



**POLITECNICO
DI MILANO**

INFORMATICA

Aggiornamento e ricerca
su tabelle organizzate
ad albero binario
ordinato.

	elenco	
0	5	...
1	10	...
2	15	...
3	20	...
4	30	...
5	40	...
6	60	...
7		

	elenco	
0	5	...
1	10	...
2	15	...
3	20	...
4	30	...
5	40	...
6	60	...
7		

classe			
num		elenco	
		5	...
		10	...
		15	...
		20	...
		30	...
		40	...
		60	...

classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

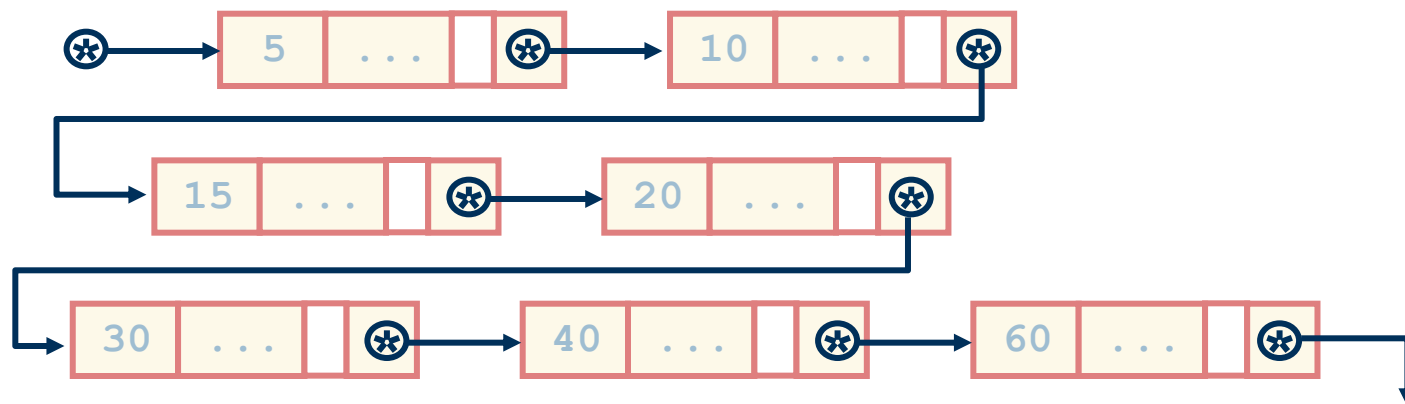
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

`const int DIM=8;`

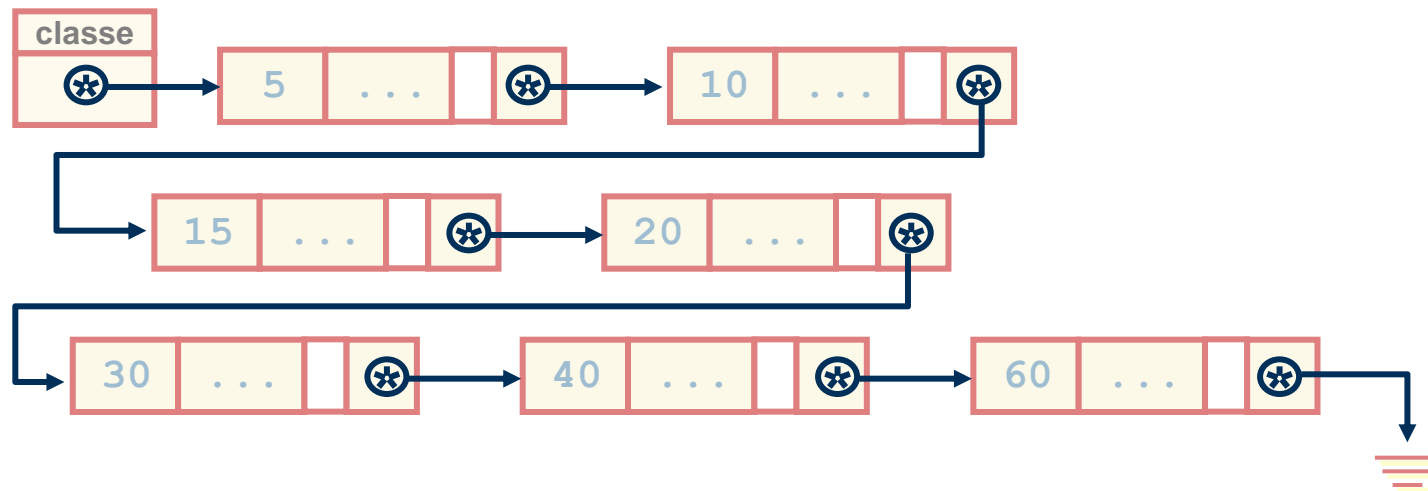
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	17	...
	4	20	...
	5	30	...
	6	40	...
	7	60	...

si sposta mediamente
il 50% dei record

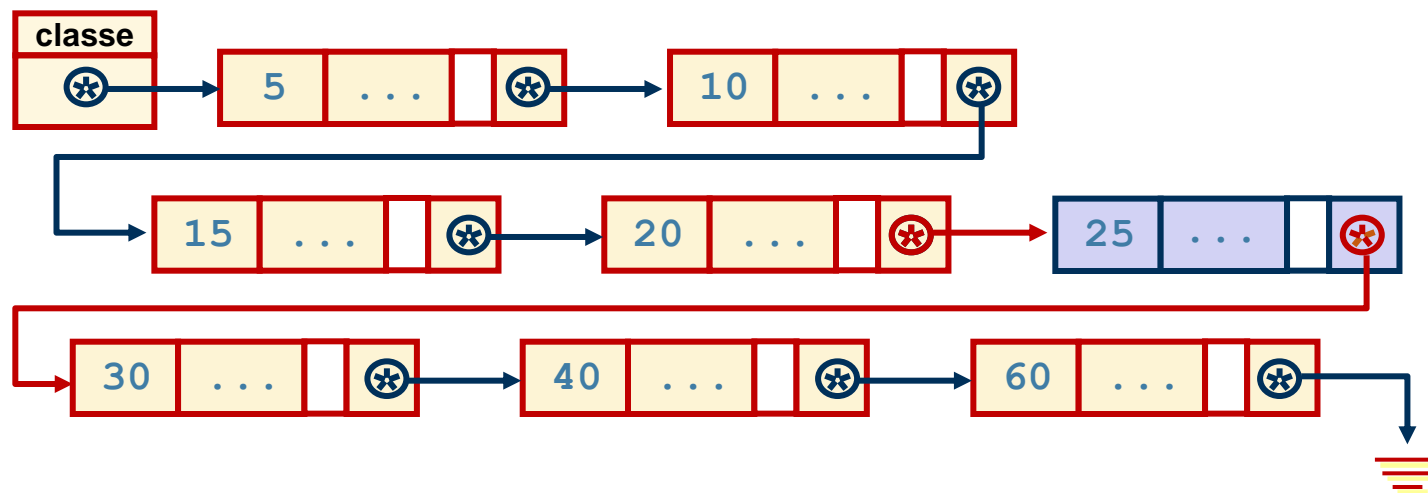
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



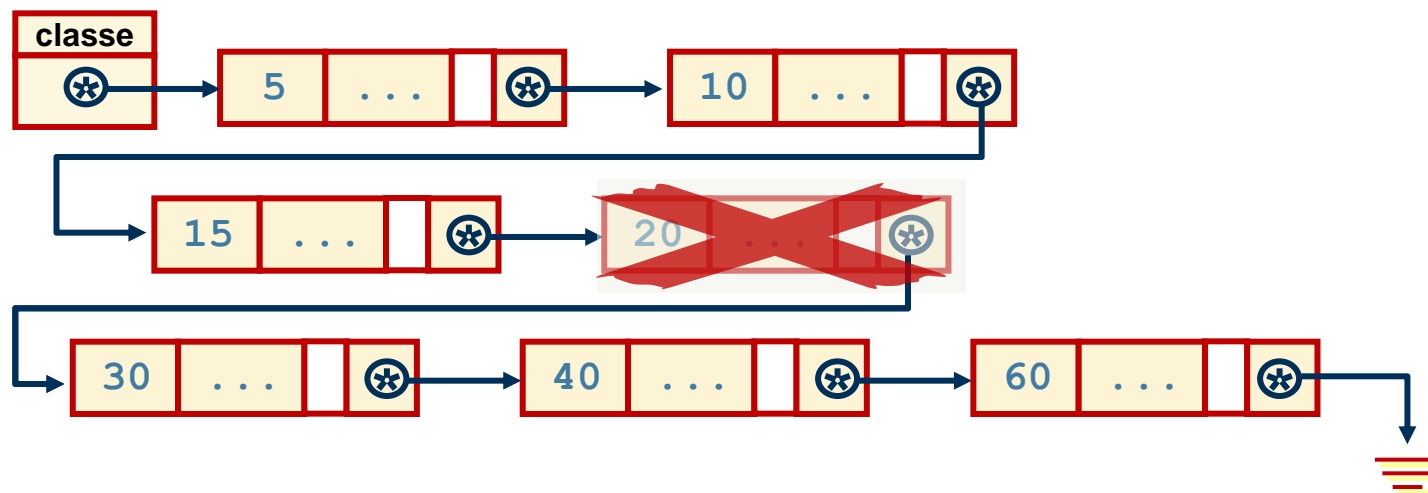
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



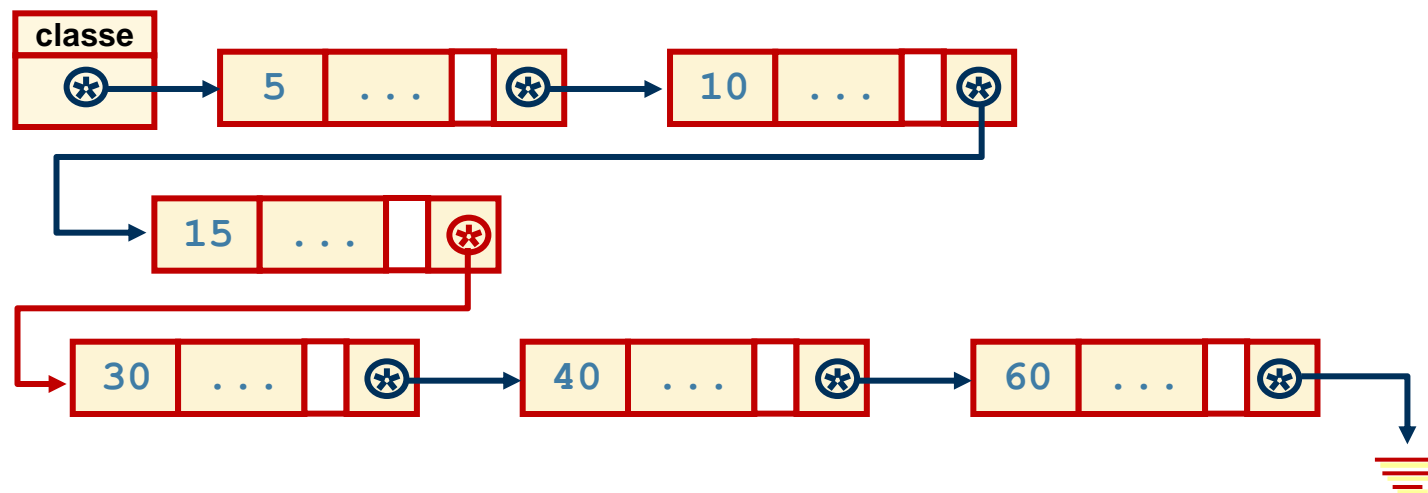
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

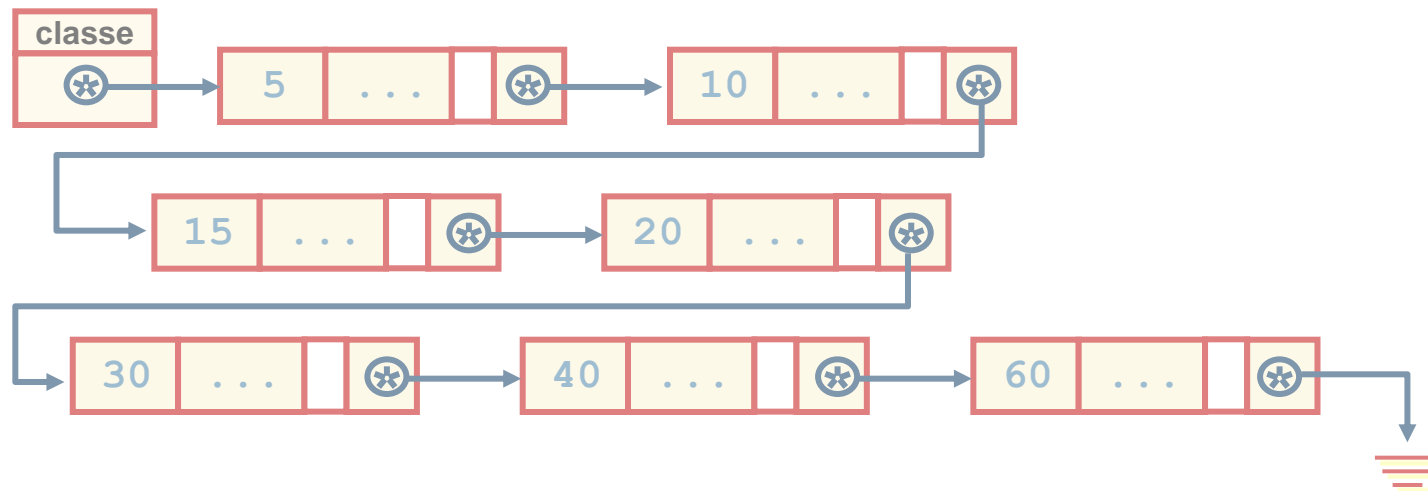


classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

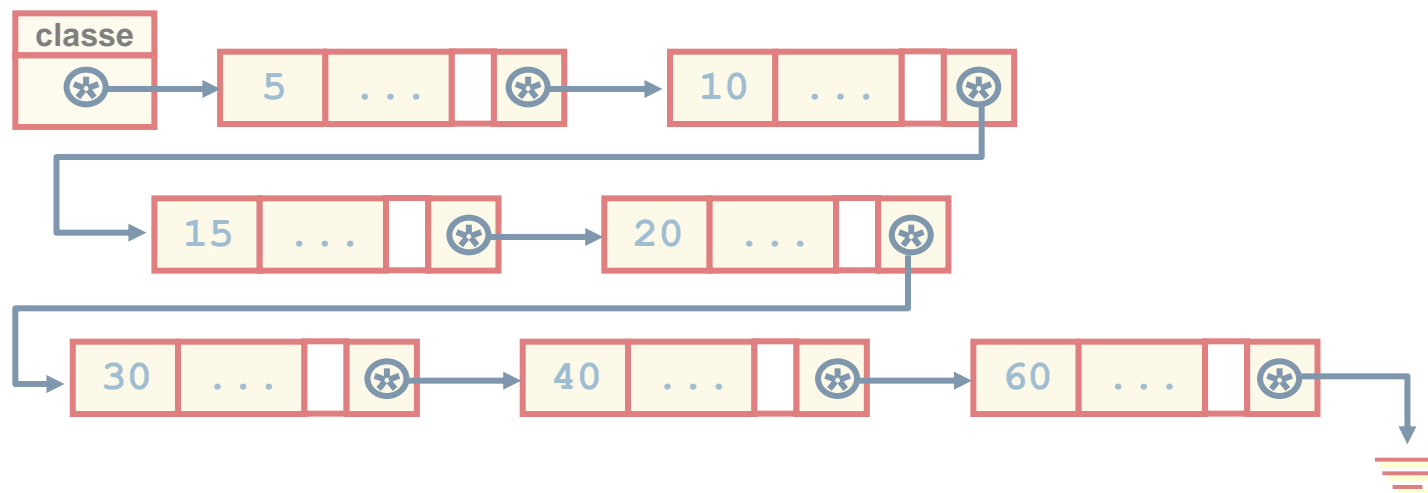


Ricerca sequenziale

classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

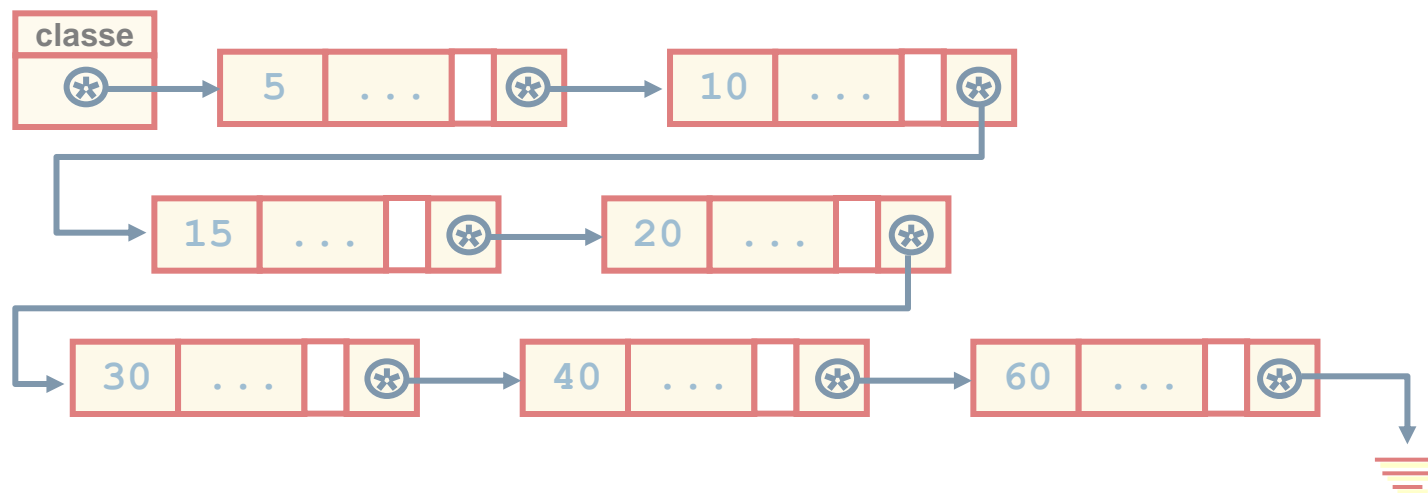


classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



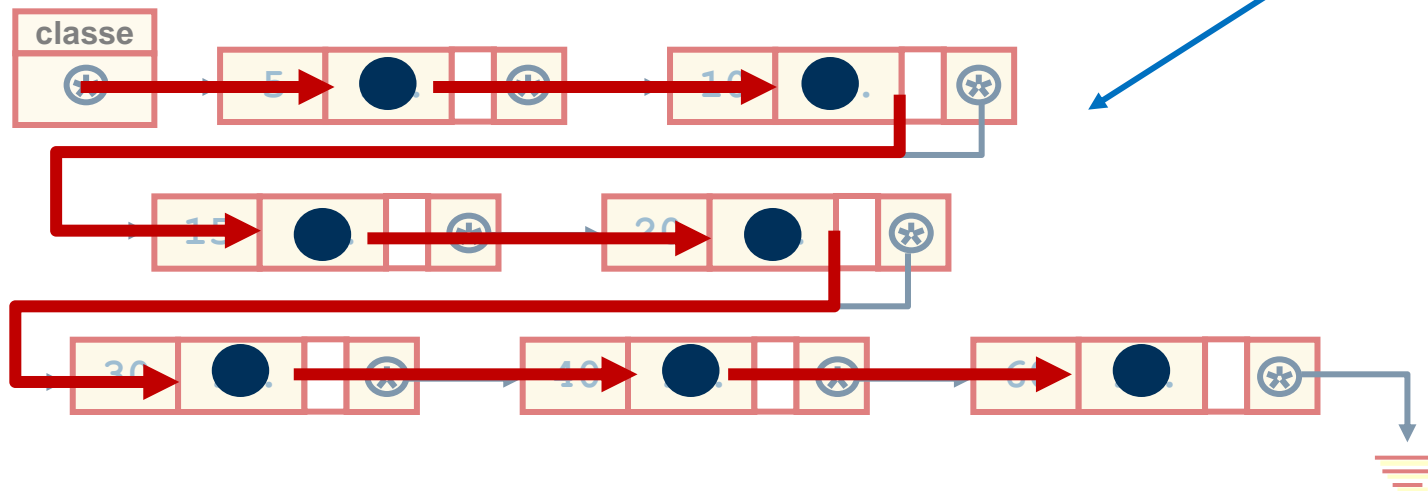
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

