



< Previous

Next

LE1.6

🔖 Bookmark this page

Calculator

LE1.6.1: Huffman Encoding

ponto 1 / 1 (sem classificação)

A Huffman code assigns a 6-bit codeword for message A and a 5-bit codeword for message B. It is known that A and B have different probabilities, and hence carry different amounts of information. Which message carries more information?

More info in:

☒ A

☐ B

☐ Can't tell



Explanation
The Huffman algorithm ensures that longer codewords correspond to messages with a lower probability. So because A has a longer codeword, it is the less likely message and so carries more information.

Enviar

Answers are displayed within the problem

LE1.6.2: Huffman's Algorithm

5 pontos possíveis (sem classificação)

After spending the afternoon in the dentist's chair, Ben Bitdiddle has invented a new language called AEIOU made up entirely of vowels (the only sounds he could make with someone's hand in his mouth). The AEIOU alphabet consists of the five letters "A", "E", "I", "O", and "U" which occur in messages with the following probabilities:

Letter	p(Letter)
A	0.11
E	0.25
I	0.20
O	0.35
U	0.09

Use Huffman's algorithm to construct a variable-length code that minimizes the expected number of bits used to encode each letter of a message one-at-a-time.

Please enter the *length* of the variable-length code for each letter.

Length of encoding for A (in bits):

Length of encoding for E (in bits):

Length of encoding for I (in bits):

Length of encoding for O (in bits):

Length of encoding for U (in bits):

Calculator

Enviar

Discussion

Ocultar discussão

Topic: 1. Basics of Information / LE1.6

Adicionar publicação

Show all posts	by recent activity
<div><input checked="" type="checkbox"/> <u>LE1.6.1 Which is the relation between probability and amount of information?</u></div> <div>The exercise says "A Huffman code assigns a 3-bit codeword for message A and a 4-bit codeword for message B. It is known that...</div> <div>6</div>	
<div><input checked="" type="checkbox"/> <u>Can't we have further probabilities tables to practice more with Huffman's trees?</u></div> <div>I understood the material in this lecture but some of my answers to the exercises followed another path. In particular, my Huffman's...</div> <div>2</div>	
<div><input checked="" type="checkbox"/> <u>O?</u></div> <div>Wouldn't O be on a separate branch with a 1 bit value? Can someone help me clarify why this is not?</div> <div>7</div>	
<div><input type="checkbox"/> <u>O</u></div> <div>I have the same querv.. whv do we need it be 2 bit when it can be represented by 1?</div> <div>2</div>	

< Previous

Next >

© All Rights Reserved



edX

- About
- Affiliates
- edX for Business
- Open edX
- Careers
- News

Legal

- Terms of Service & Honor Code
- Privacy Policy
- Accessibility Policy
- Trademark Policy
- Sitemap
- Cookie Policy
- Your Privacy Choices

Connect

- Idea Hub
- Contact Us
- Help Center
- Security
- Media Kit

Calculator



© 2024 edX LLC. All rights reserved.
深圳市恒宇博科技有限公司 [粤ICP备17044299号-2](#)