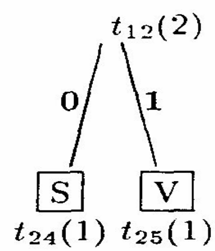
Laboratior PS

Constructia arborelui binar

Setul de date *D*: **IT IS BETTER LATER THAN NEVER. =>** *N* =13 elem., nr. noduri=25, k=12

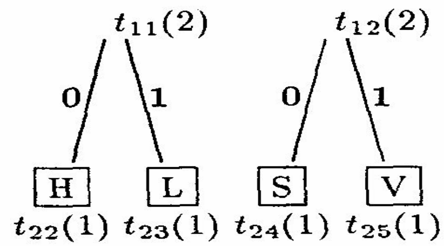
Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_{17}	t_{18}	t_{19}	t_{20}	t_{21}	t_{22}	t_{23}	t_{24}	t_{25}
A^0		E	T	R	A	I	N	.	B	H	L	S	V
N(s)	5	5	5	3	2	2	2	1	1	1	1	1	1

$\boxed{k = 1}$



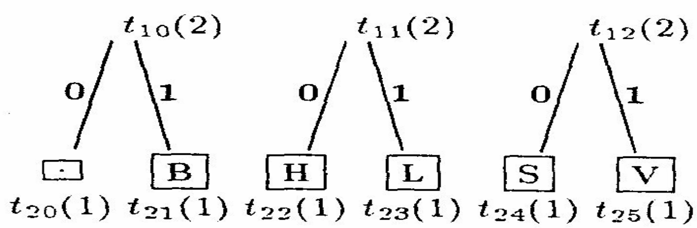
Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_{17}	t_{18}	t_{19}	t_{20}	t_{21}	t_{22}	t_{23}	t_{12}
$\mathcal{A}^{0,12}$	␣	E	T	R	A	I	N	.	B	H	L	□
$\mathcal{N}(s)$	5	5	5	3	2	2	2	1	1	1	1	2

$\boxed{k = 2}$



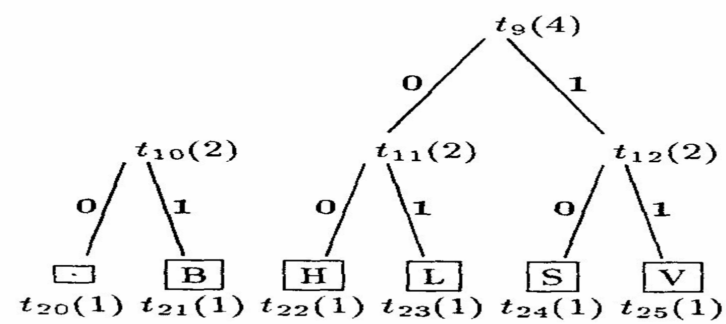
Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_{17}	t_{18}	t_{19}	t_{20}	t_{21}	$\mathbf{t_{11}}$	t_{12}
$\mathcal{A}^{0,11}$	␣	E	T	R	A	I	N	.	B	□	□
$\mathcal{N}(s)$	5	5	5	3	2	2	2	1	1	**2**	2

$\boxed{k = 3}$



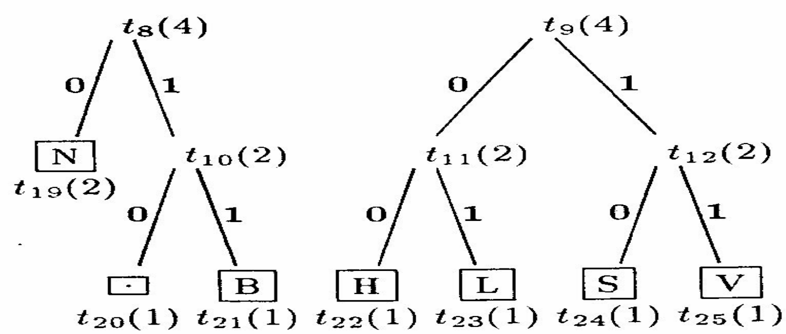
Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_{17}	t_{18}	t_{19}	$\mathbf{t_{10}}$	t_{11}	t_{12}
$\mathcal{A}^{0,10}$	␣	E	T	R	A	I	N	□	□	□
$\mathcal{N}(s)$	5	5	5	3	2	2	2	**2**	2	2