Ordinata con campo chiave

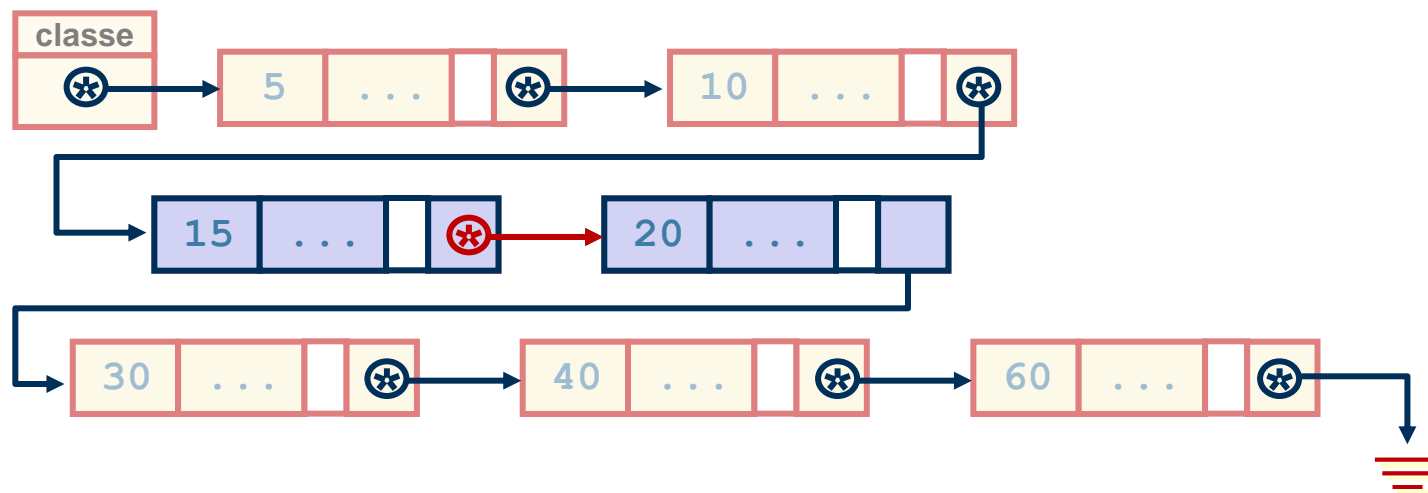


classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

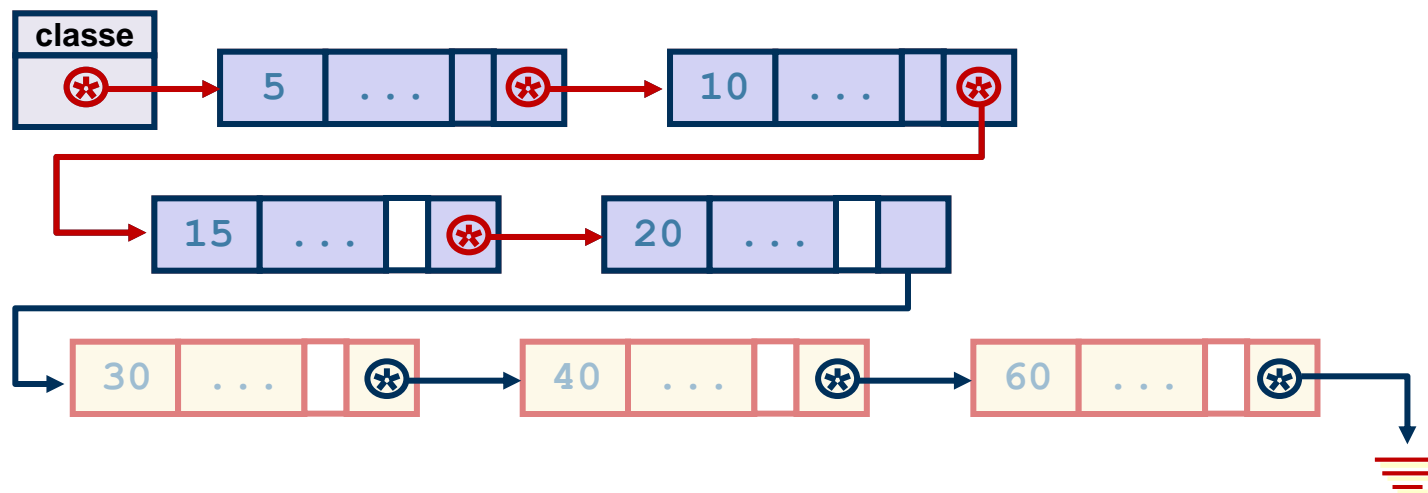
*Stessa logica
di soluzione*



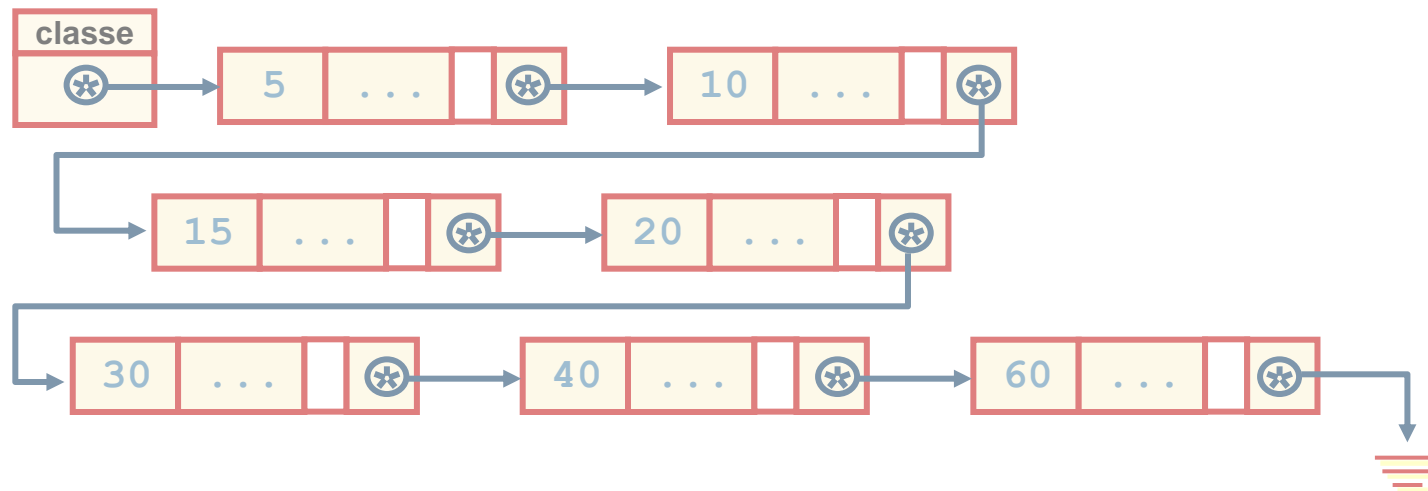
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

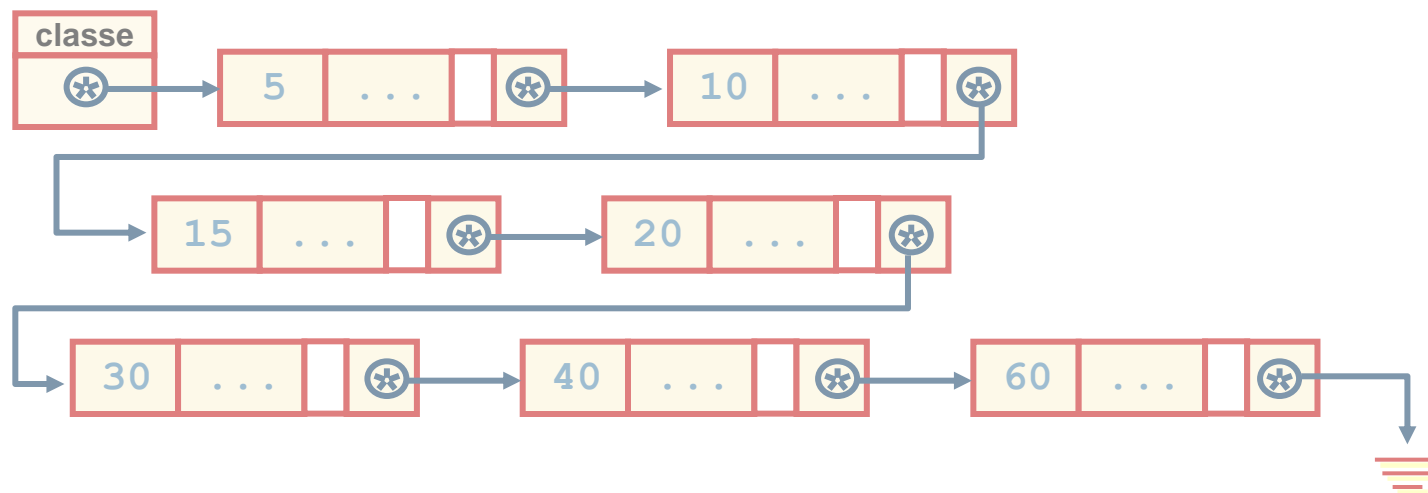


classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

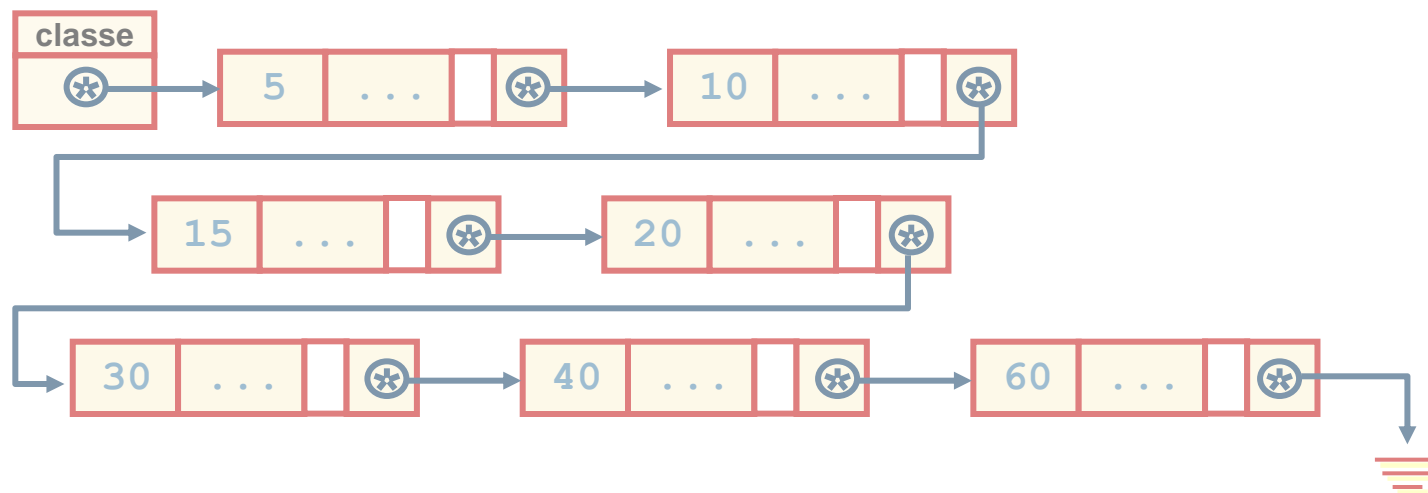


Ricerca binaria

classe		
num		elenco
7	0	5 ...
	1	10 ...
	2	15 ...
	3	20 ...
	4	30 ...
	5	40 ...
	6	60 ...
	7	



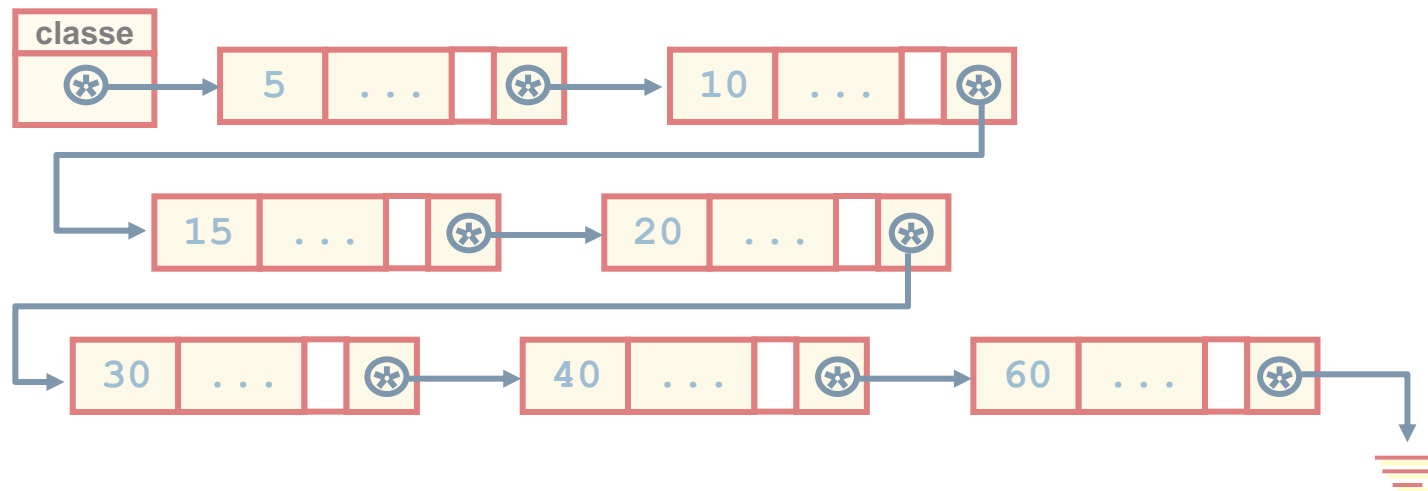
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



