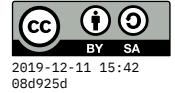


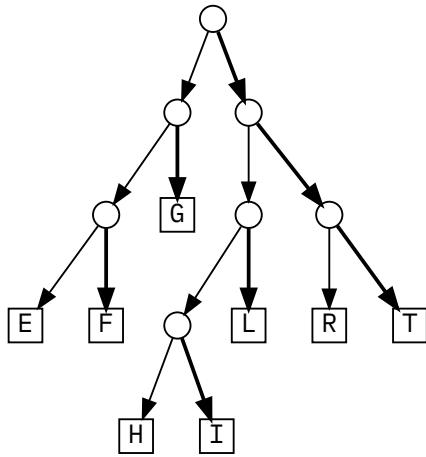
Quiz 2



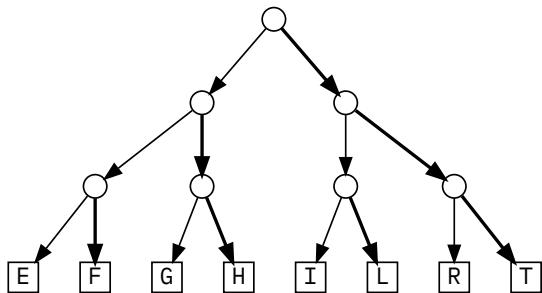
30 September 2019

Solutions

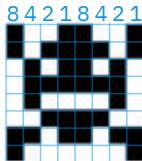
Here is a tree representing a variable-width encoding of eight letters. Use it to answer the following questions. As usual, we will represent a **left** branch as 0, and a **right** branch as 1.



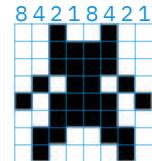
1. Encode the word FRIGHT into bits: 001 110 1001 01 1000 111
2. Decode the bits 011101001001111 into a word: GRIFT
3. Below is a different tree, representing a fixed-width encoding of the same eight letters.
 - Give one example of a word whose bit representation will be **shorter using the variable-width code than the fixed-width code**: EGG (7 bits vs 9)
 - Give one example of a word whose bit representation will be **shorter using the fixed-width code than the variable-width code**: HILL (14 bits vs 12)



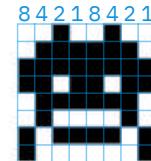
Select **one** of the following alien/monster icons, overlay it with an 8×8 grid, and encode it into a 64-bit (16-digit) hexadecimal number.



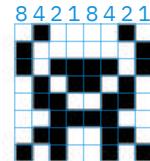
99BD5A7E423CDB81



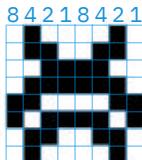
243C3C5ABD3C6642



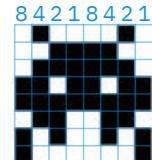
247EFFDB7E42BD81



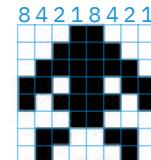
4281BD5A663C66A5



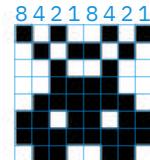
42663C7EC3BD6642



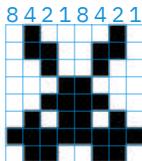
423C7EDBFF66A581



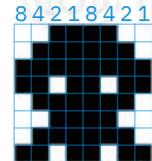
183C7EDBBD186642



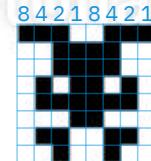
A55A243C7EDBFF66



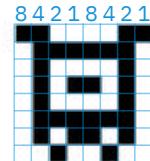
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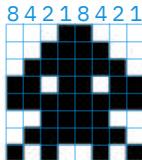
3C7EFFDB7E3C7EDB



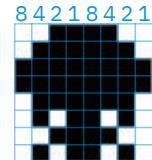
E73C3C5A7E186624



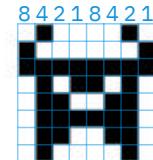
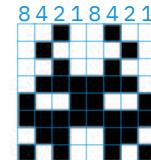
C37E425A427E5A24



183C7EDBFF3C7EA5



3C7EFFFF7E5A3C5A



2442247E99FF66A5

4281FF5A667E6642

#86554402