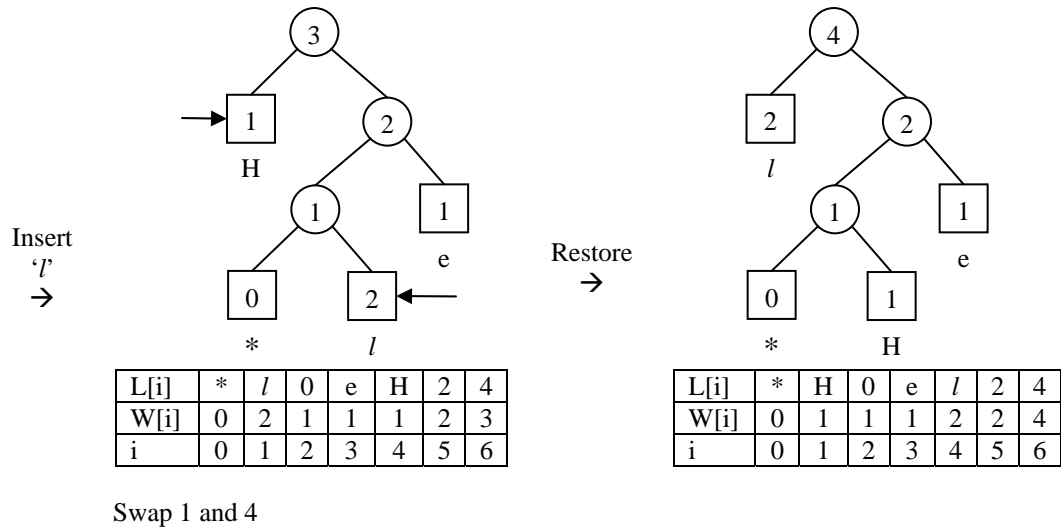
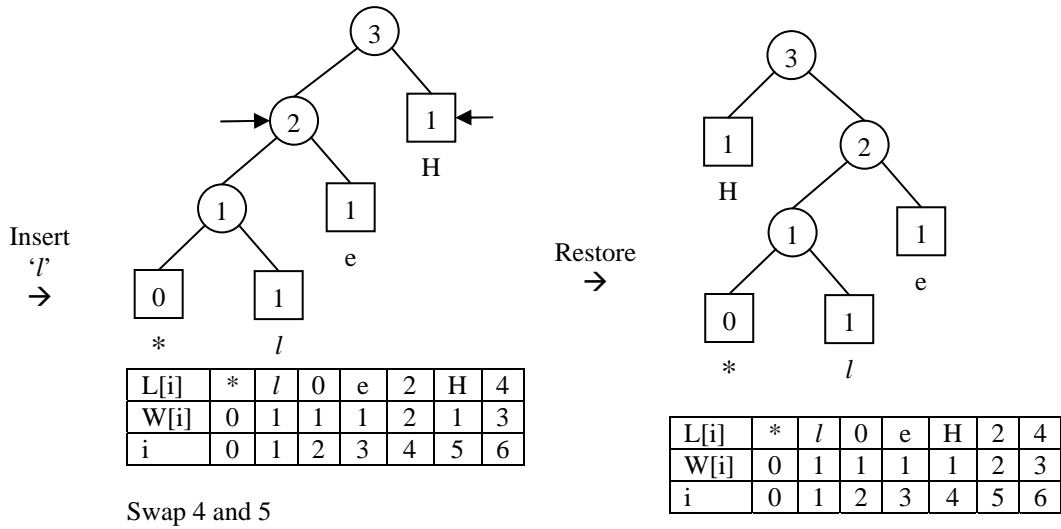
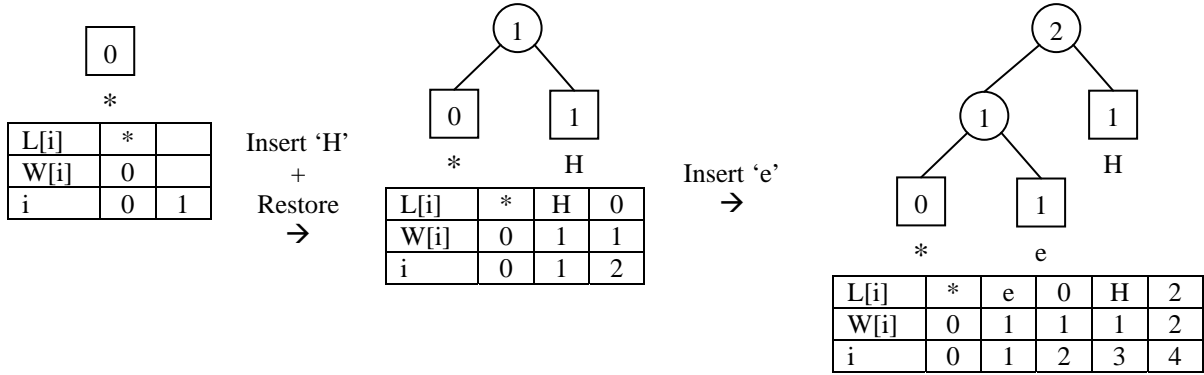
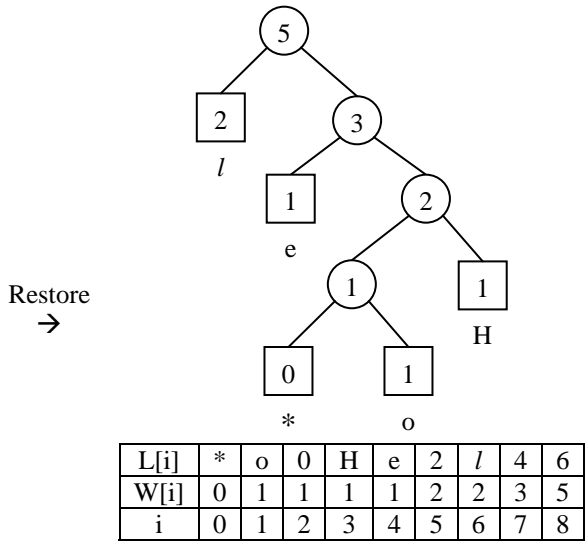
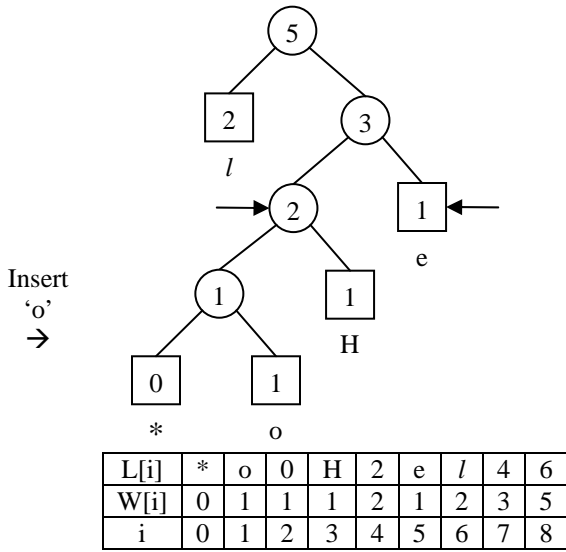