$\boxed{k = 4}$



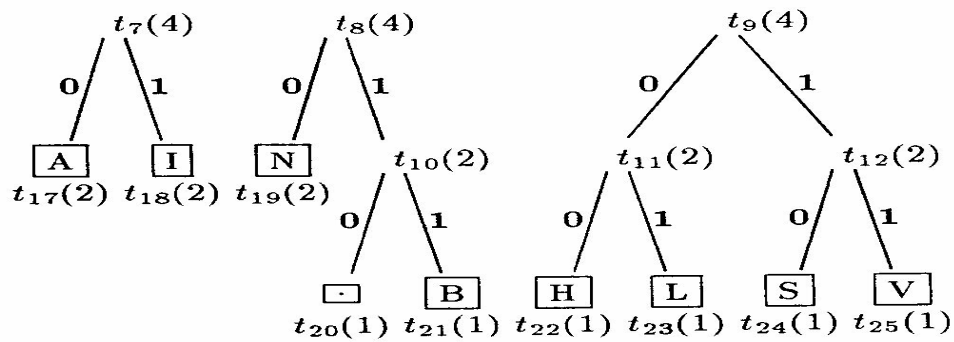
Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_{17}	t_{18}	t_{19}	t_{10}	t_9
$\mathcal{A}^{0,9}$	␣	E	T	R	A	I	N	□	□
$\mathcal{N}(s)$	5	5	5	3	2	2	2	2	4

$\boxed{k = 5}$



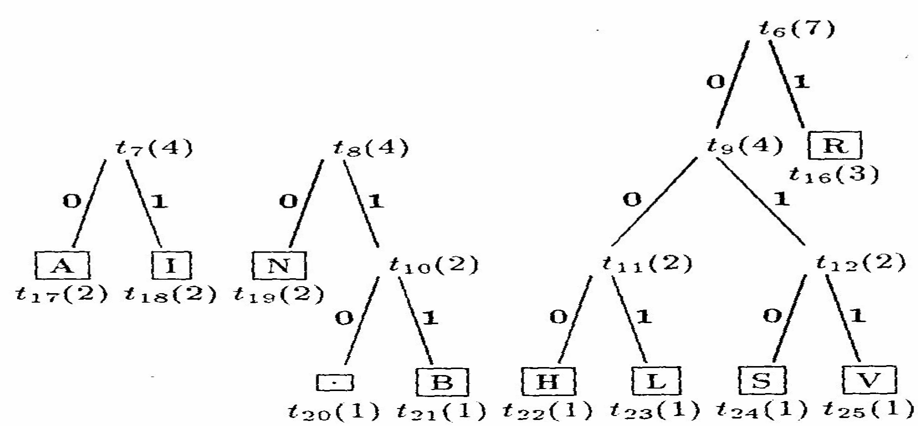
Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_{17}	t_{18}	t_8	t_9
$\mathcal{A}^{0,8}$	␣	E	T	R	A	I	□	□
$\mathcal{N}(s)$	5	5	5	3	2	2	4	4

$\boxed{k = 6}$



Nod	t_{13}	t_{14}	t_{15}	t_{16}	t_7	t_8	t_9
$\mathcal{A}^{0,7}$	␣	E	T	R	□	□	□
$\mathcal{N}(s)$	5	5	5	3	4	4	4