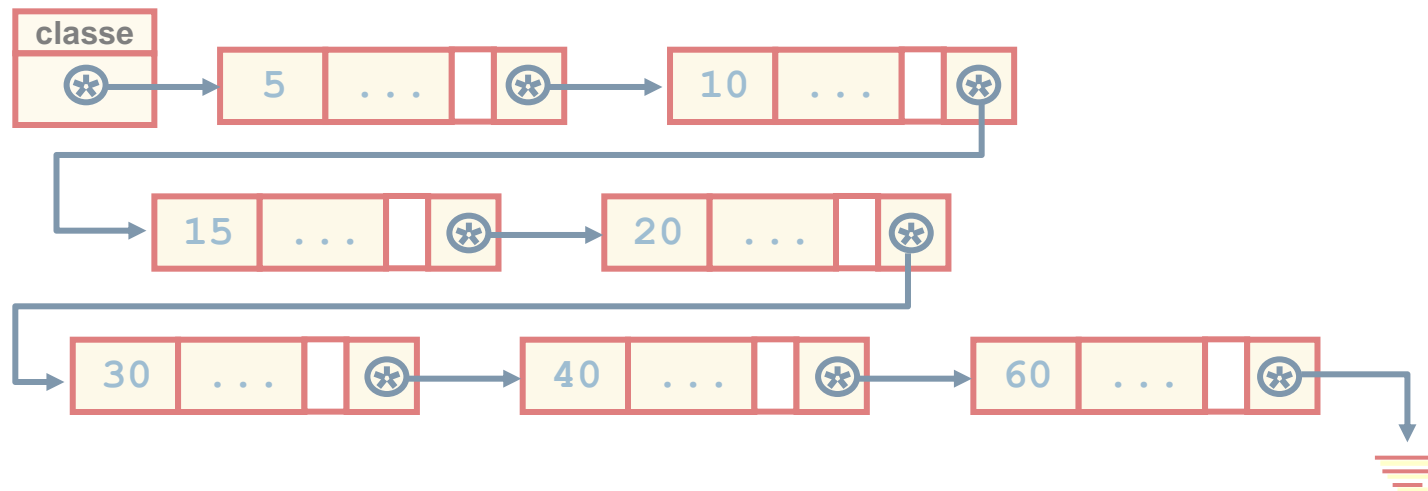
cerca: x



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

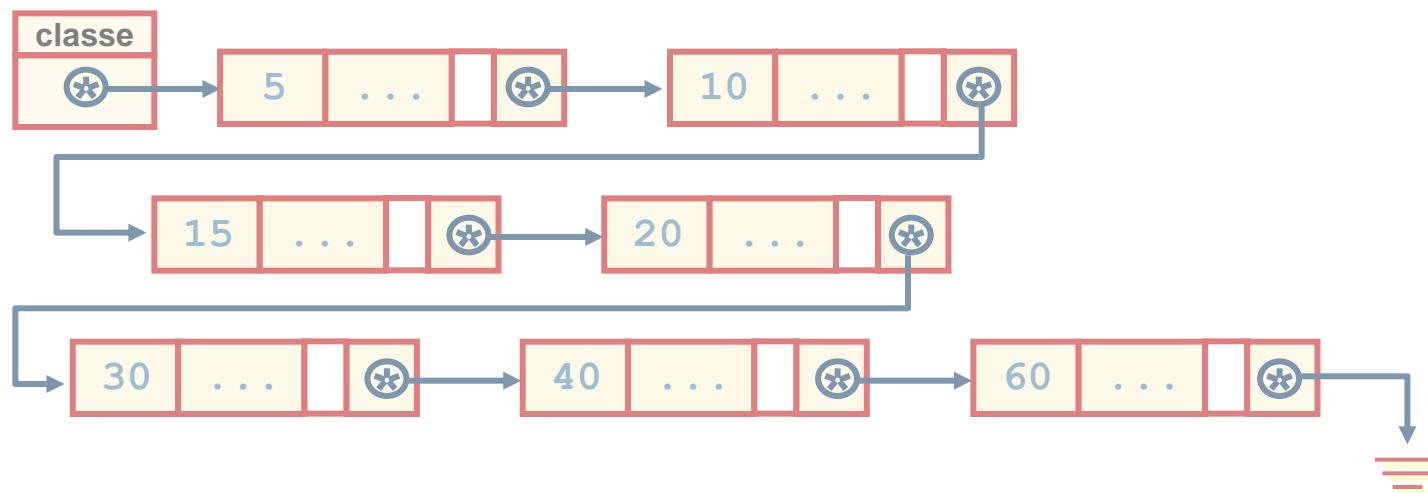


cerca: 20
• *l'elemento esiste
in posizione 3*



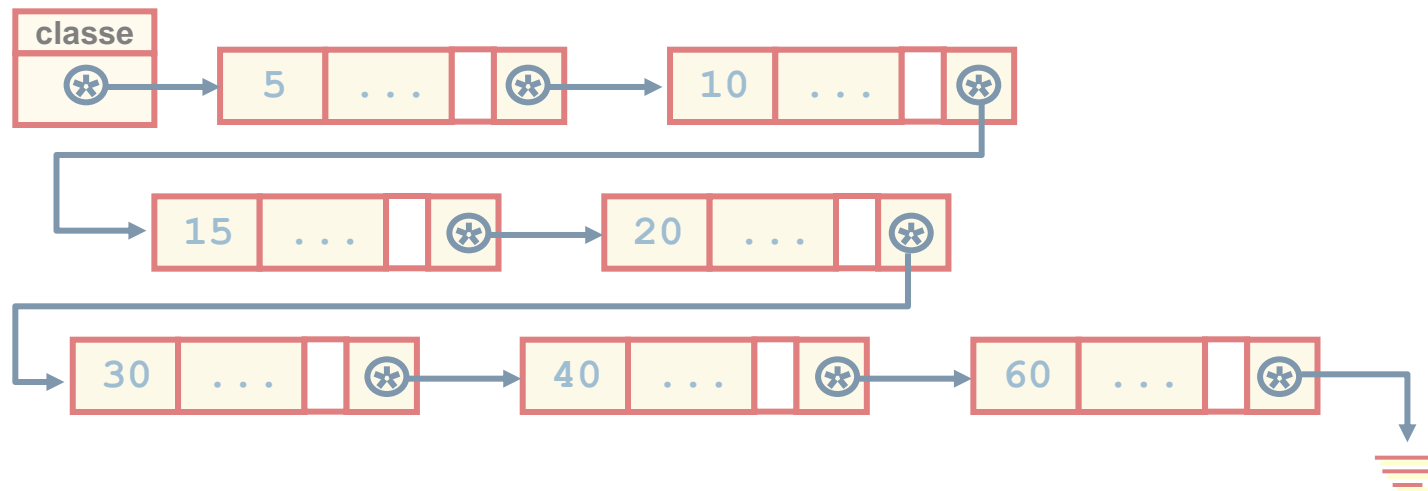
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

cerca: x



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

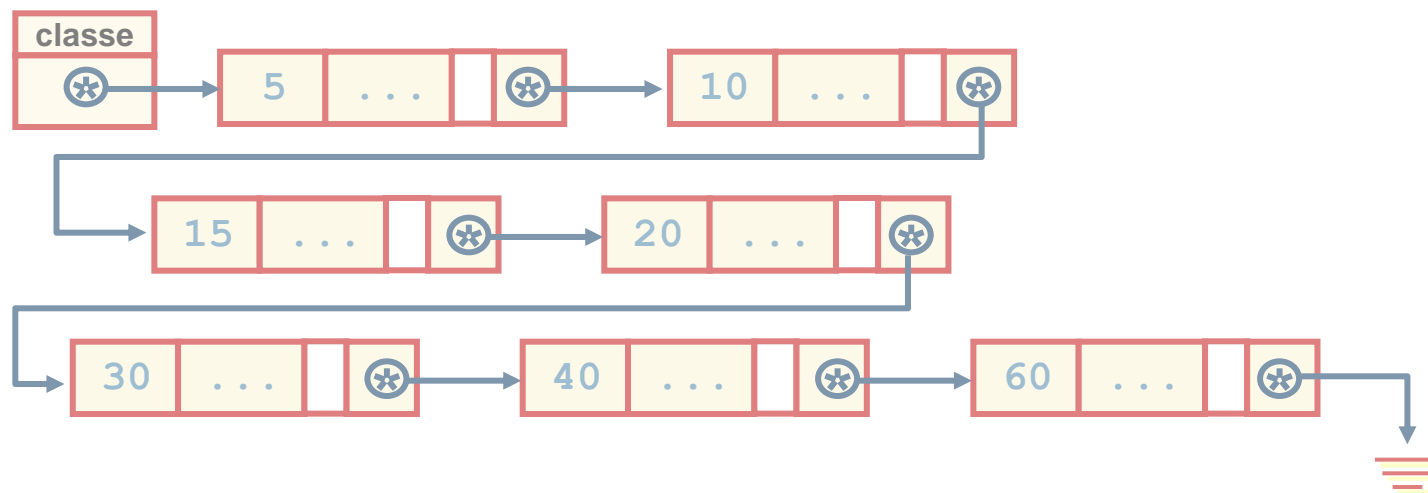
cerca: 10



classe		
num		elenco
7	0	5 ...
	1	10 ...
	2	15 ...
	3	20 ...
	4	30 ...
	5	40 ...
	6	60 ...
	7	

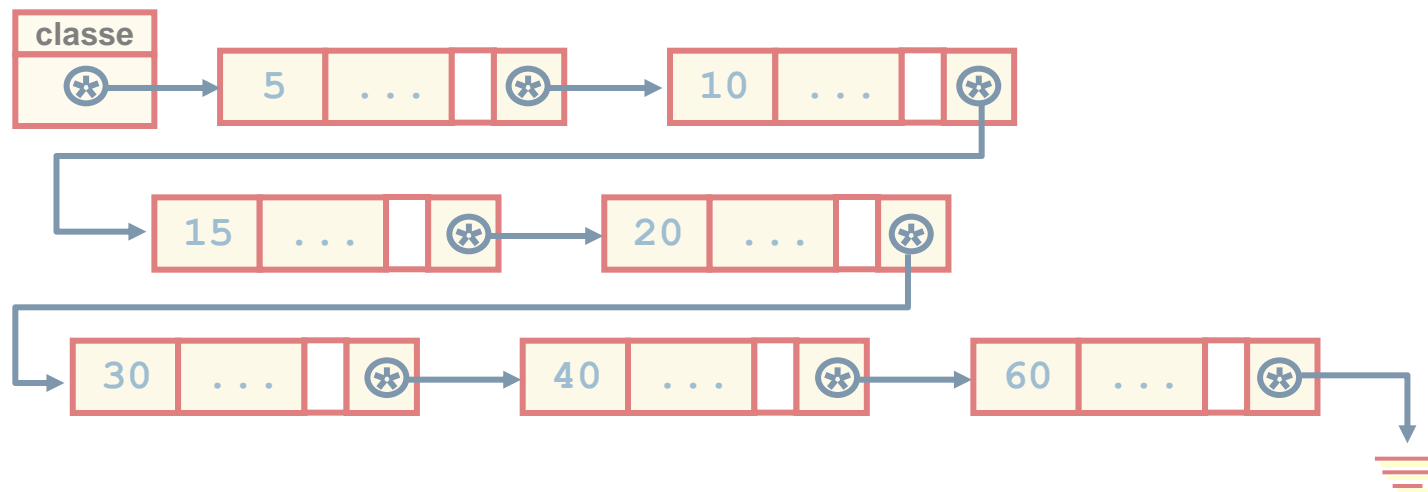


cerca: 10



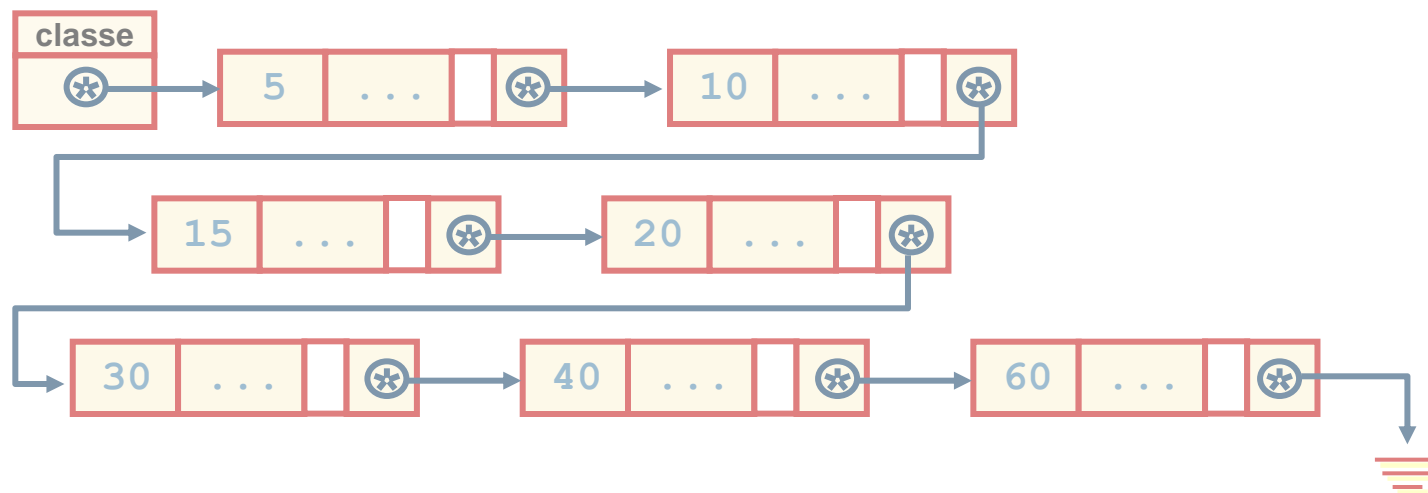
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

cerca: 40



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

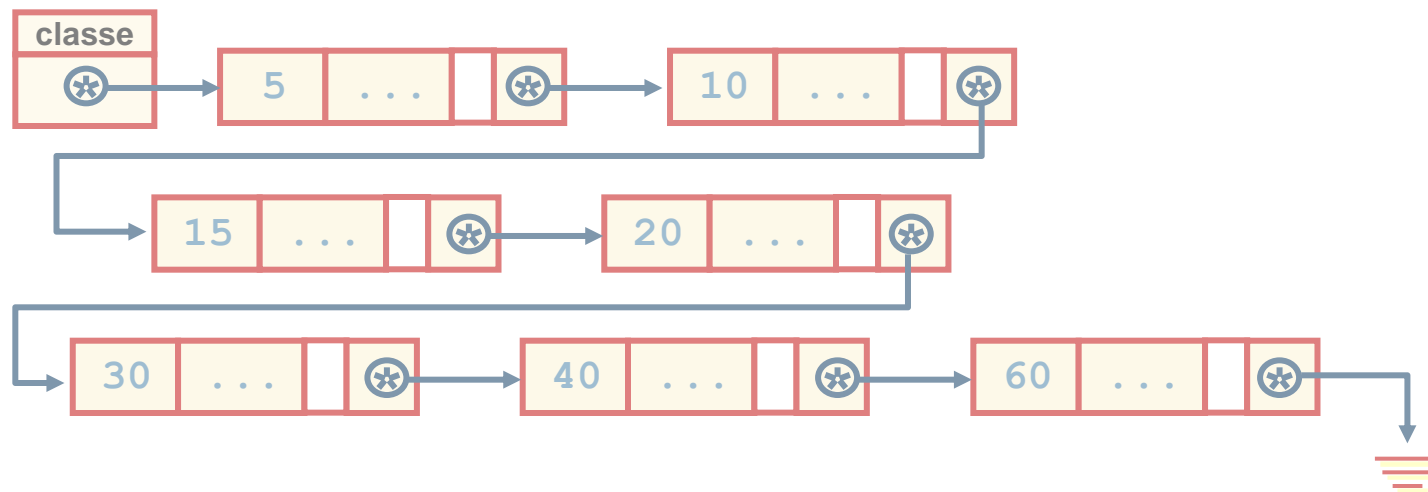
cerca: 40



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



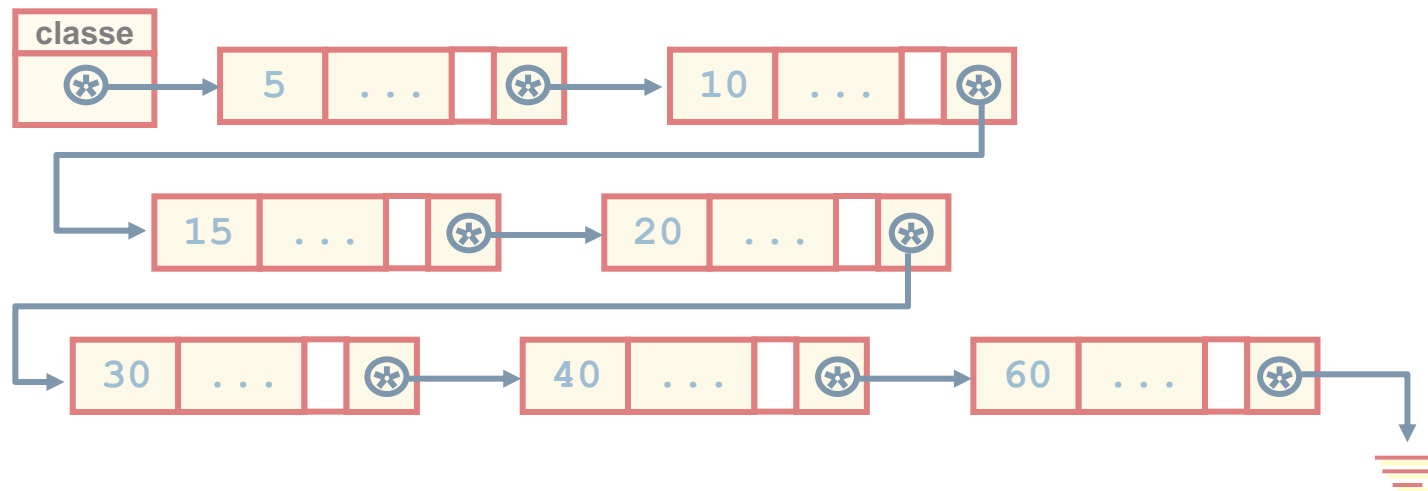
cerca: 5



classe		
num		elenco
7	0	5 ...
	1	10 ...
	2	15 ...
	3	20 ...
	4	30 ...
	5	40 ...
	6	60 ...
	7	

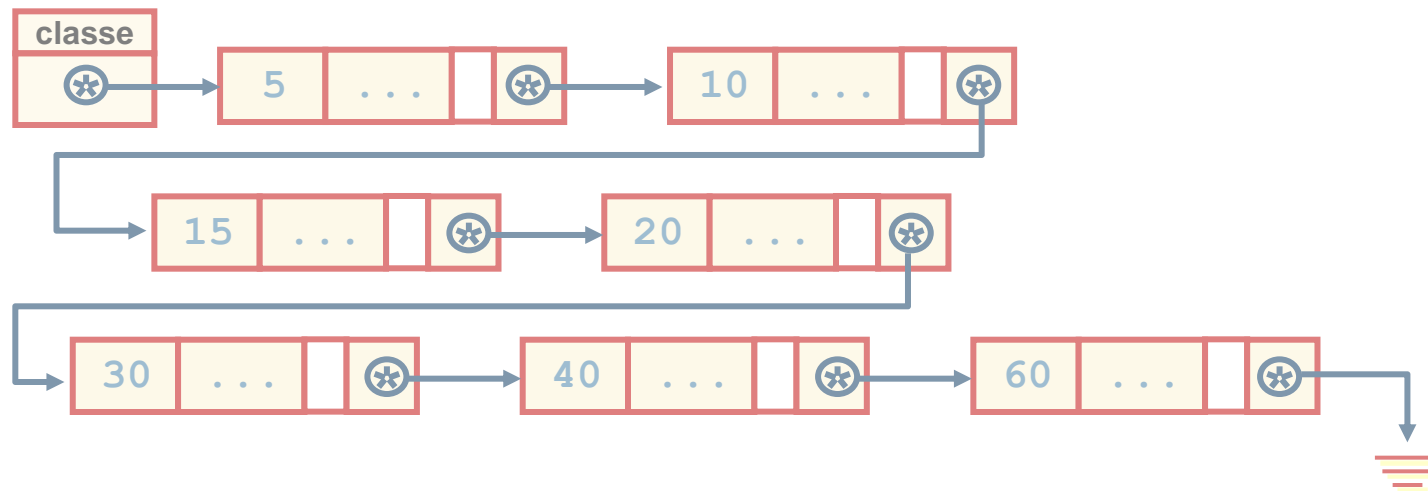


cerca: 5



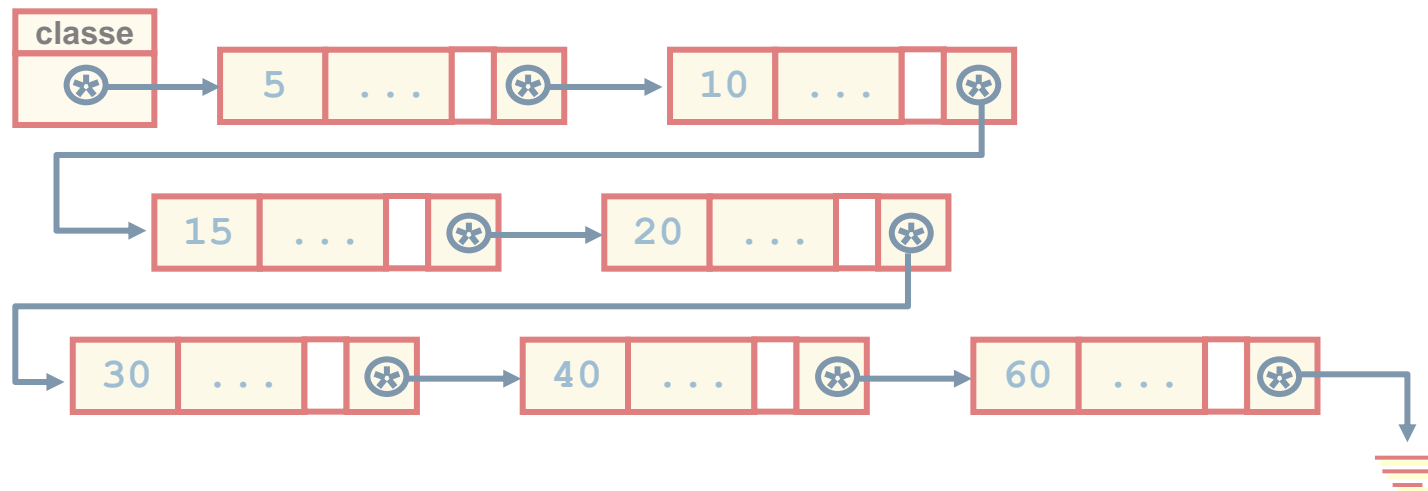
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