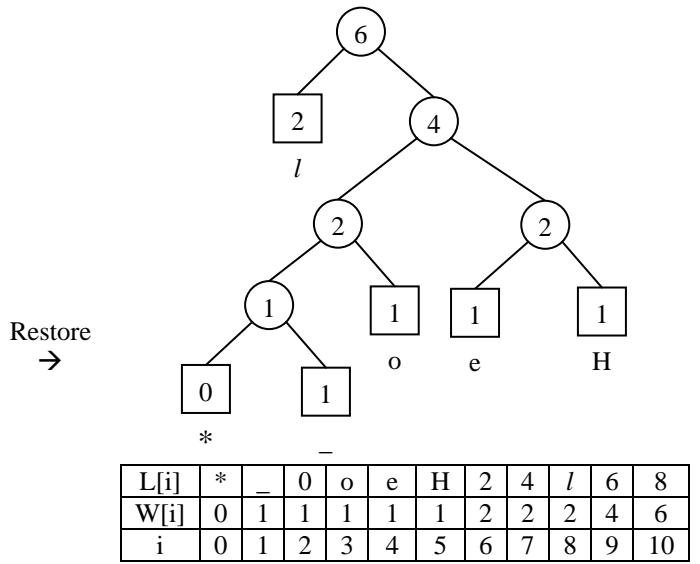
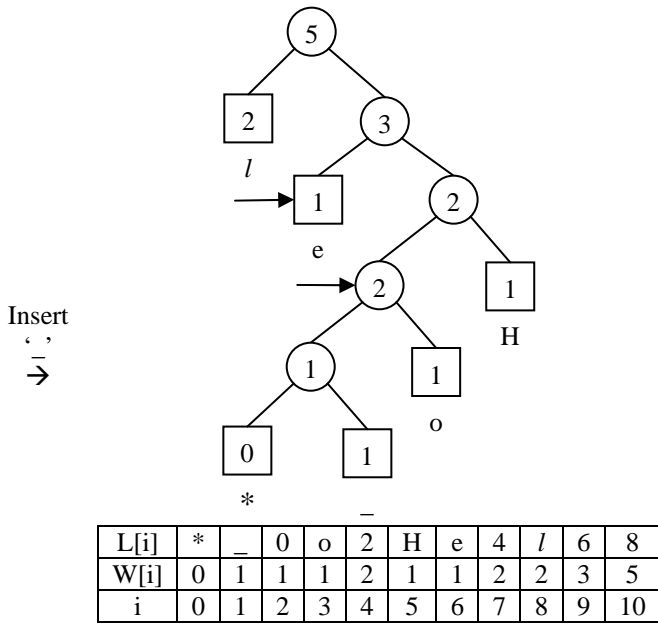
Note:

