
Meal	Hyponym	Dinner
Table	Meronym	Leg
Dinner	Holonym	Meal
Leader	Antonym	Follower

26. Performer, person, living thing, whole, object, physical entity, entity

27. C

28. C1: (2,7)
    C2: (28/3, 26/3) = (9.33,8.67)

29. L1 norm & Cosine Distance

30. D. Polygons

31. A. 3

    B. -2

32. Search primarily based on:
    • tags (FlickR, FaceBook)
    •   surrounding text
    • using image feature

33. Similar Color Content (Correlogram & Autocorrelogram) & Color Layout

34. It was accomplished by collecting candidate images from the internet and cleaning up the candidate images by humans.