cerca: 5



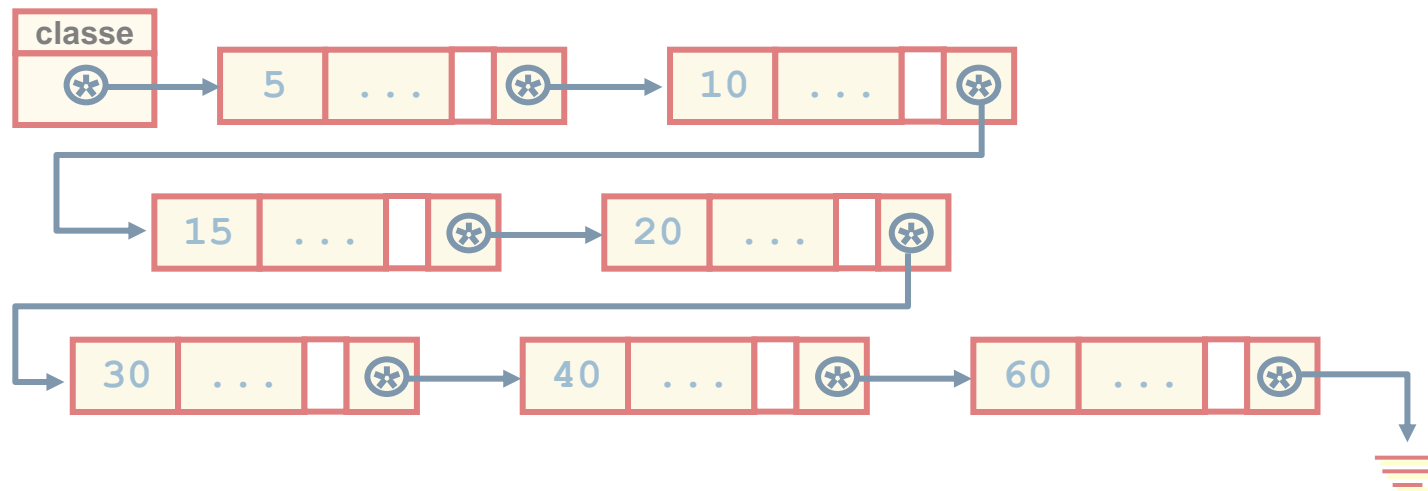
classe		
num		elenco
7	0	5 ...
	1	10 ...
	2	15 ...
	3	20 ...
	4	30 ...
	5	40 ...
	6	60 ...
	7	

cerca: 5



classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

cerca: 5

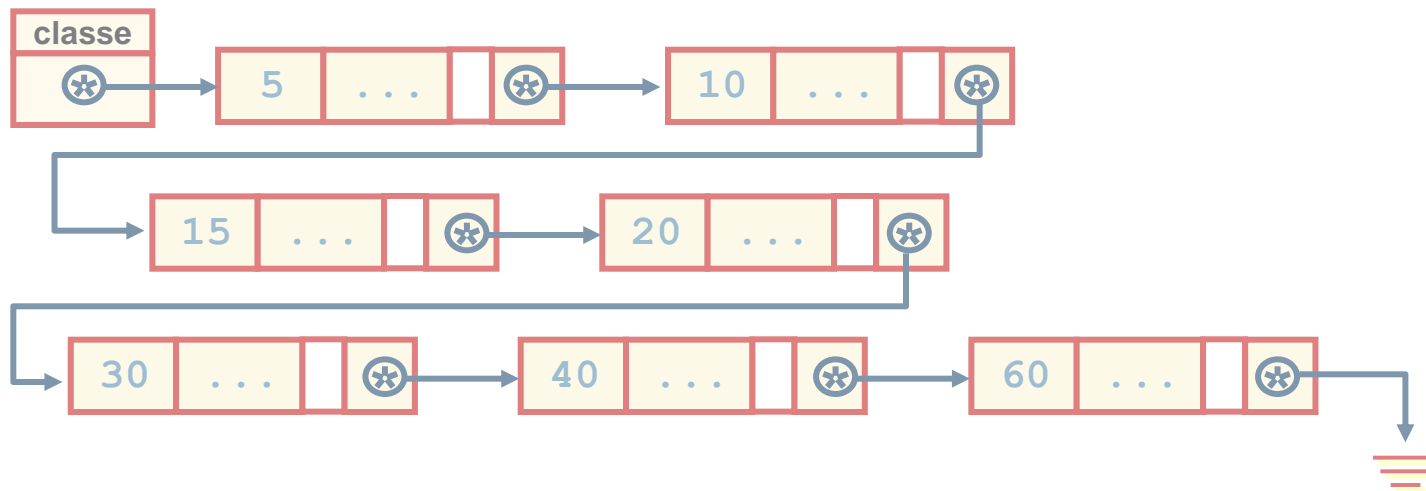


Ricerca logaritmica

classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

cerca: 3

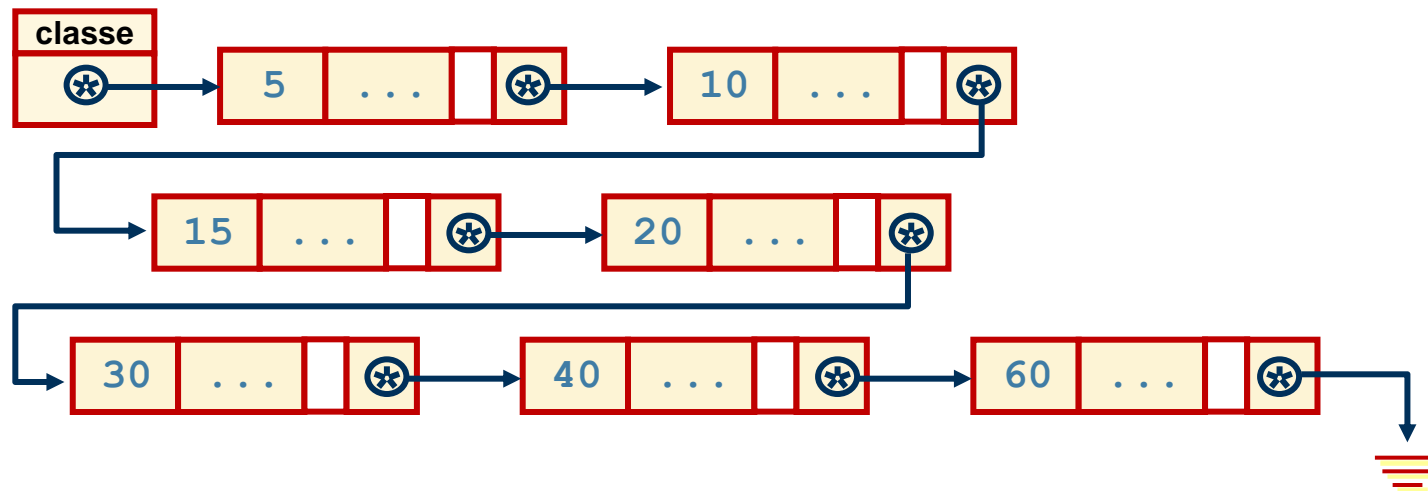
- *l'elemento non esiste*



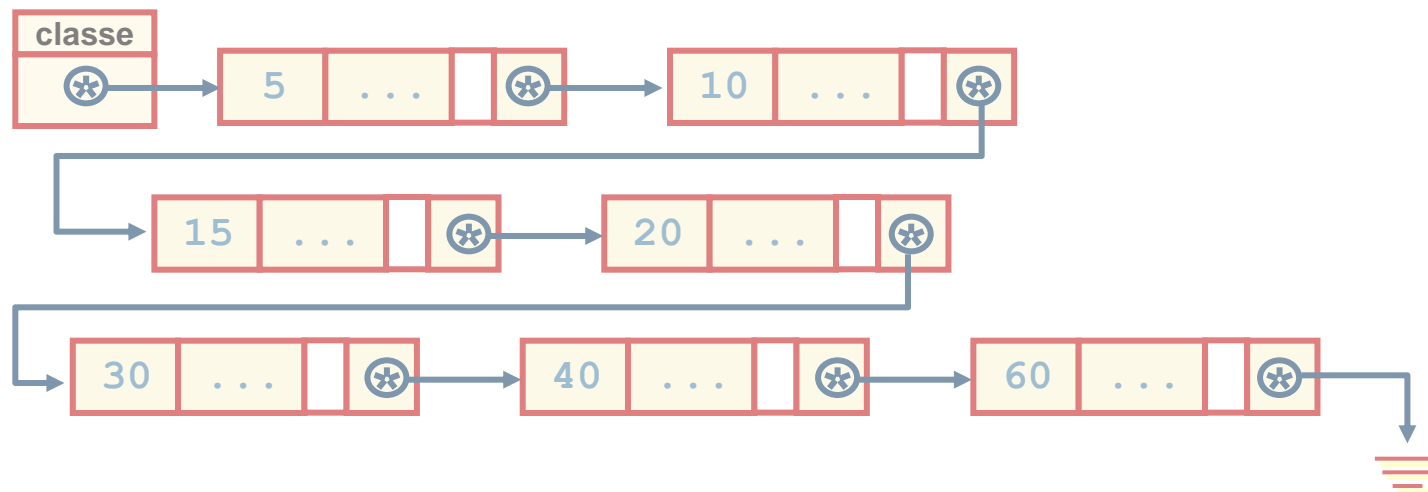
Ricerca logaritmica

classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

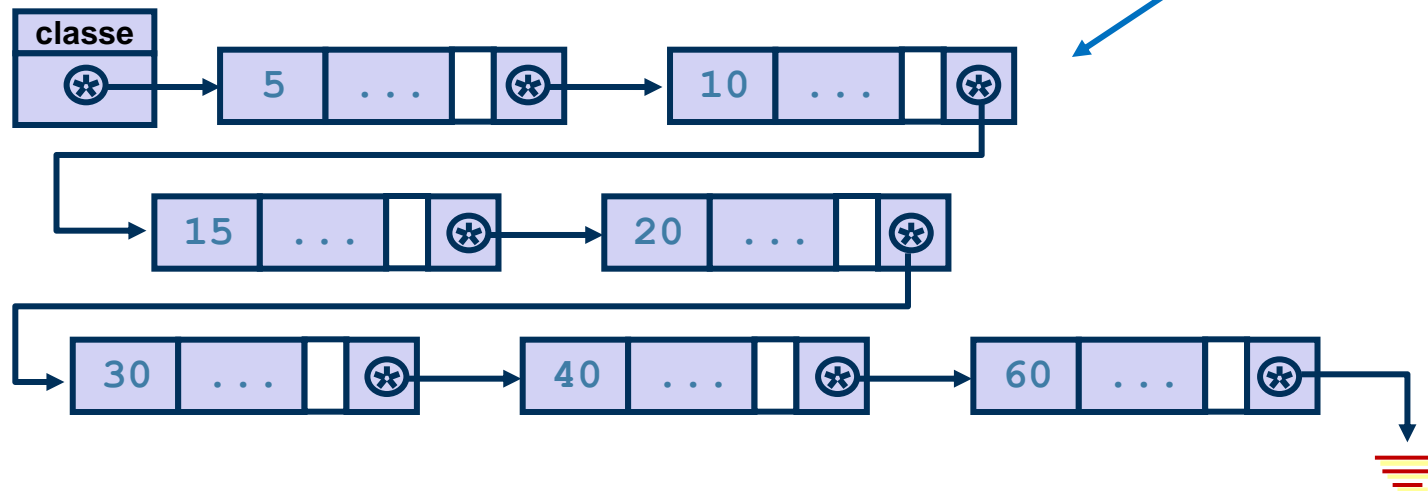
il numero degli elementi da consultare è proporzionale al logaritmo del numero di elementi in tabella



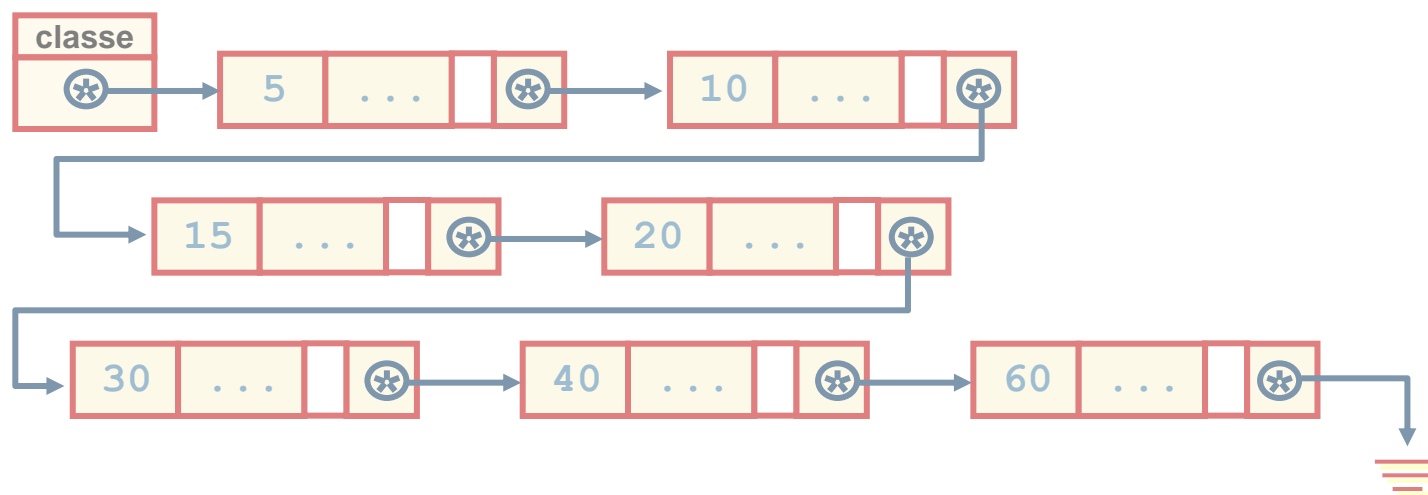
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		



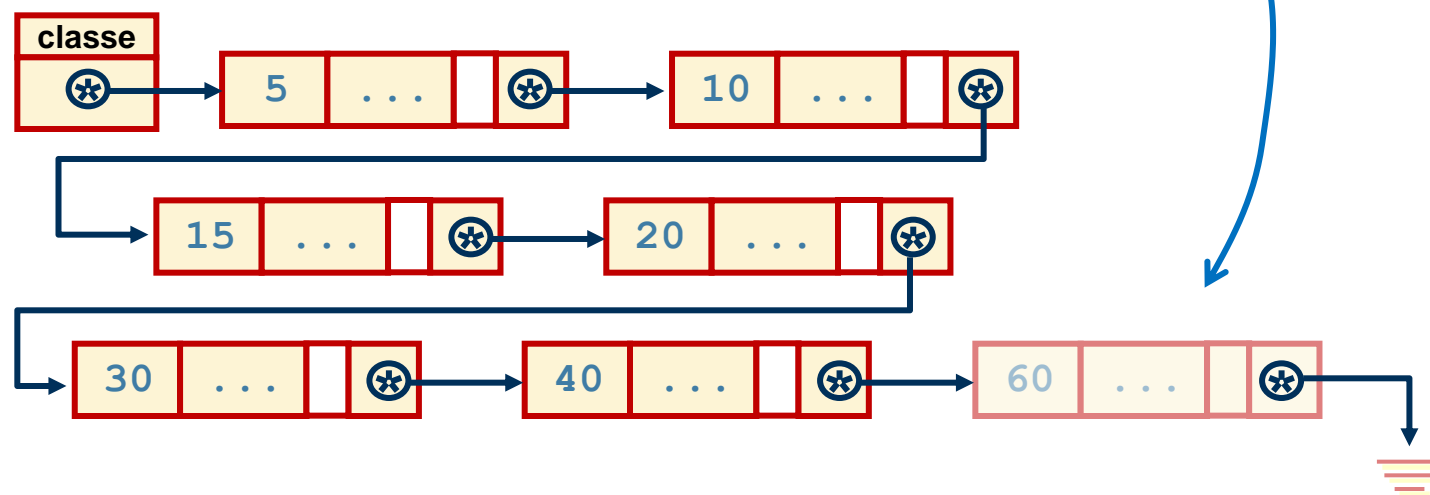
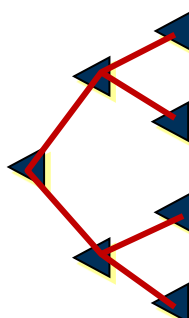
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

