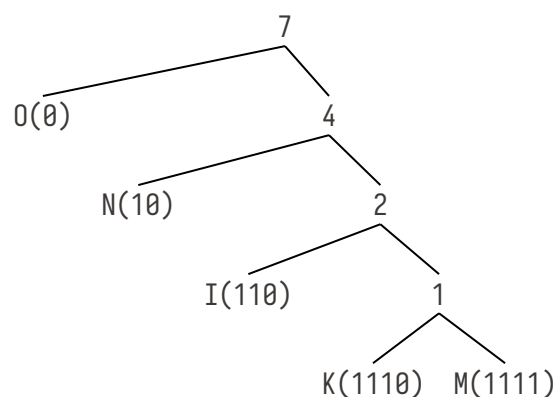


Code the following message using Huffman-coding: ONINOOONOKIMONO

Chars	O	N	I	K	M
Occurrences	7	4	2	1	1

Left branches are 0 bit, right are 1 bit



ASCII	O	N	I	K	M
Encoding	0	10	110	1110	1111

- How many bits were used to code your Huffman-tree in total?
- How many bits would be needed to store the message in ASCII (w/ one bit of padding)?
- How many bits would be required for the message if a coding with equal bit lengths was used?

Task a)

$$7 \cdot 1 + 4 \cdot 2 + 2 \cdot 3 + 2 \cdot 4 = 29\text{bits}$$

Task b)

$$\text{sizeof}(15 \text{ chars (sizeof(char) = 1 byte)}) = 29 \cdot 8 = 232\text{bits}$$

Task c)

$$3 \text{ chars} = 3 \text{ bit each, } 3 \cdot 15 = 45\text{bits}$$

Decode the following text using the following huffman encoding:

Sequence: 001010110110000011101011

ASCII	E	H	U	L	P	F
Encoding	000	001	010	0110	0111	1

HUFFLEPUFF