1. The notion 'i' refers to the ranking of the nodes.
 2. L is the array of left child, W is the array of weight.
 3. Some of the nodes do not summed up because of transition between restore procedures.
- String = 'Hello_world!'

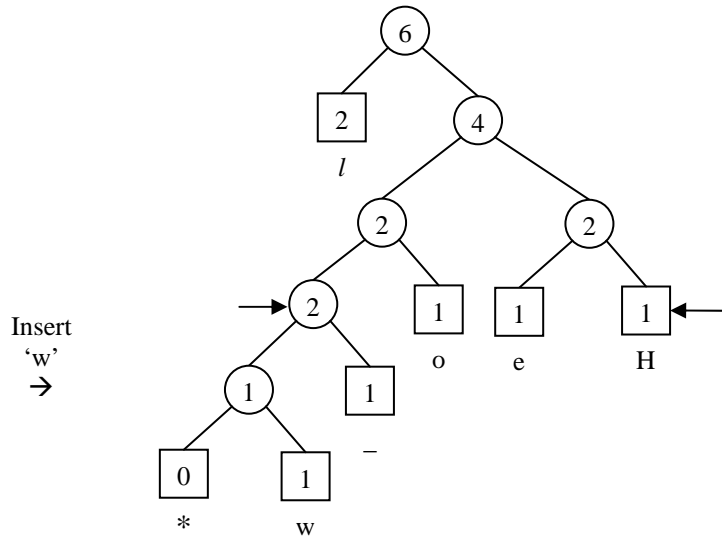




Swap 4 and 5

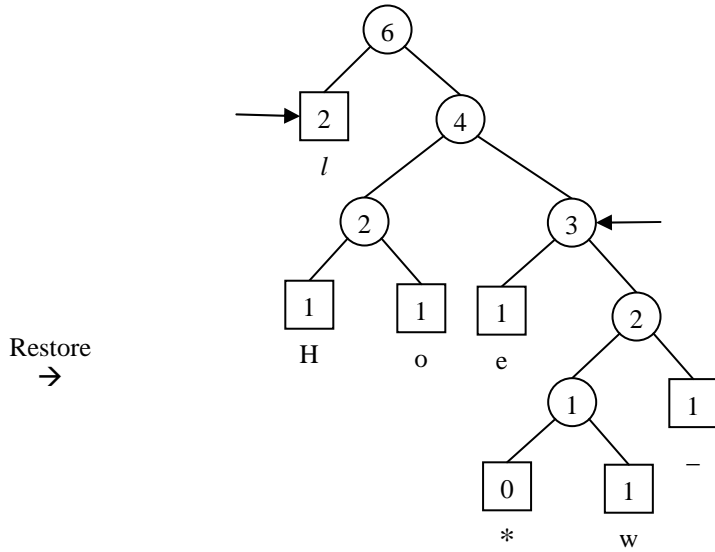


Swap 4 and 6



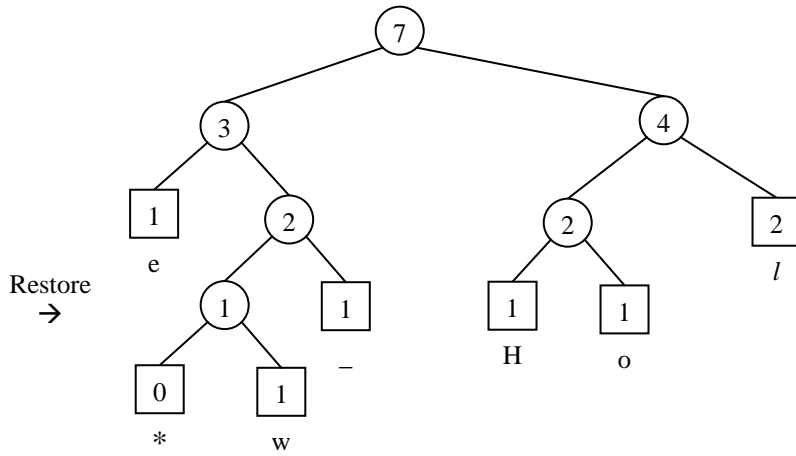