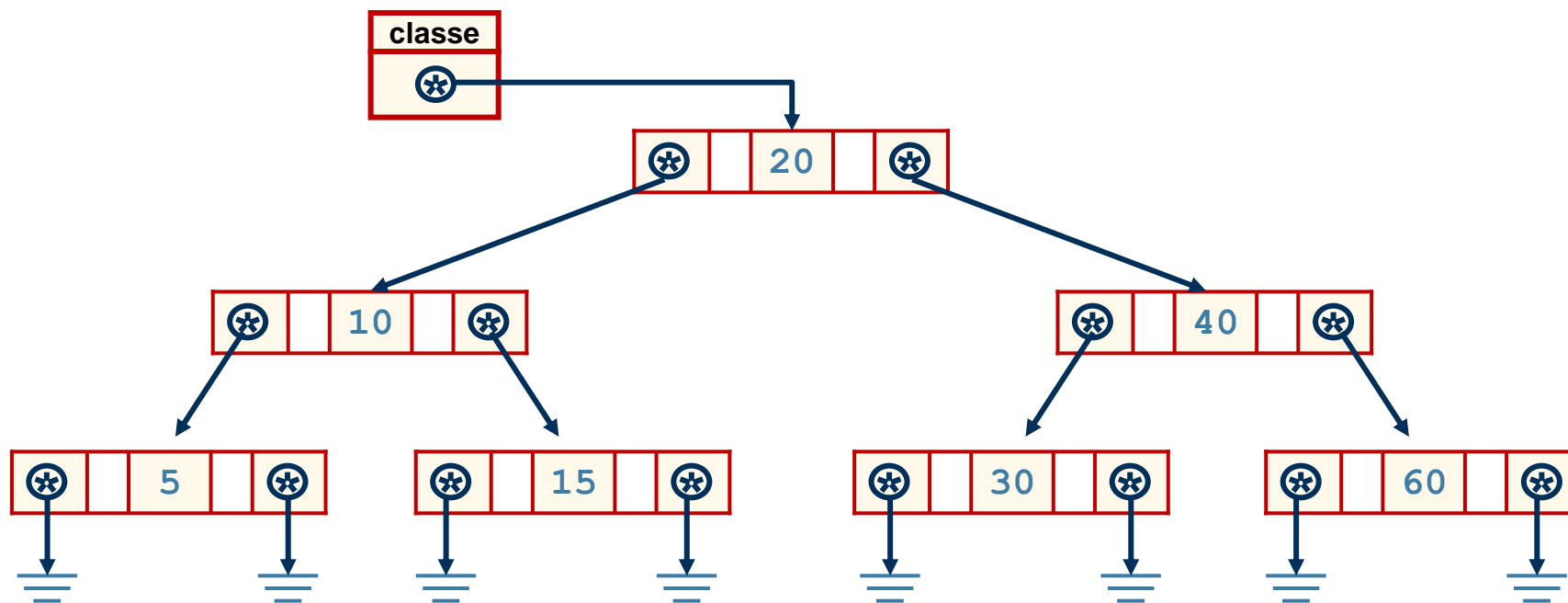


classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

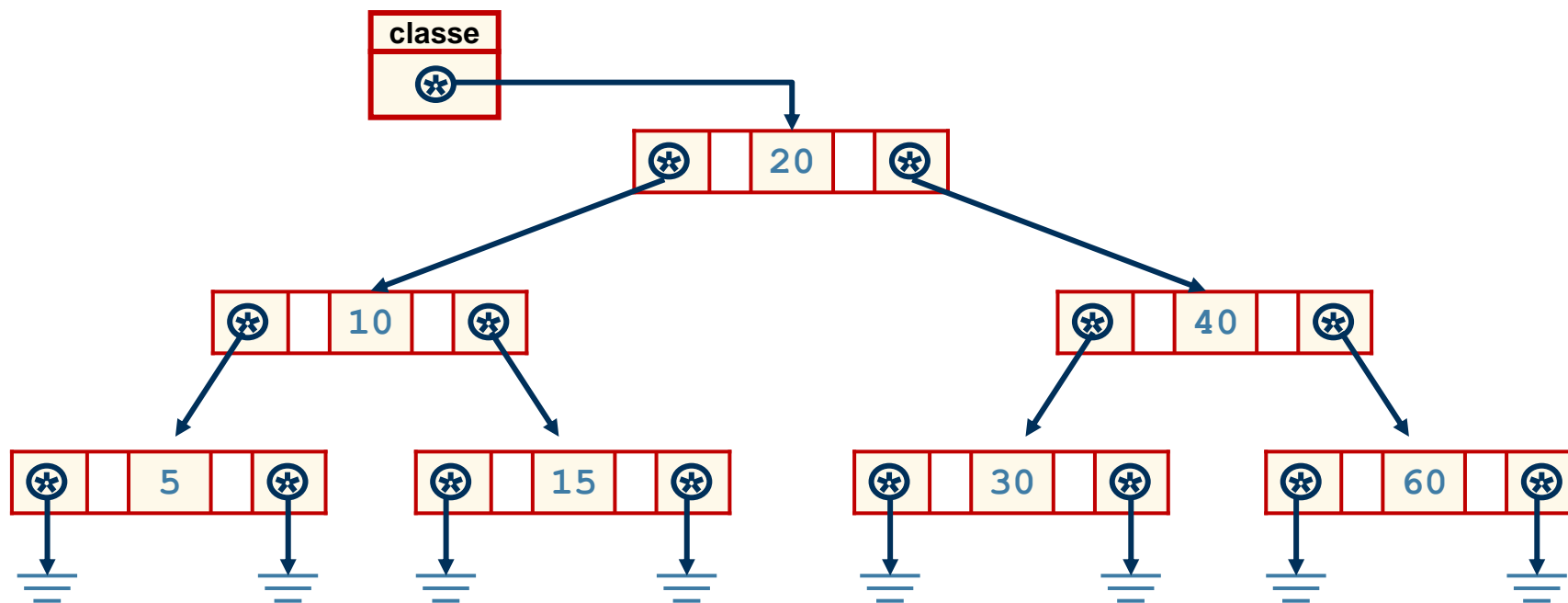


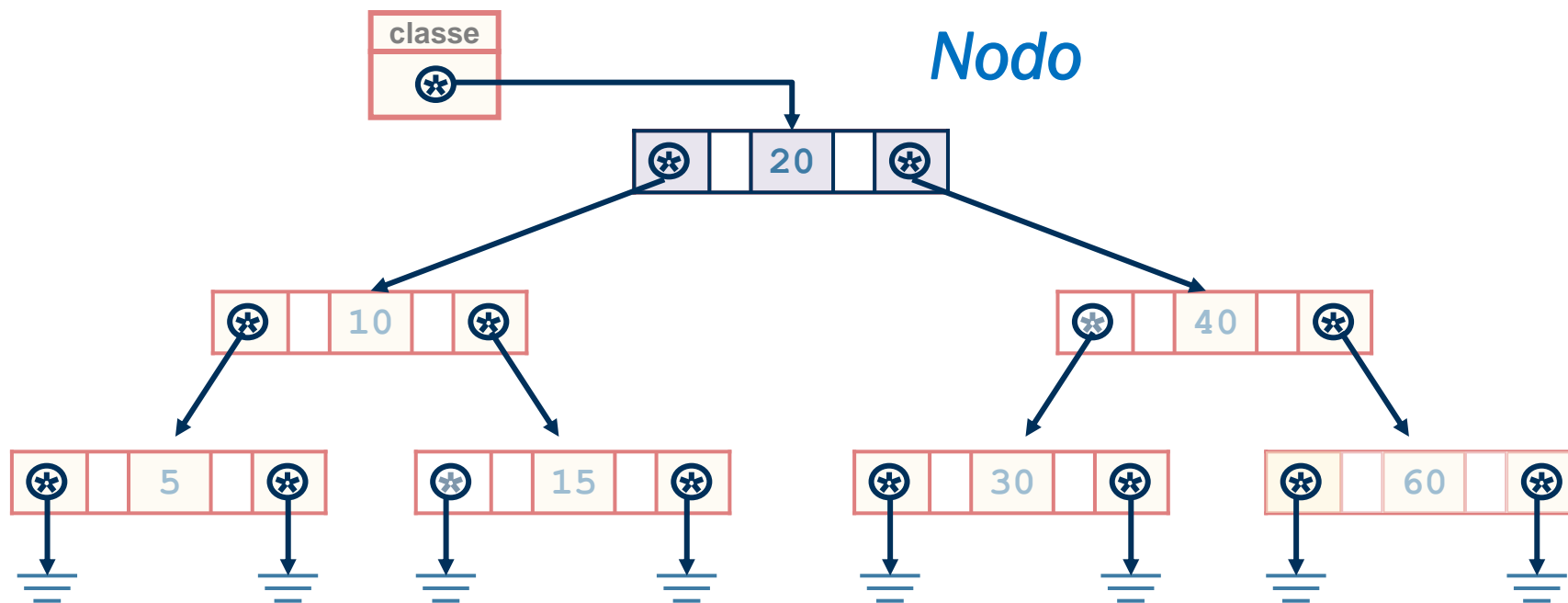
classe			
num		elenco	
7	0	5	...
	1	10	...
	2	15	...
	3	20	...
	4	30	...
	5	40	...
	6	60	...
	7		

