

7. (5 points) The string *mississippi* is transformed by Burrows-Wheeler transform into the string *smspipissii*. Fill in the table below with the columns which allow the recovery of the original string. Explain briefly how you can find the columns, starting from the last one, then the second last, and so on to the first.

1										i	s
2										i	m
3										i	s
4										i	p
5										m	i
6										p	p
7										p	i
8										s	s
9										s	s
10										s	i
11										s	i

4. (4 points) Decode the string 1110101000. Knowing it is the Elias code for an integer.

5. (4 points) For a given $\gamma(0) = 0.4, \gamma(1) = 0.2$ order

6. (3 points) Which is the

7. (3 points) Specify the

8. (2 points) Use your

9. (2 points) How a binary tree can be

10. (2 points) The information about

11. (2 points) Use a binary tree with $n = 7$ leaves

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100. (2 points) Use your

Low Value	High Value	New Character
0.0	0.5	E
0.5	0.7	X
		A
		M
		SPACE

Character	Probability	Range
SPACE	1/10	0.00 - 0.10
A	3/10	0.10 - 0.40
B	1/10	0.40 - 0.50
S	2/10	0.50 - 0.70
N	1/10	0.70 - 0.80
M	1/10	0.80 - 0.90
Z	1/10	0.90 - 1.00

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