L[i]	*	w	0	_	2	o	e	H	4	6	l	8	10
W[i]	0	1	1	1	2	1	1	1	2	2	2	4	6
i	0	1	2	3	4	5	6	7	8	9	10	11	12

Swap 4 and 7

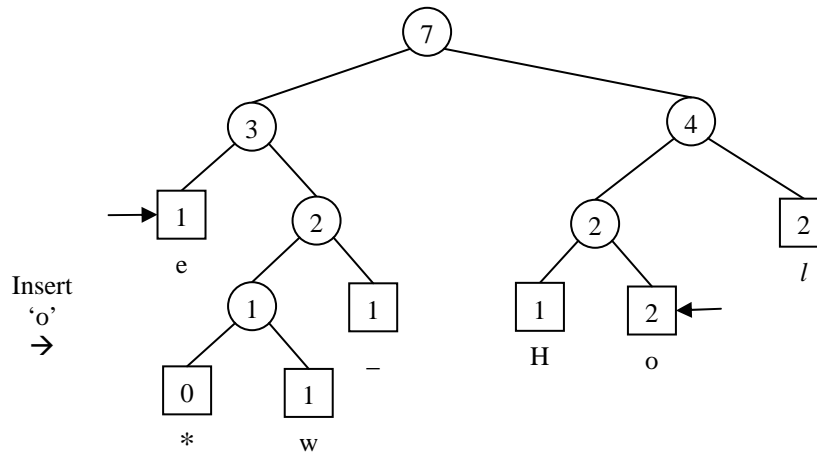


L[i]	*	w	0	_	H	o	e	2	4	6	l	8	10
W[i]	0	1	1	1	1	1	1	2	2	3	2	4	6
i	0	1	2	3	4	5	6	7	8	9	10	11	12

Swap 9 and 10

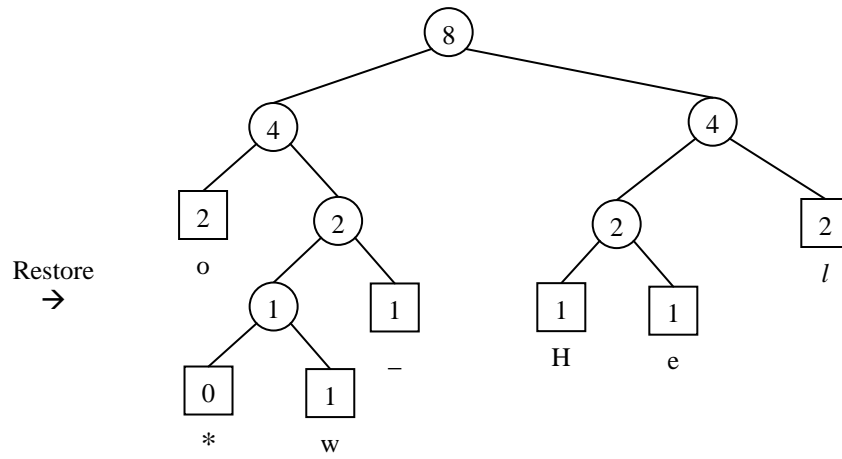


L[i]	*	w	0	_	H	o	e	2	4	l	6	8	10
W[i]	0	1	1	1	1	1	1	2	2	2	3	4	7
i	0	1	2	3	4	5	6	7	8	9	10	11	12