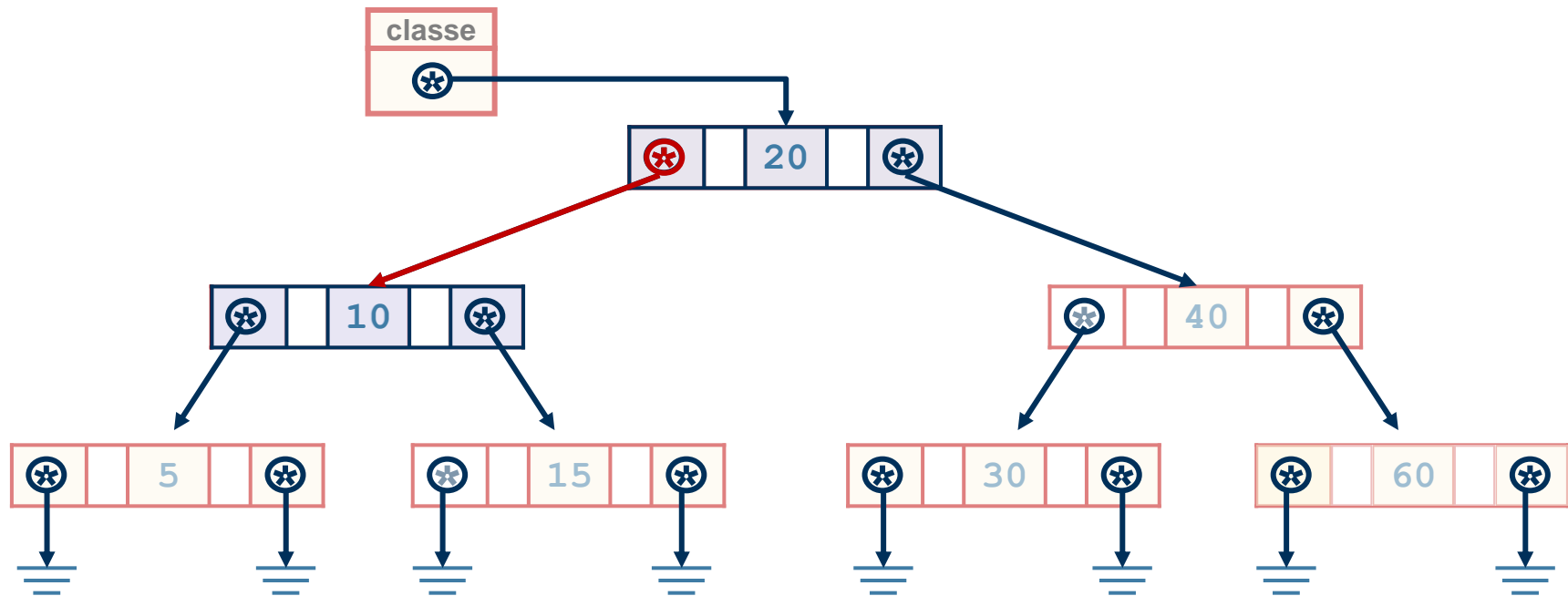


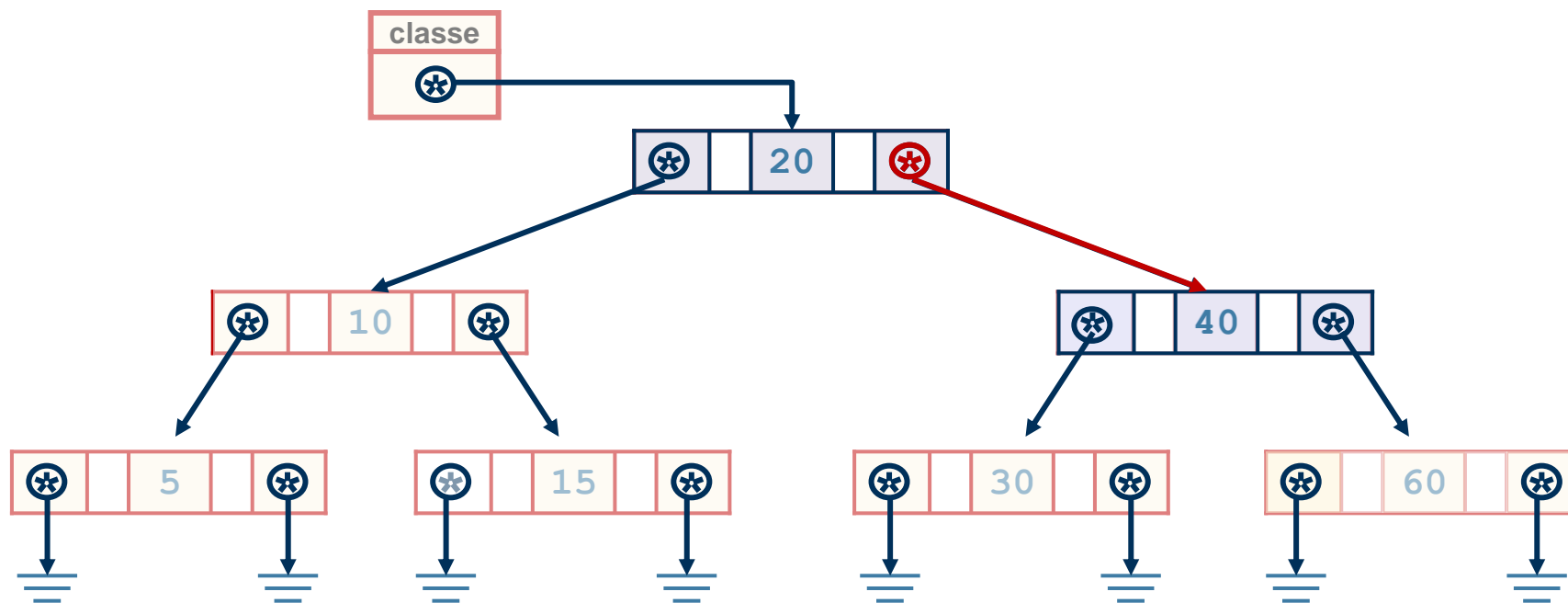


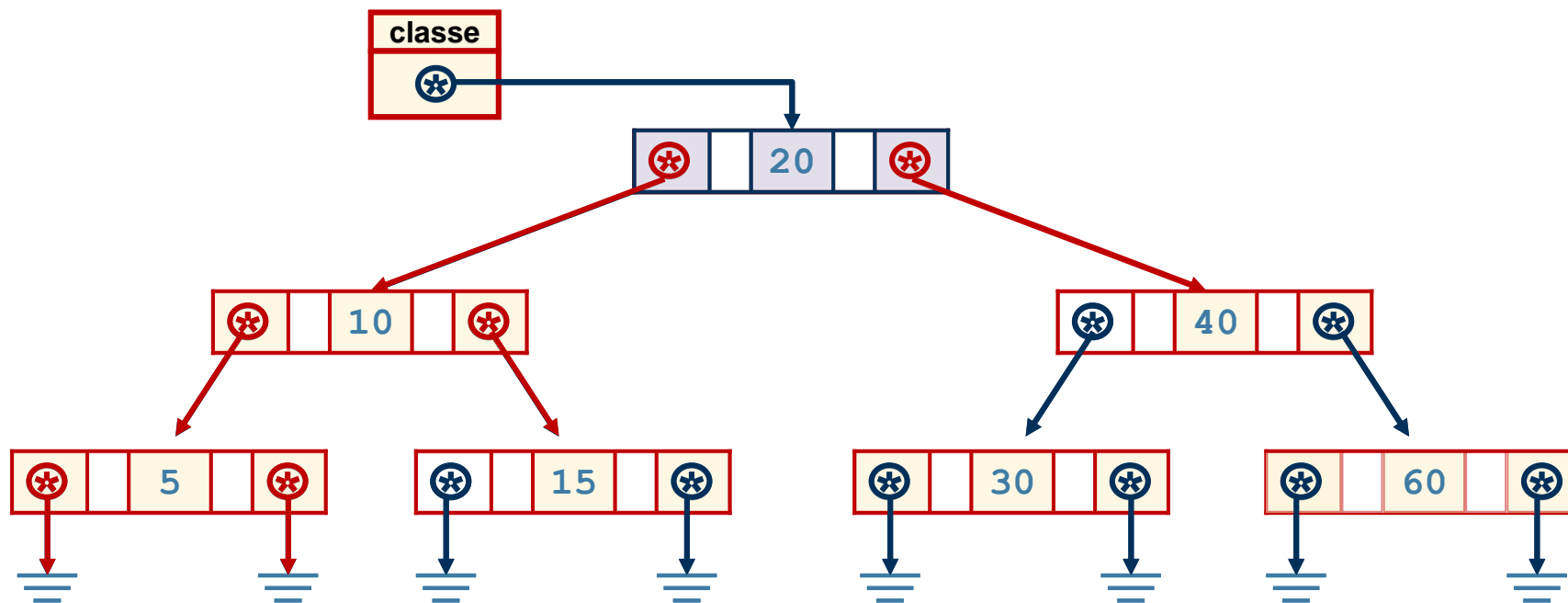
Struttura ad albero binario



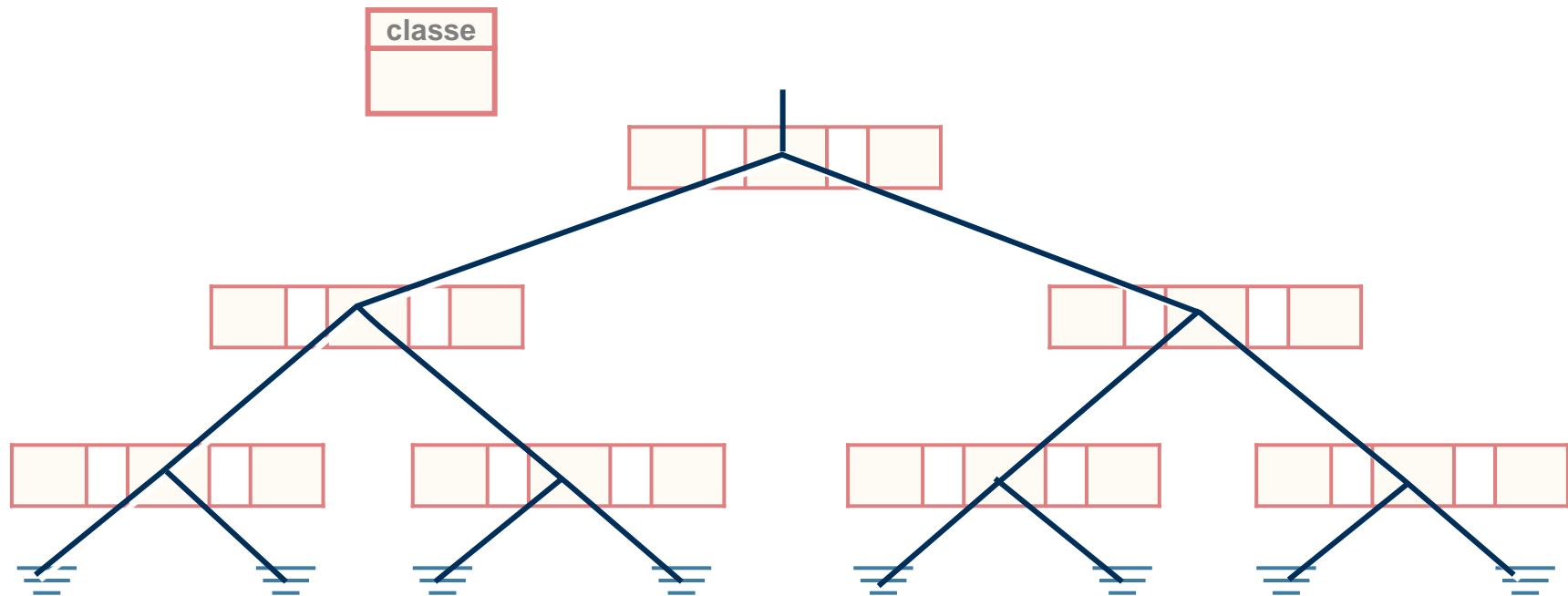


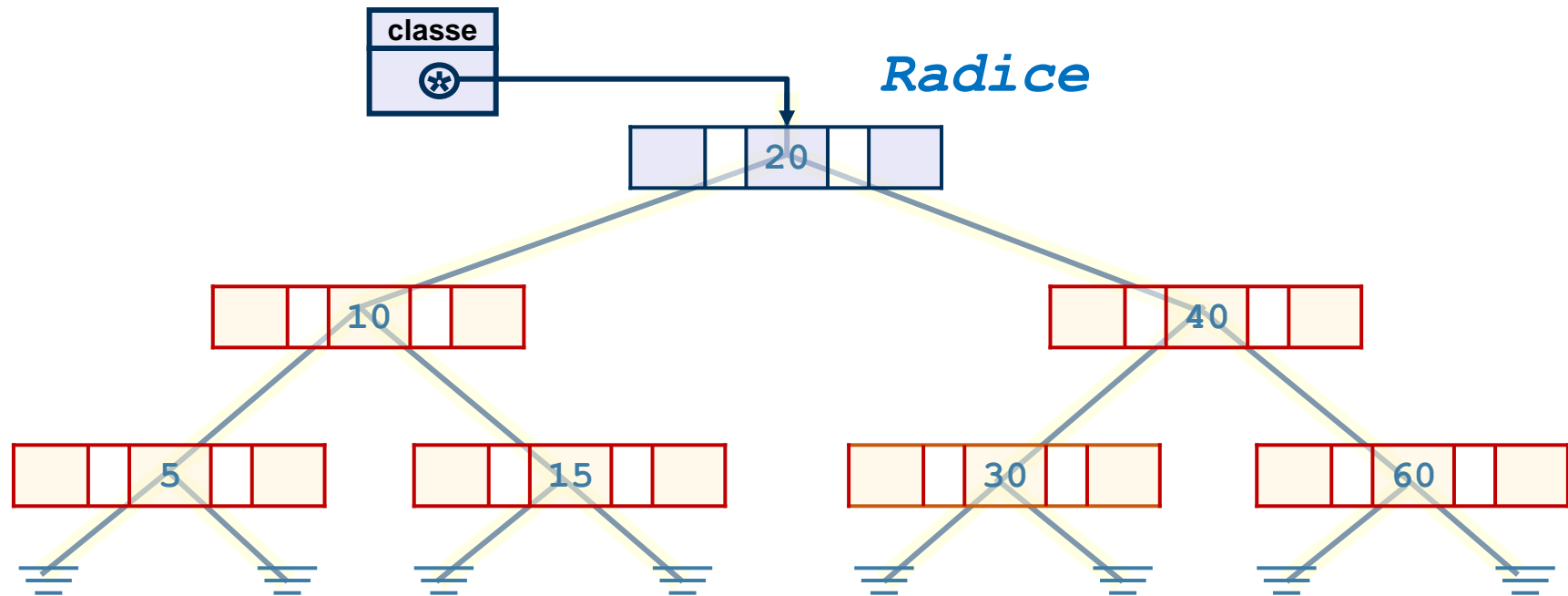


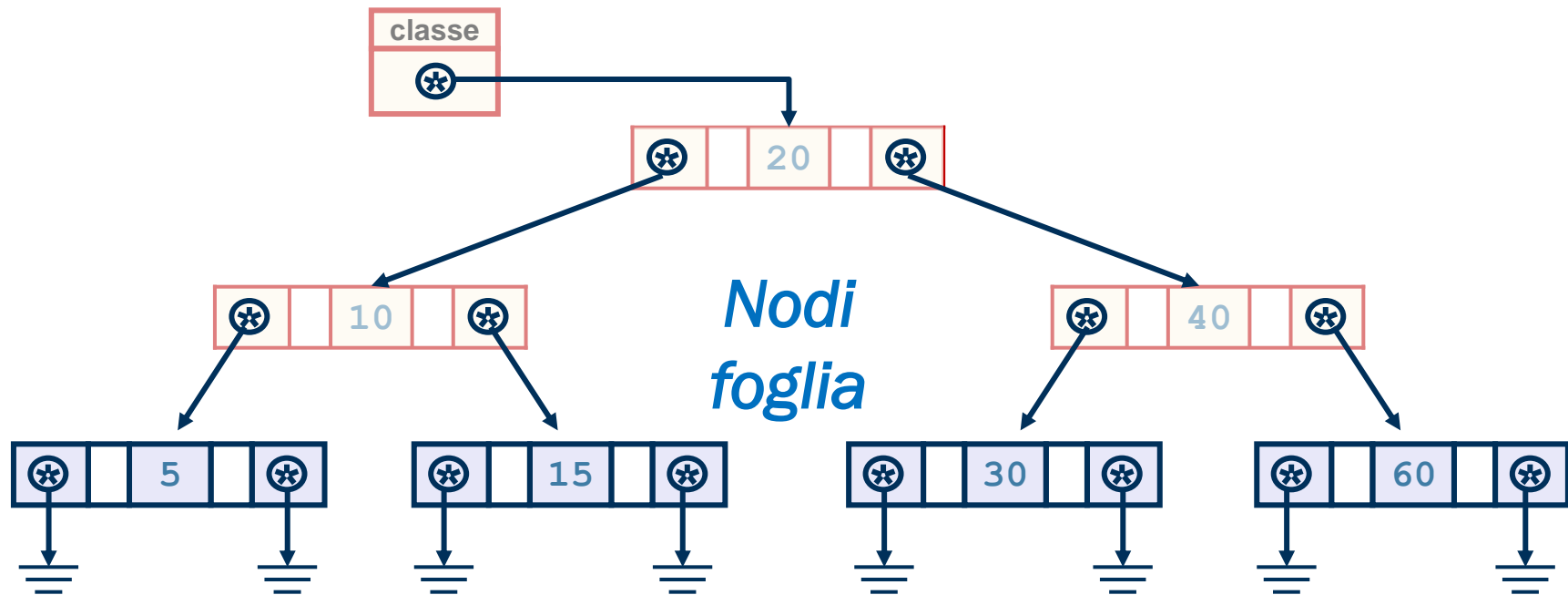


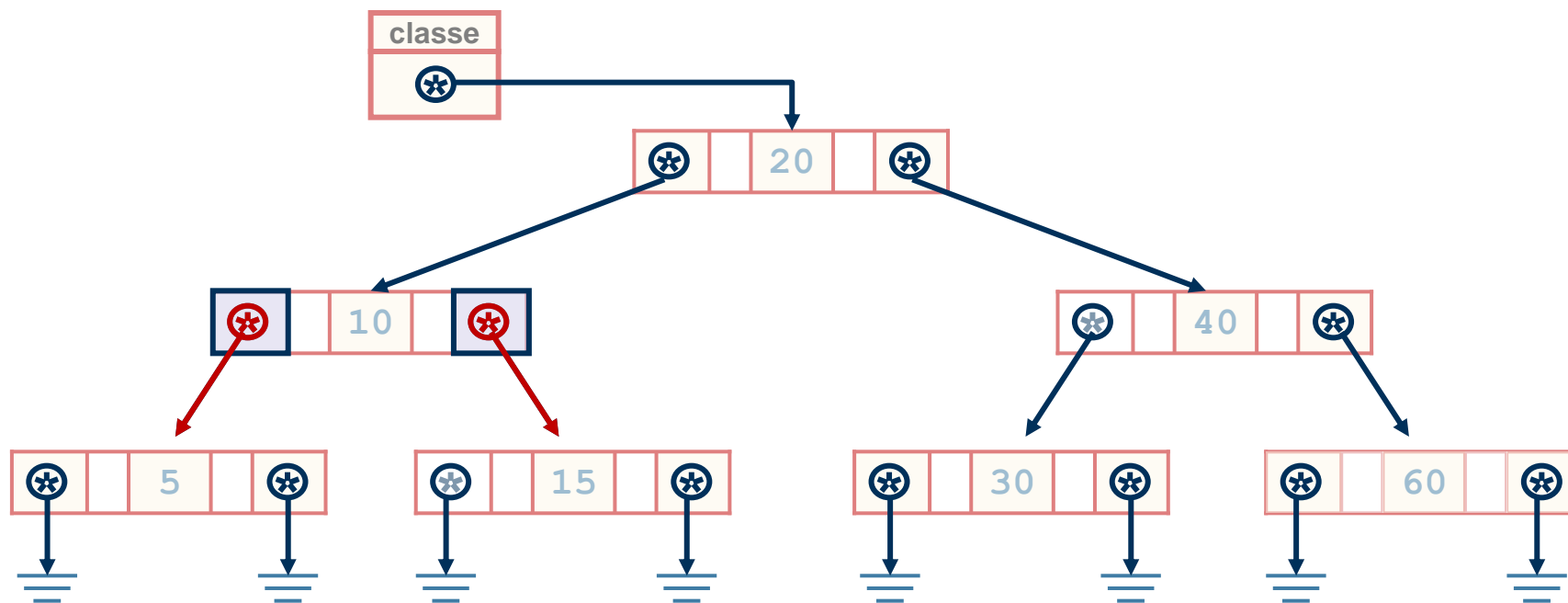


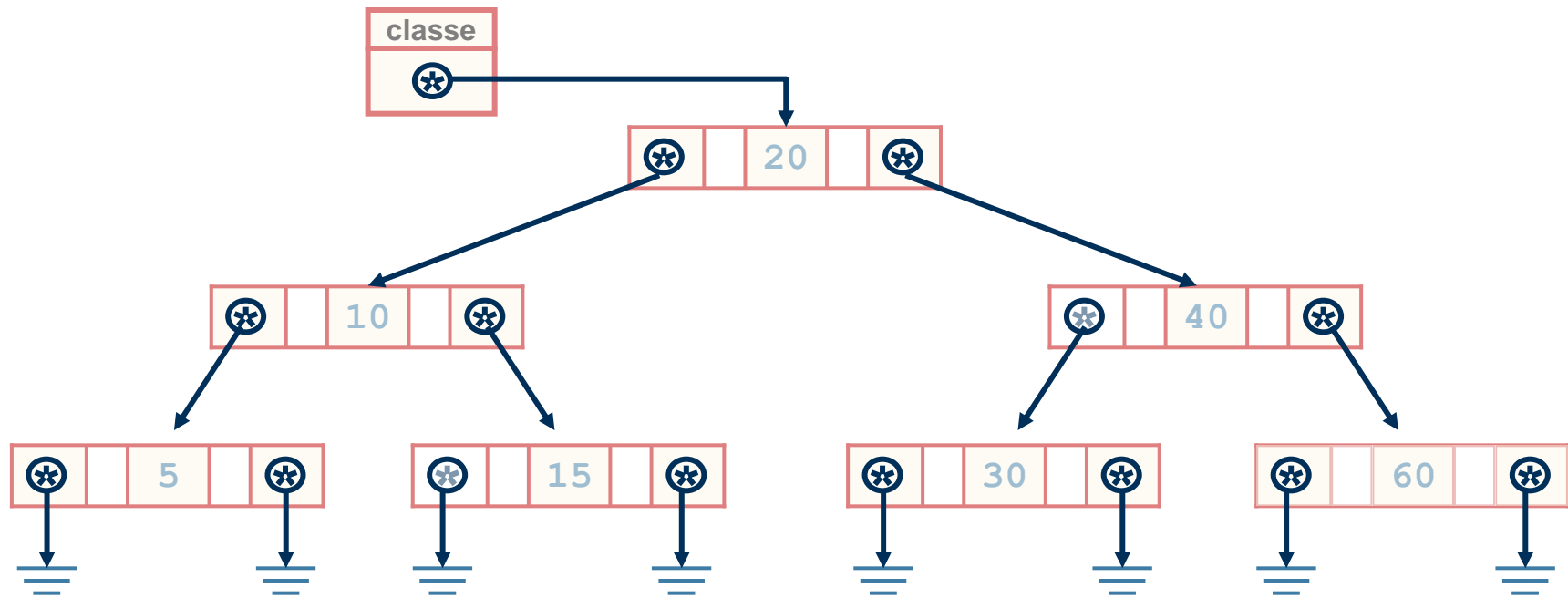
Struttura ad “albero”



