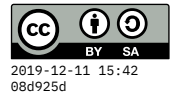


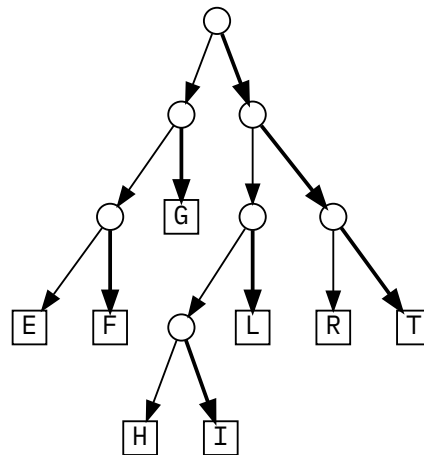
Quiz 2

30 September 2019

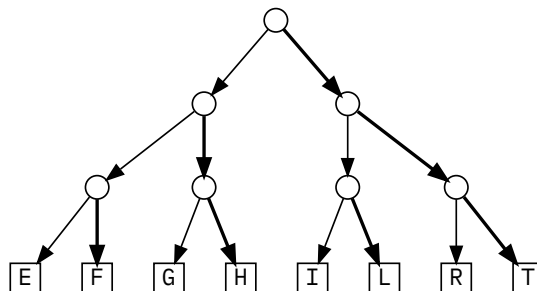


Solutions

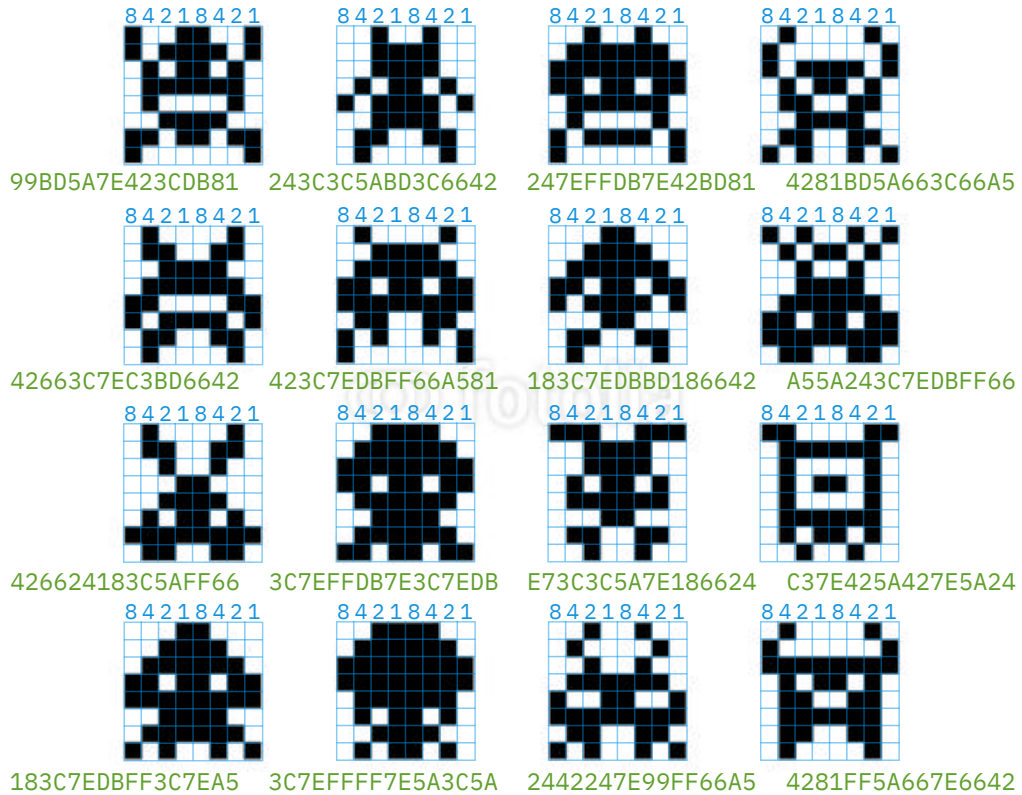
Here is a tree representing a variable-width encoding of eight letters. Use it to answer the following questions. As usual, we will represent a **left** branch as 0, and a **right** branch as 1.



1. Encode the word FRIGHT into bits: 001 110 1001 01 1000 111
2. Decode the bits 0111101001001111 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.



#86554402