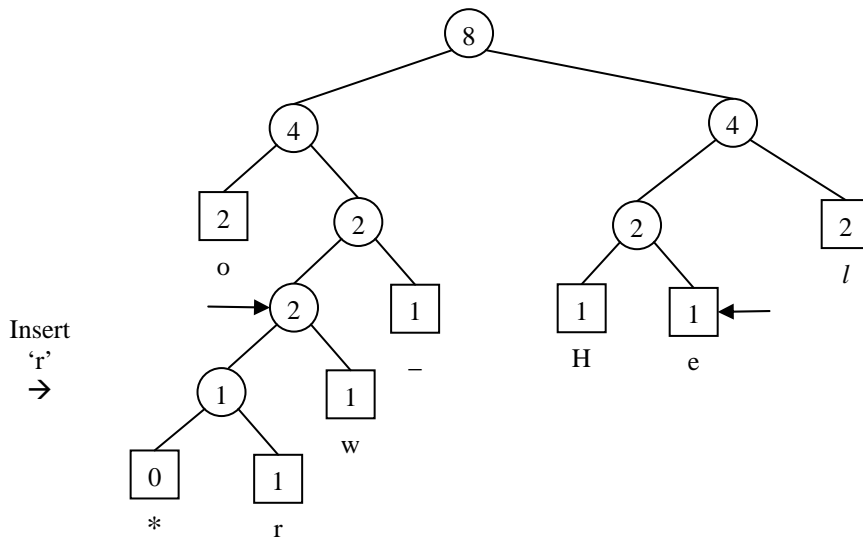


L[i]	*	w	0	_	H	o	e	2	4	l	6	8	10
W[i]	0	1	1	1	1	2	1	2	2	2	3	4	7
i	0	1	2	3	4	5	6	7	8	9	10	11	12

Swap 5 and 6

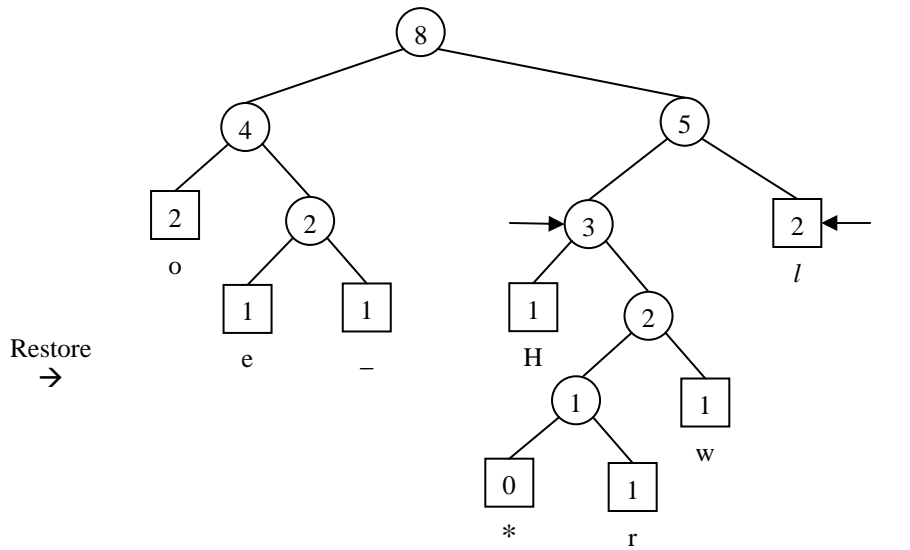


L[i]	*	w	o	_	H	e	o	2	4	l	6	8	10
W[i]	0	1	1	1	1	1	2	2	2	2	4	4	8
i	0	1	2	3	4	5	6	7	8	9	10	11	12