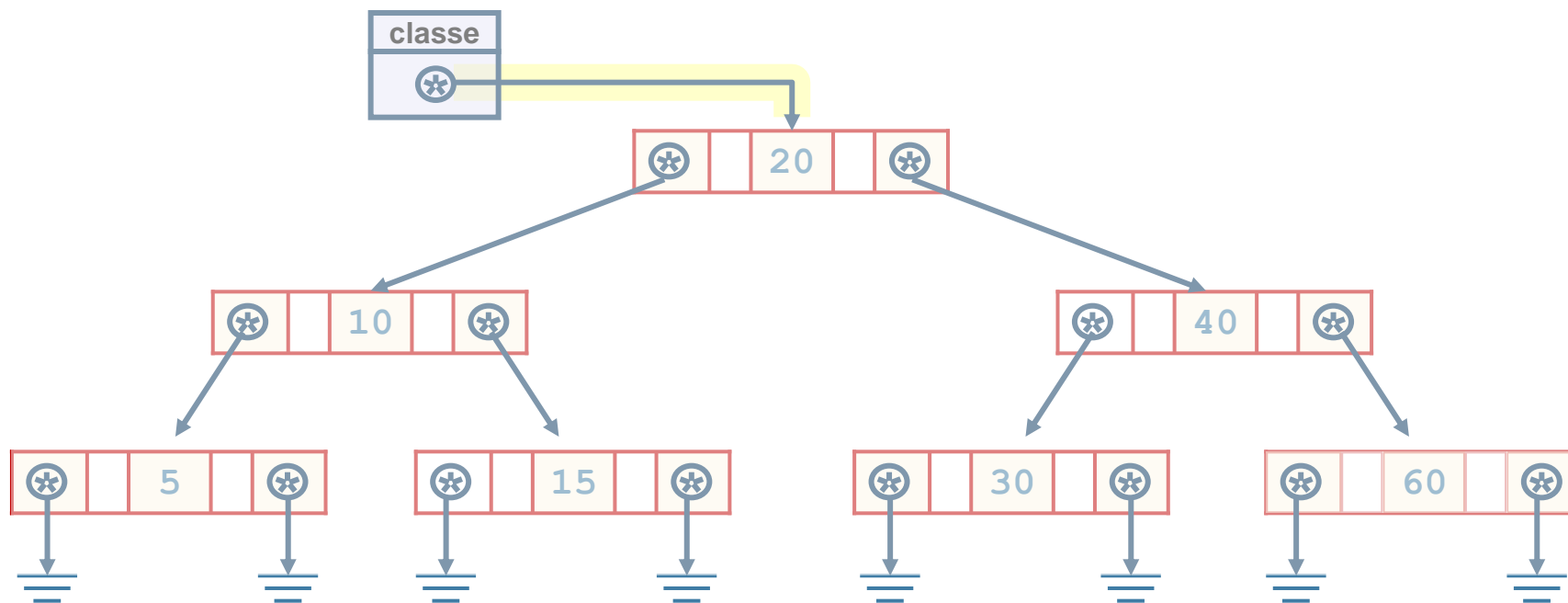




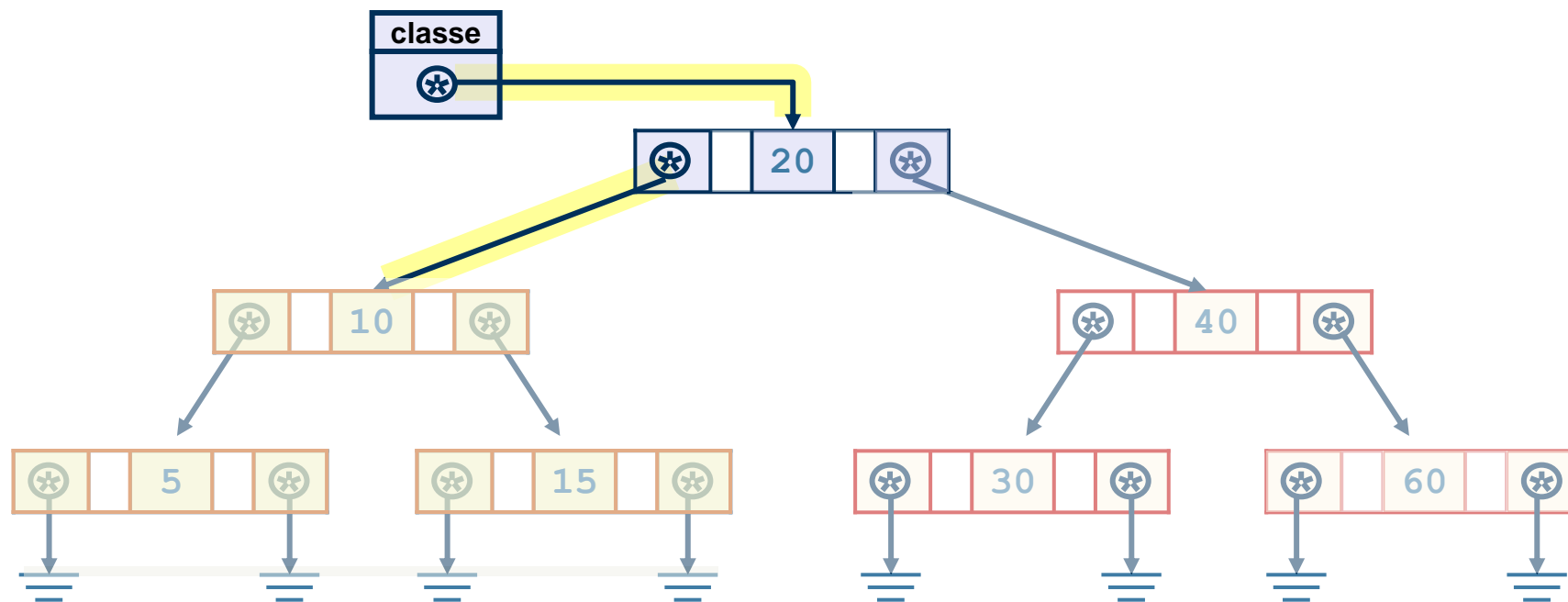


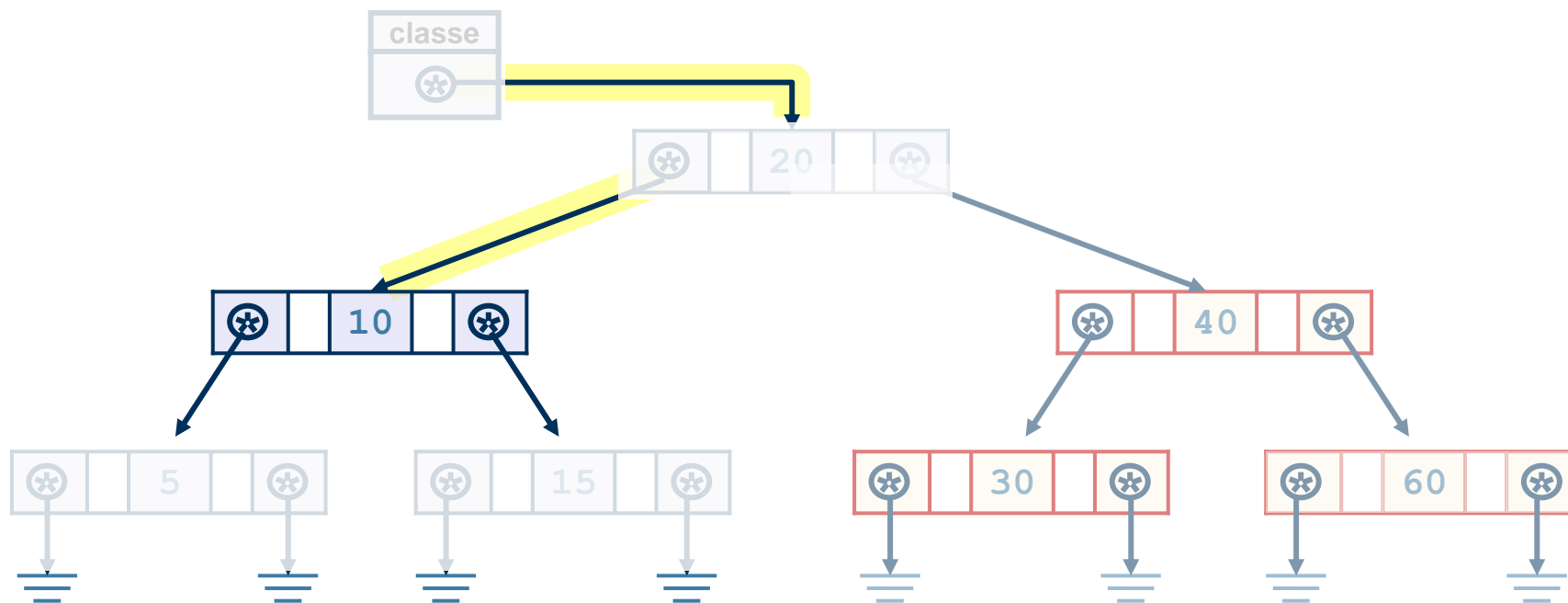


cerca: 17



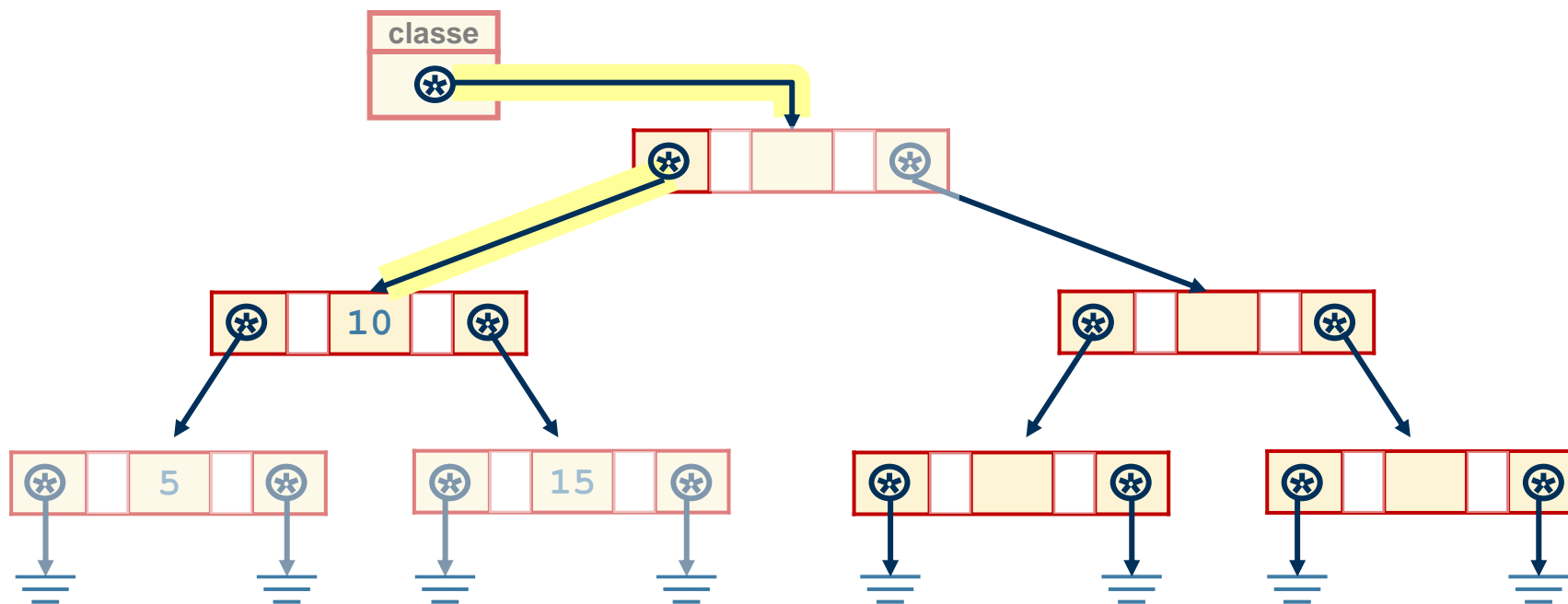
cerca: 17

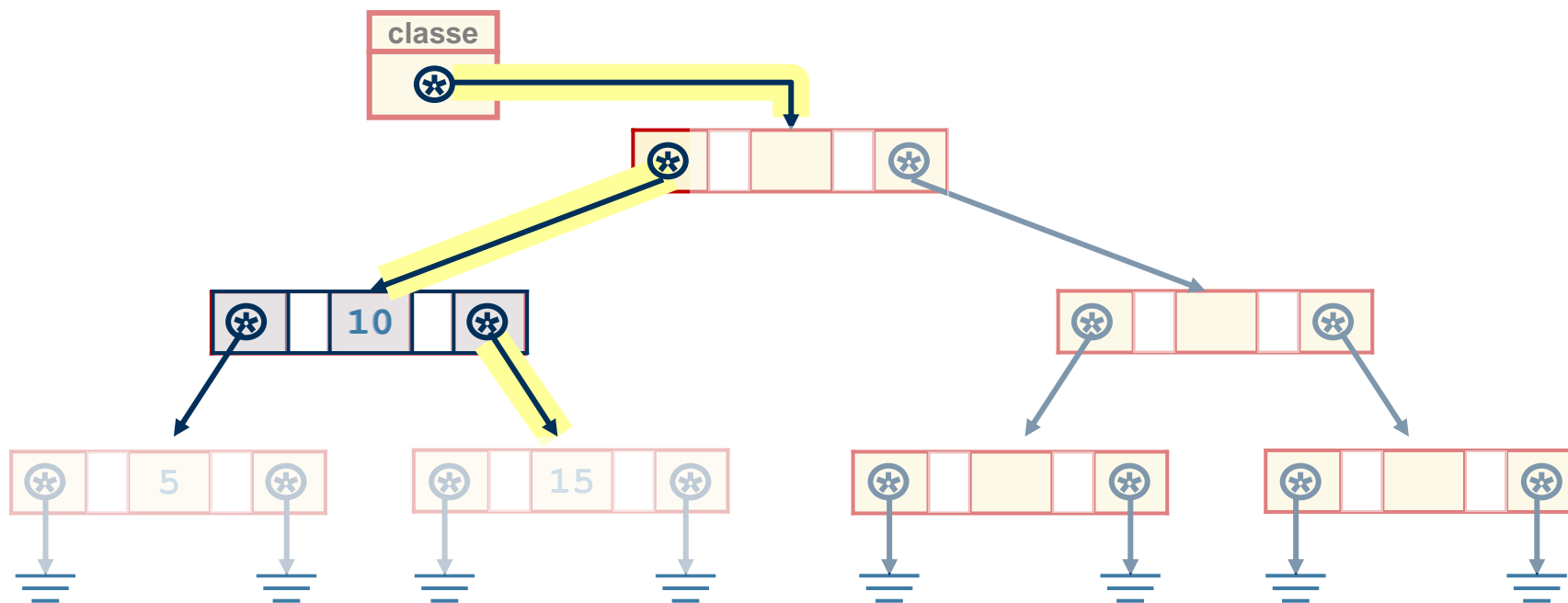




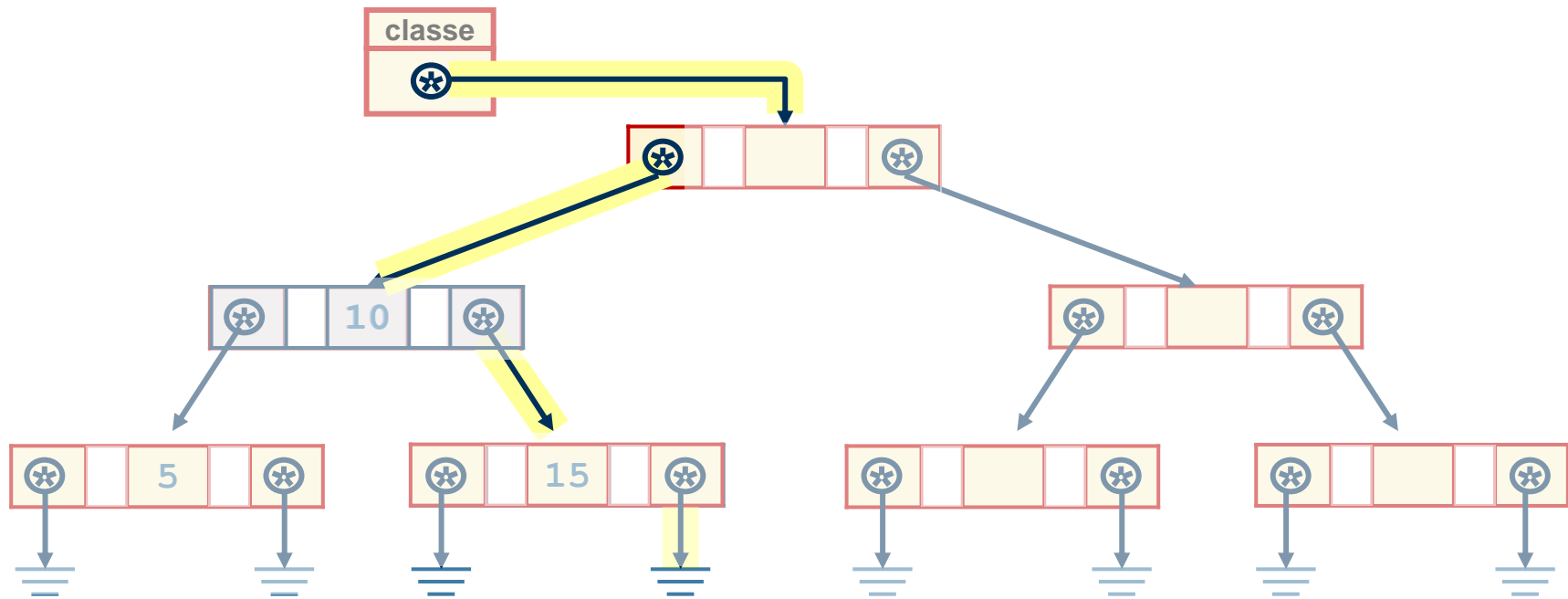
cerca: 17

Sottoalbero

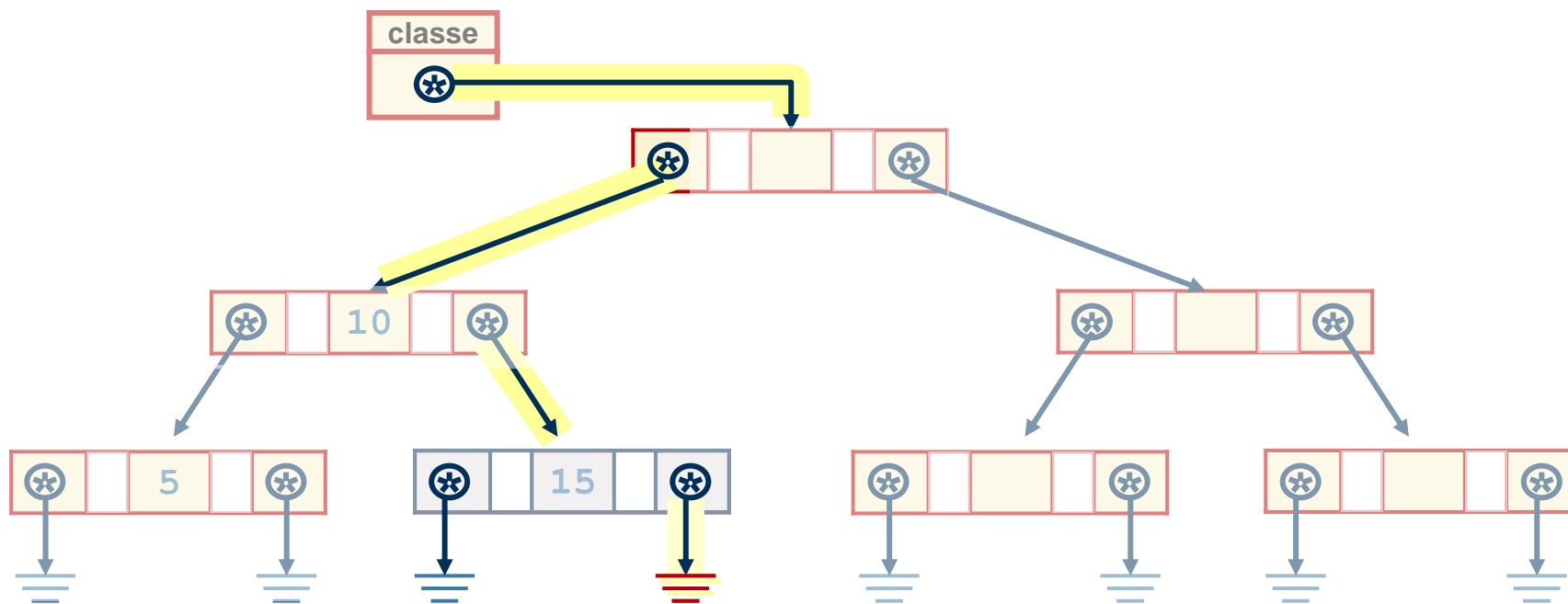




