

Information Retrieval Fall 2016

Quiz 4 (Total Marks = 10)

Roll No: _____ **Name** _____

Q1) Consider following posting list of a term. (document Id, count, [positions]) (4 Marks)

(3,3,[4,7,12]) (5,1,[84]) (12,4,[13,15,20,24])

- a) Delta encode document Ids and delta encode term positions
- b) Encode resulting list from part a using Elias Gamma Encoding
- c) How many bits are required for encoding entire list in part b? How many bits will be required for encoding list from part a using fixed length encoding of 8 bits per number

Q2) Following table gives RSS (Residual Sum of Squares) for different value of K using K Means clustering algorithm for some n documents. Which value of K will you choose and why? (2 Marks)

K	2	3	4	5	6	7	8	9	10
RSS	2000	1800	1610	1565	1300	1120	900	700	500

Q3) Show the different steps of HAC algorithm using the distance matrix below.
Give partial results after each step. [4 Marks]

- a) Calculate Similarity of Clusters using Complete Link
- b) Calculate Similarity of Clusters using Single Link

	1	2	3	4	5
1	0				
2	2	0			
3	4	3	0		
4	10	7	9	0	
5	8	5	6	1	0