L[i]	*	r	o	w	2	_	H	e	o	4	6	l	8	10	12
W[i]	0	1	1	1	2	1	1	1	2	2	2	2	4	4	8
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

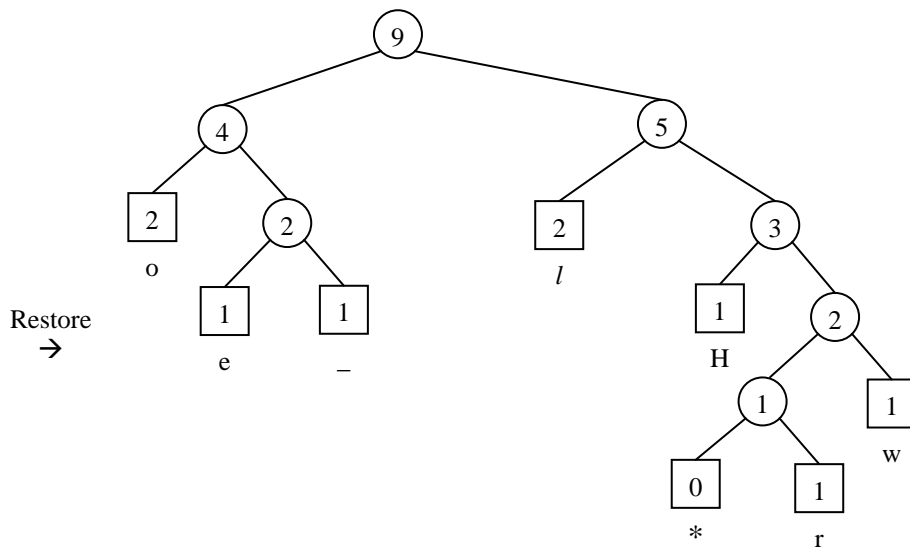
Swap 4 and 7



Restore
→

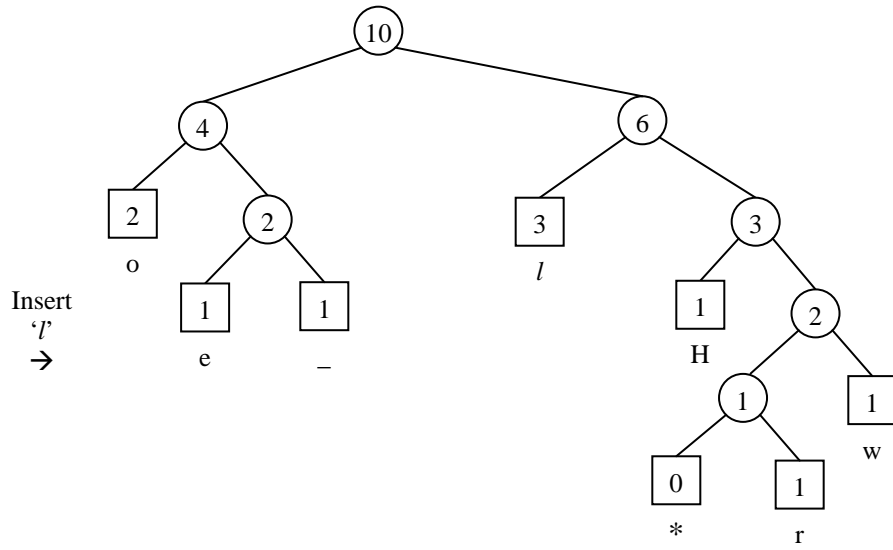
L[i]	*	r	o	w	e	_	H	2	o	4	6	l	8	10	12
W[i]	0	1	1	1	1	1	1	2	2	2	3	2	4	5	8
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Swap 10 and 11