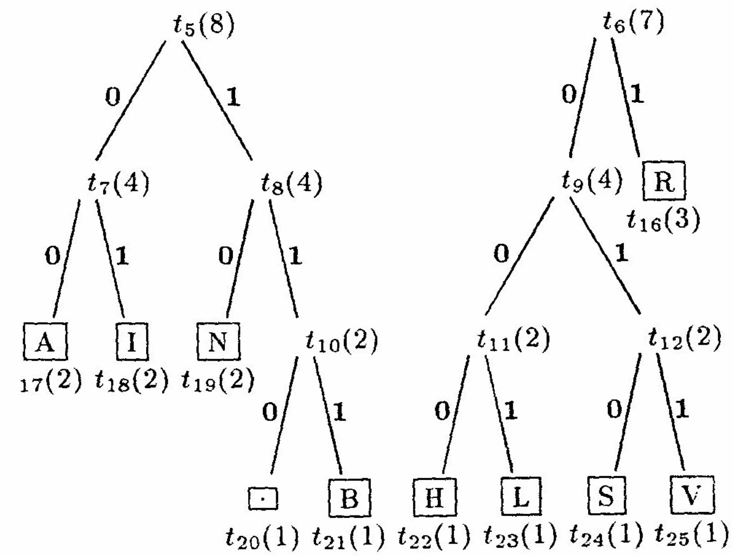
$\boxed{k = 7}$



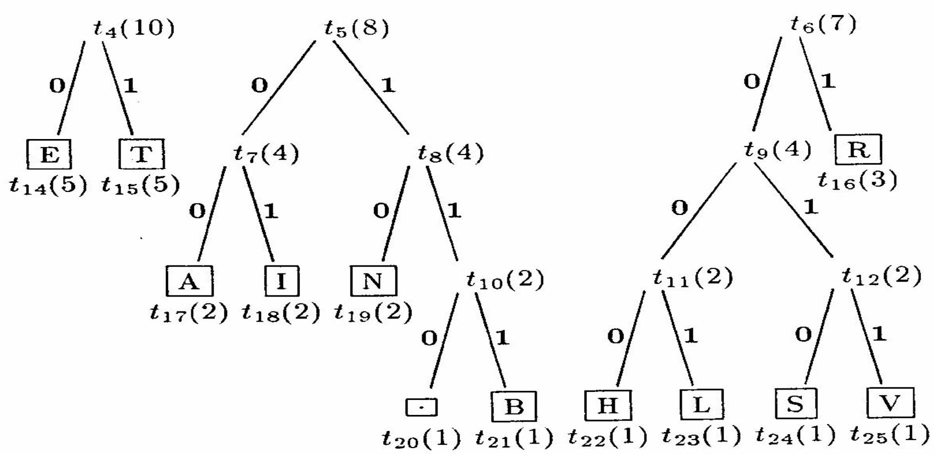
Nod	t_{13}	t_{14}	t_{15}	t_7	t_8	t_6
$\mathcal{A}^{0,6}$	␣	E	T	□	□	□
$\mathcal{N}(s)$	5	5	5	4	4	7

$\boxed{k = 8}$

Nod	t_{13}	t_{14}	t_{15}	t_5	t_6
$\mathcal{A}^{0,5}$	␣	E	T	□	□
$\mathcal{N}(s)$	5	5	5	8	7

