

Compression Puzzle: Christmas Carol 1

Big files take up a lot of memory. The bigger the file the more it takes. We therefore compress files - shrink them without losing anything. If the files contain text, we can swap words for numbers and just send the numbers with a code book saying which word is which.

To get the message back, just keep swapping numbers for words from the codebook

For example, given the message: 3 2 2 2 3 1 1 1 codebook: 1[Da] 2[Do] 3[De]

Replace 1s in the message with “Da” from the codebook, 2 with “Do” and 3 with “De”, we get “De Do Do Do De Da Da Da” (which is the title of a song about abusing words):

Can you solve this compression code puzzle and recover a Christmas Carol:

43 18 31 43 3 13 36
 49 47 8 34 38 52 4 53
 52 50 53 1 25 44 37
 33 1 9 51 30 42 49 40 12
 54 54
 6 22 43 26 32 23
 46 29 48 2 35 1 41
 39 21 43 15 5 45 16
 2 47 43 14 24 19 20 28
 2 40 24 10 7 11 2 30



Codebook:

1[a] 2[and] 3[angels] 4[as] 5[beyond] 6[born] 7[both] 8[certain] 9[cold] 10[continued]
 11[day] 12[deep] 13[did] 14[earth] 15[east] 16[far] 17[fields] 18[first] 19[gave] 20[great]
 21[in] 22 [is] 23[israel] 24[it] 25[keeping] 26[king] 27[lay] 28[light] 29[looked] 30[night]
 31[noel] 32[of] 33[on] 34[poor] 35[saw] 36[say] 37[sheep] 38[shepherds] 39[shining]
 40[so] 41[star] 42[that] 43[the] 44[their] 45[them] 46[they] 47[to] 48[up] 49[was]
 50where] 51[winter's] 52[21 17] 53[46 27] 54[31 31]