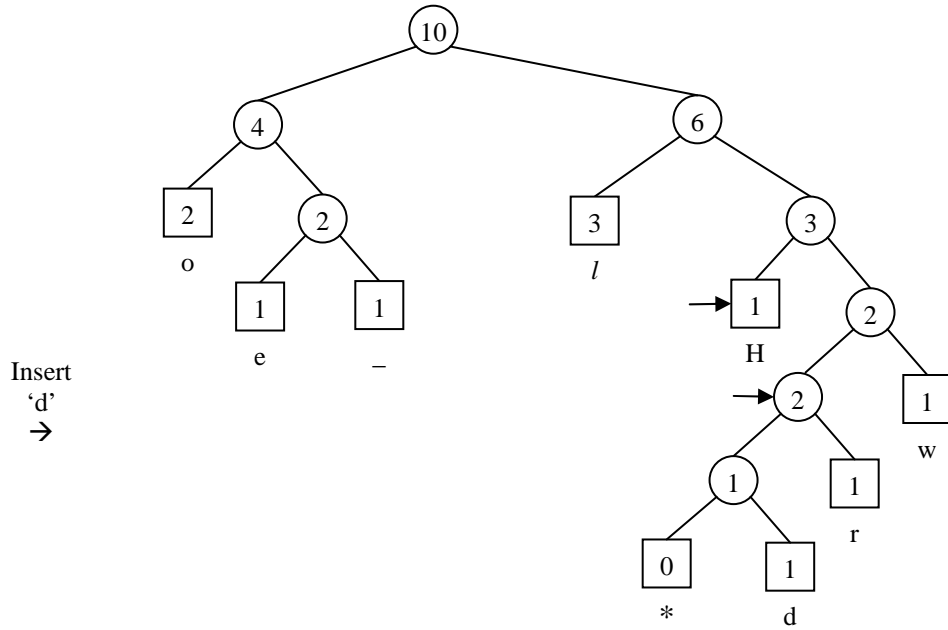
Restore
→

L[i]	*	r	o	w	e	_	H	2	o	4	l	6	8	10	12
W[i]	0	1	1	1	1	1	1	2	2	2	2	3	4	5	9
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14



Insert
'l'
→

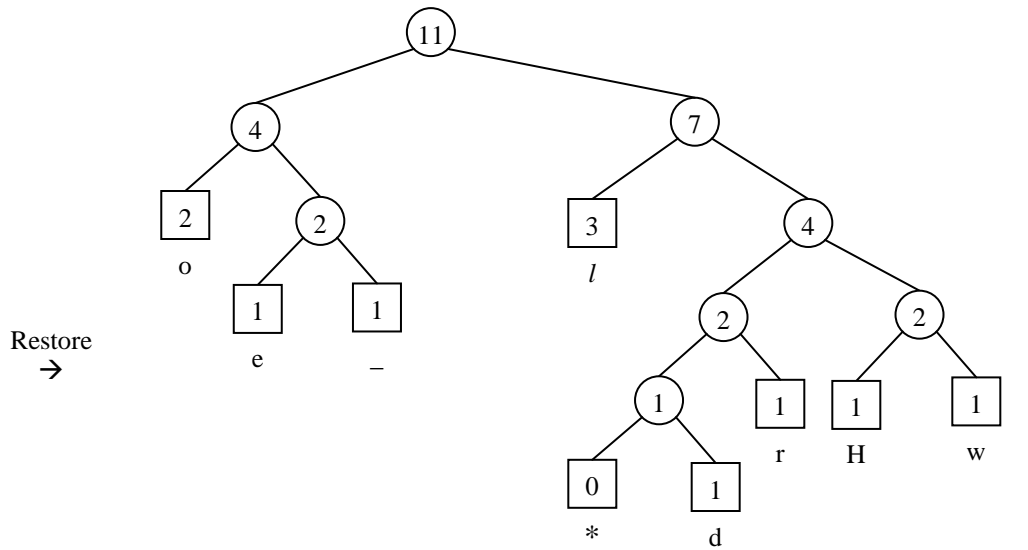
L[i]	*	r	o	w	e	-	H	2	o	4	l	6	8	10	12
W[i]	0	1	1	1	1	1	1	2	2	2	3	3	4	6	10
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14