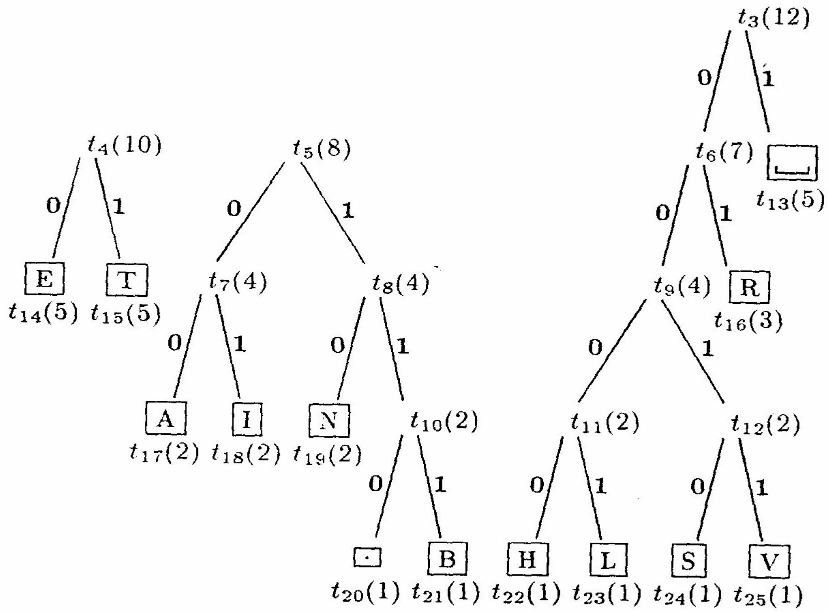


$\boxed{k = 9}$



Nod	t_{13}	t_4	t_5	t_6
$\mathcal{A}^{0,4}$	␣	□	□	□
$\mathcal{N}(s)$	5	**10**	8	7

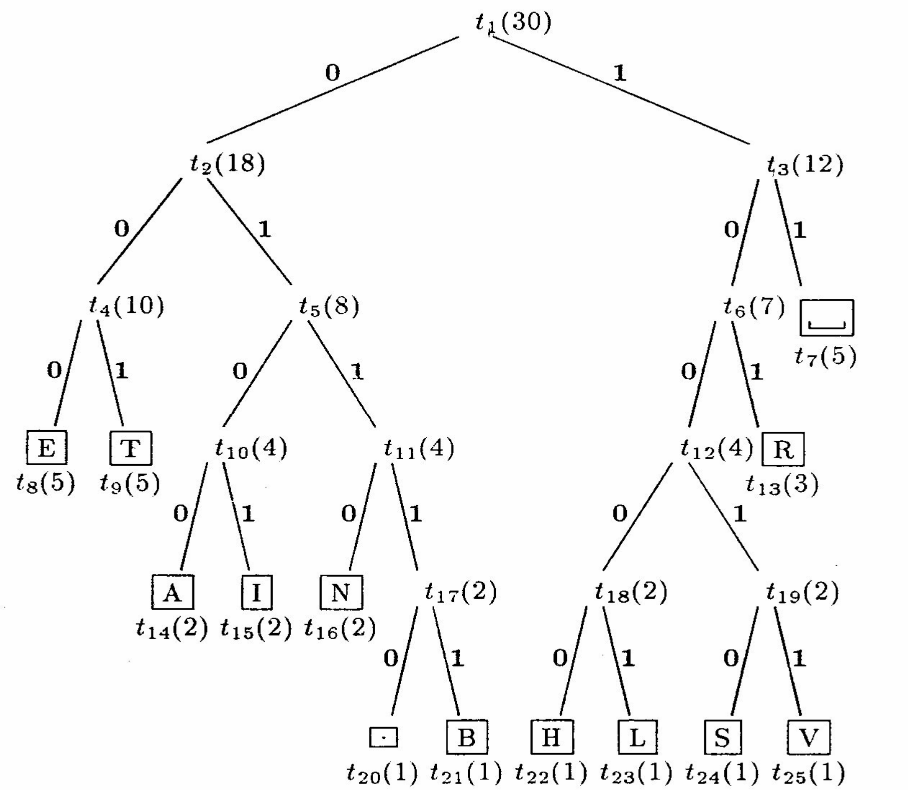
$\boxed{k = 10}$



Nod	t_4	t_5	$\mathbf{t_3}$
$\mathcal{A}^{0,3}$	□	□	□
$\mathcal{N}(s)$	10	8	**12**

Structura setului de date comprimate

$\mathcal{D}$: **IT␣IS␣BETTER␣LATER␣THAN␣NEVER.**



Un arbore binar de tip HUFFMAN (alfabet static de ordin 0).

Informatia obtinuta pe fluxul de iesire este:

- Informatia auxiliara (identica cu cea de la alg. Shannon-Fano).
- Informatia utila:

Cod	0101	001	11	0101	10010	11	01111	000	001	001
Info	I	T	␣	I	S	␣	B	E	T	T
Nr. biţi	4	3	2	4	5	2	5	3	3	3

Cod	000	101	11	10001	0100	001	000	101	11	001
Info	E	R	␣	L	A	T	E	R	␣	T
Nr. biţi	3	3	2	5	4	3	3	3	2	3

Cod	10000	0100	0110	11	0110	000	10011	000	101	01110
Info	H	A	N	␣	N	E	V	E	R	.
Nr. biţi	5	4	4	2	4	3	5	3	3	5

Obs:

- Noile coduri ale simbolilor nu depasesc 5 biti in lungime.
- Codurile simbolilor difera de cele obtinute prin metoda Shannon-Fano.
- Analiza performantelor este similara cu cea de la algoritmul Shannon-Fano.
- Pentru seturi mai lungi de date, metoda Huffman ofera o compresie mai mare decat metoda Shannon-Fano.