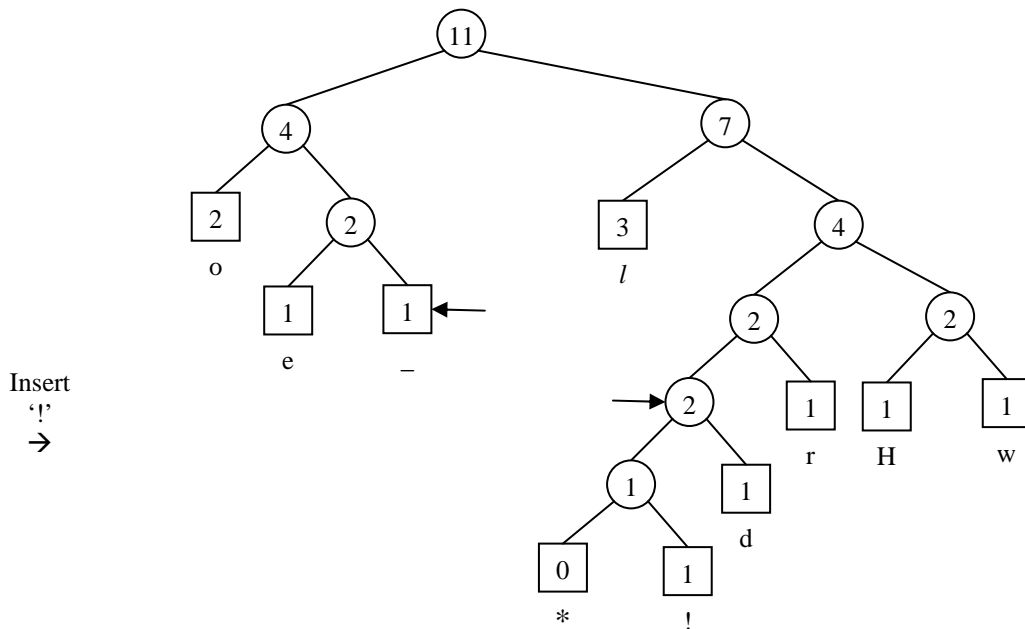
Insert
'd'
→

L[i]	*	d	o	r	2	w	e	-	H	4	o	6	l	8	10	12	14
W[i]	0	1	1	1	2	1	1	1	1	2	2	2	3	3	4	6	10
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Swap 4 and 8



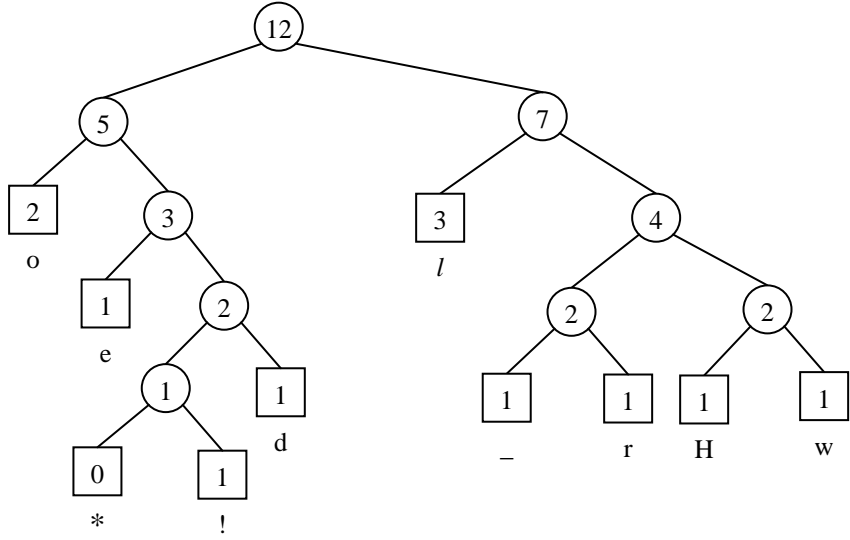
L[i]	*	d	o	r	H	w	e	-	2	4	o	6	l	8	10	12	14
W[i]	0	1	1	1	1	1	1	1	2	2	2	2	3	4	4	7	11
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



L[i]	*	!	o	d	2	r	H	w	e	-	4	6	o	8	l	10	12	14	16
W[i]	0	1	1	1	2	1	1	1	1	1	2	2	2	2	3	4	4	7	11
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Swap 4 and 9

Restore
→



L[i]	*	!	o	d	_	r	H	w	e	2	4	6	o	8	l	10	12	14	16
W[i]	0	1	1	1	1	1	1	1	1	2	2	2	2	3	3	4	5	7	12
i	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18