cerca: 17

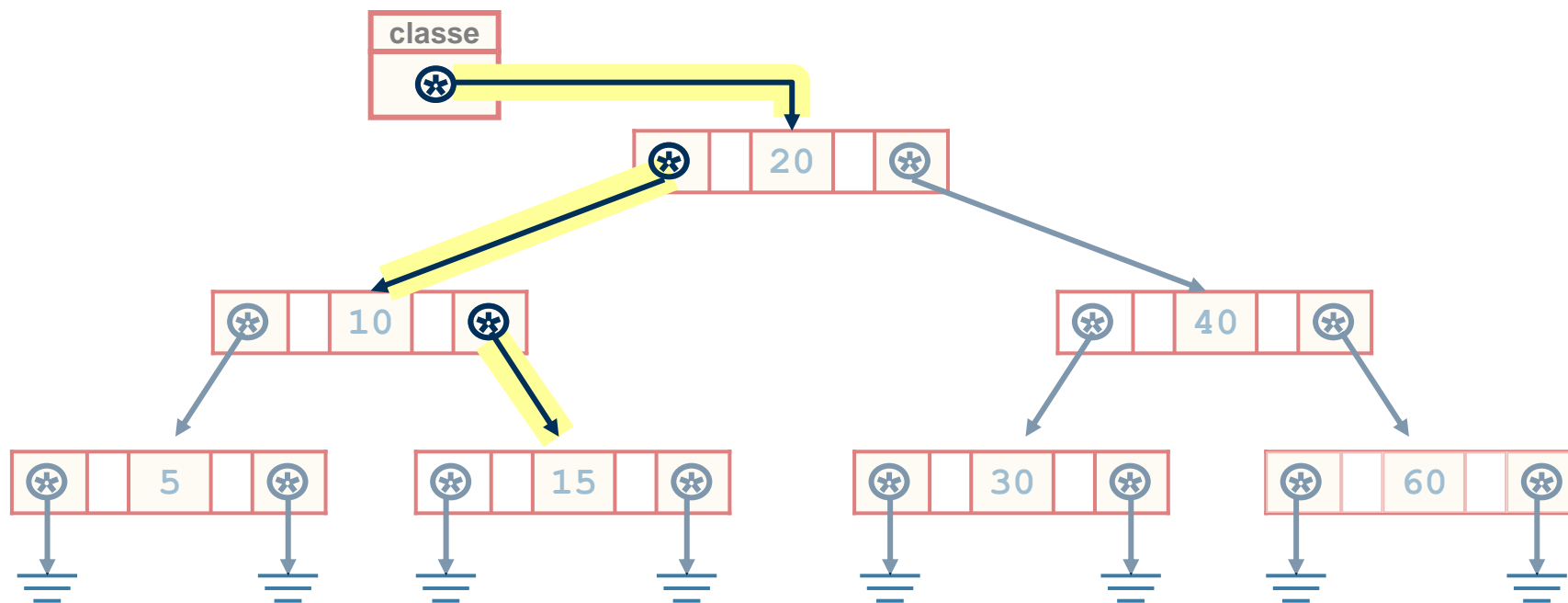


cerca: 17

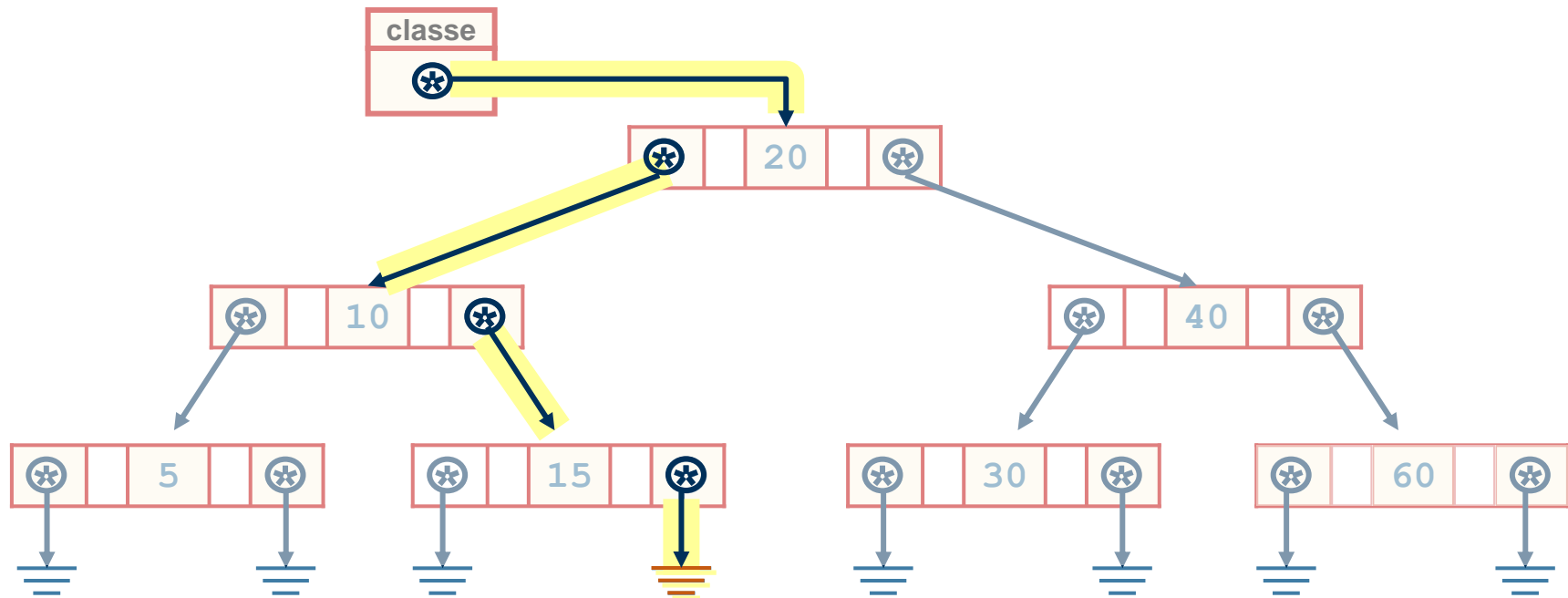


cerca: 17
NON esiste

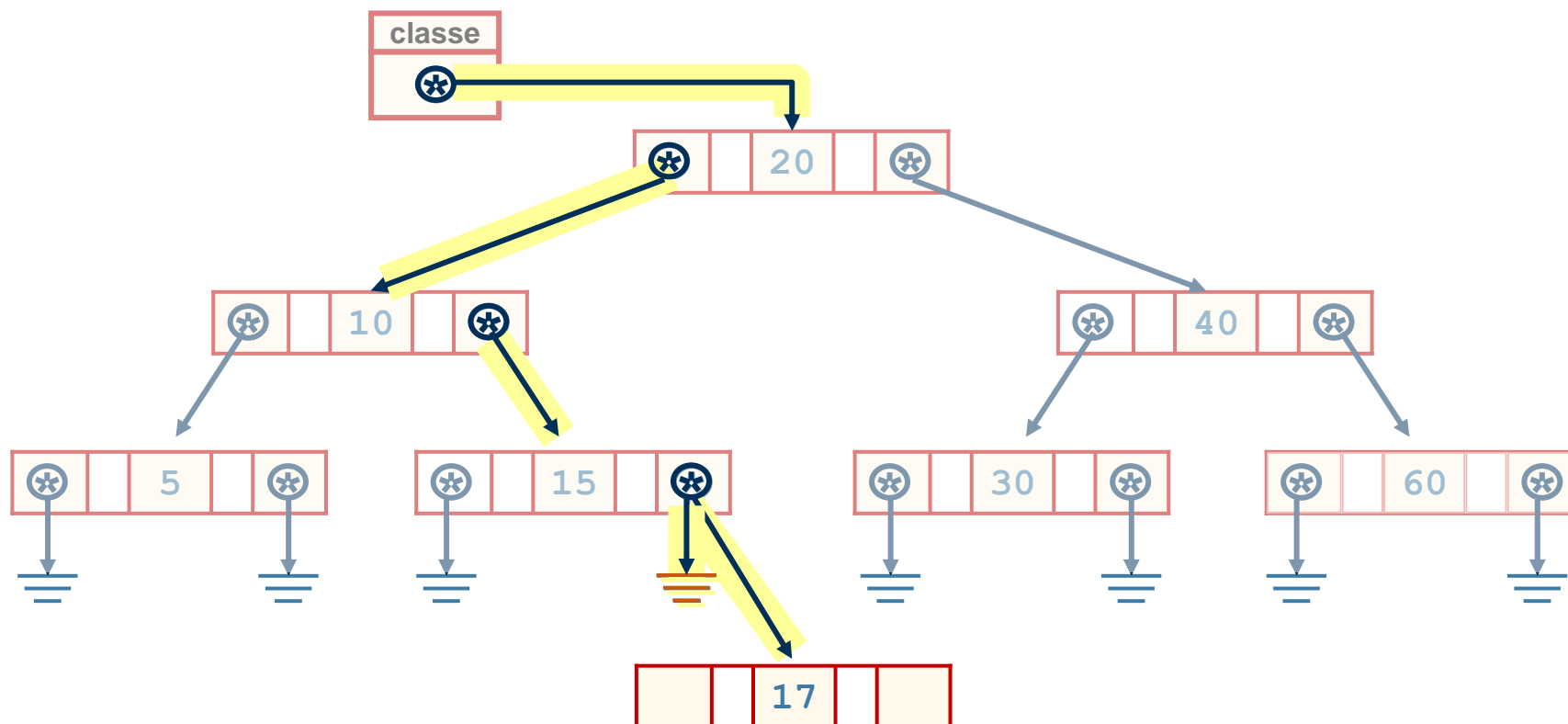
inserisci: 17



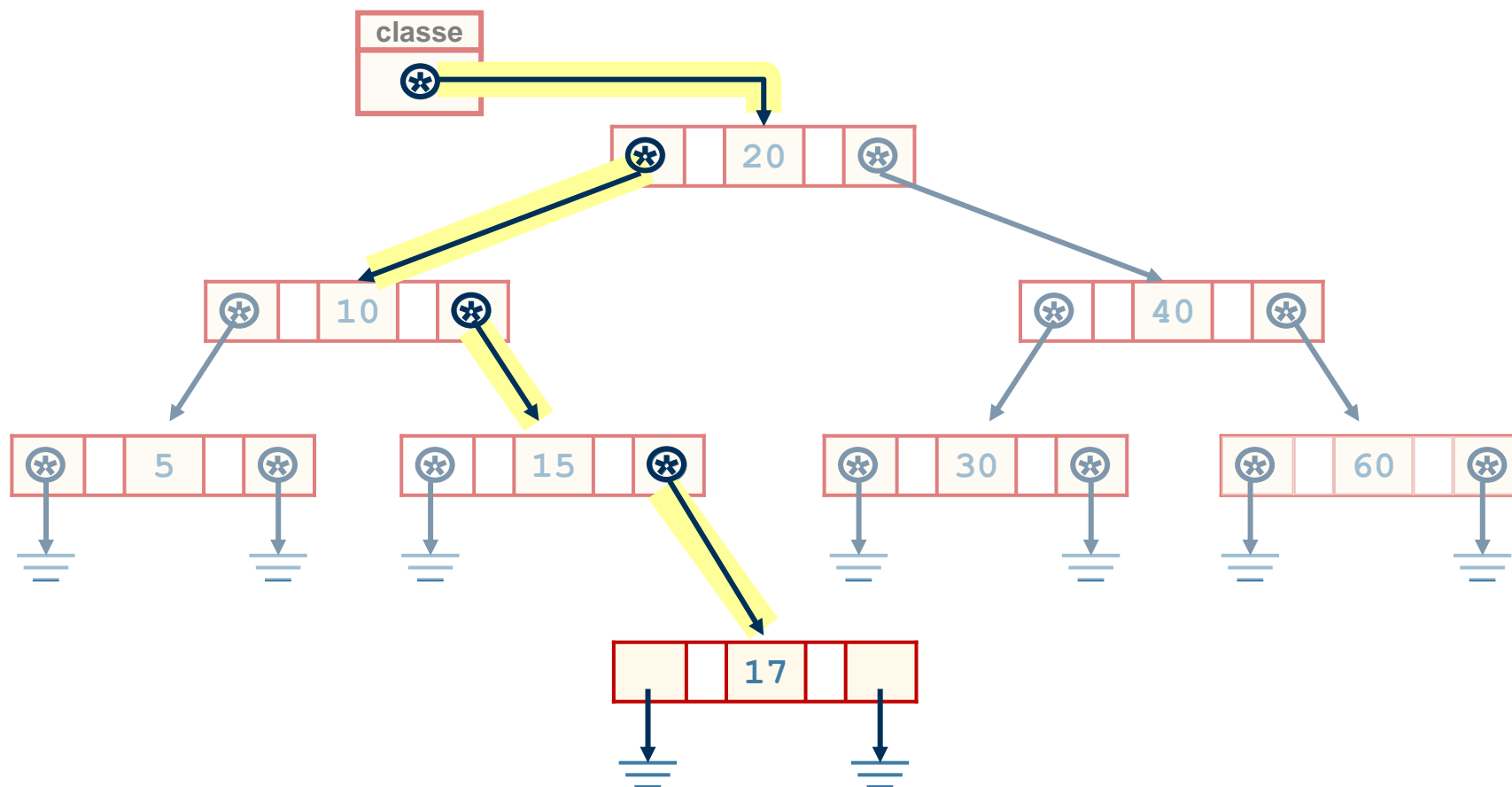
inserisci: 17

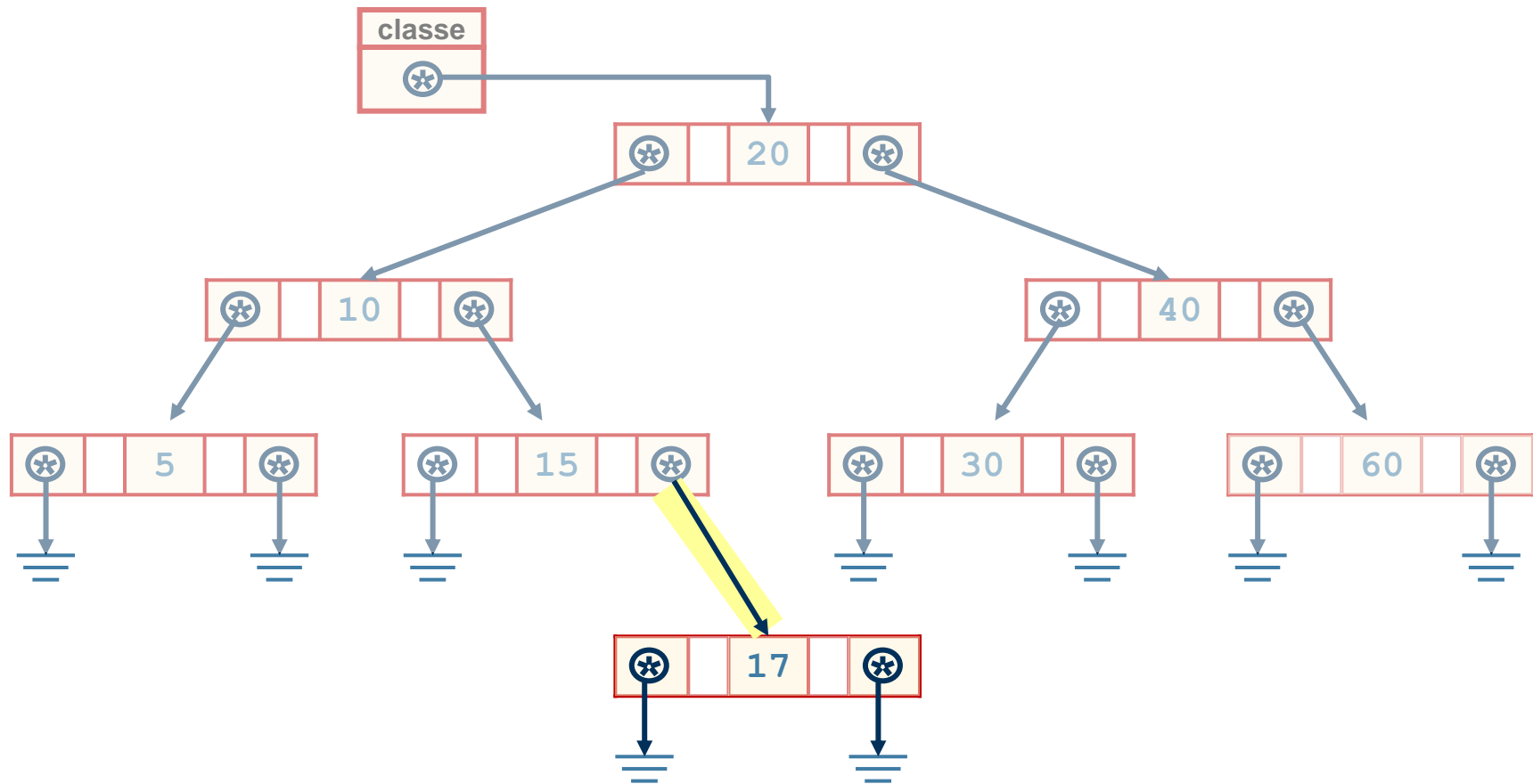


inserisci: 17

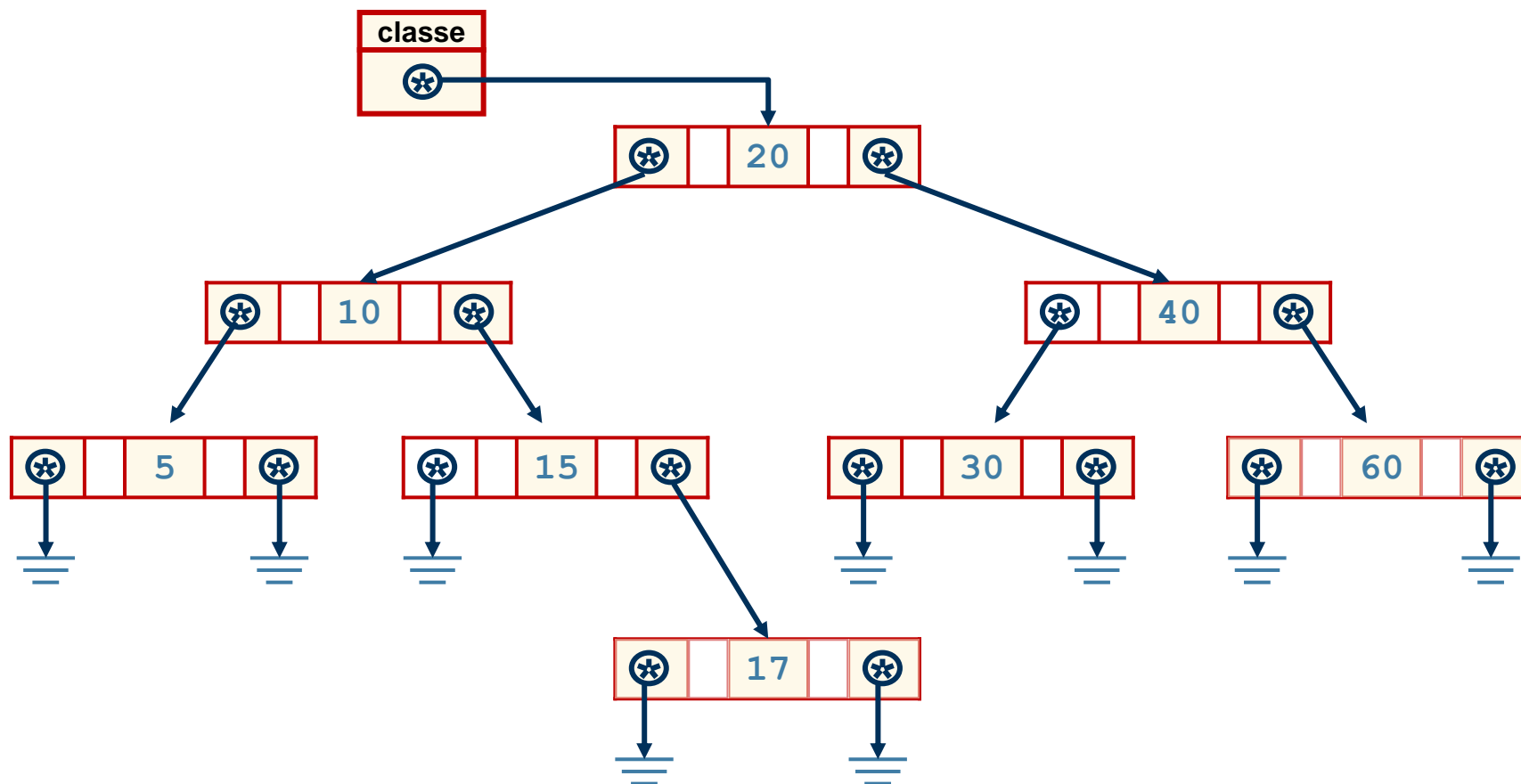


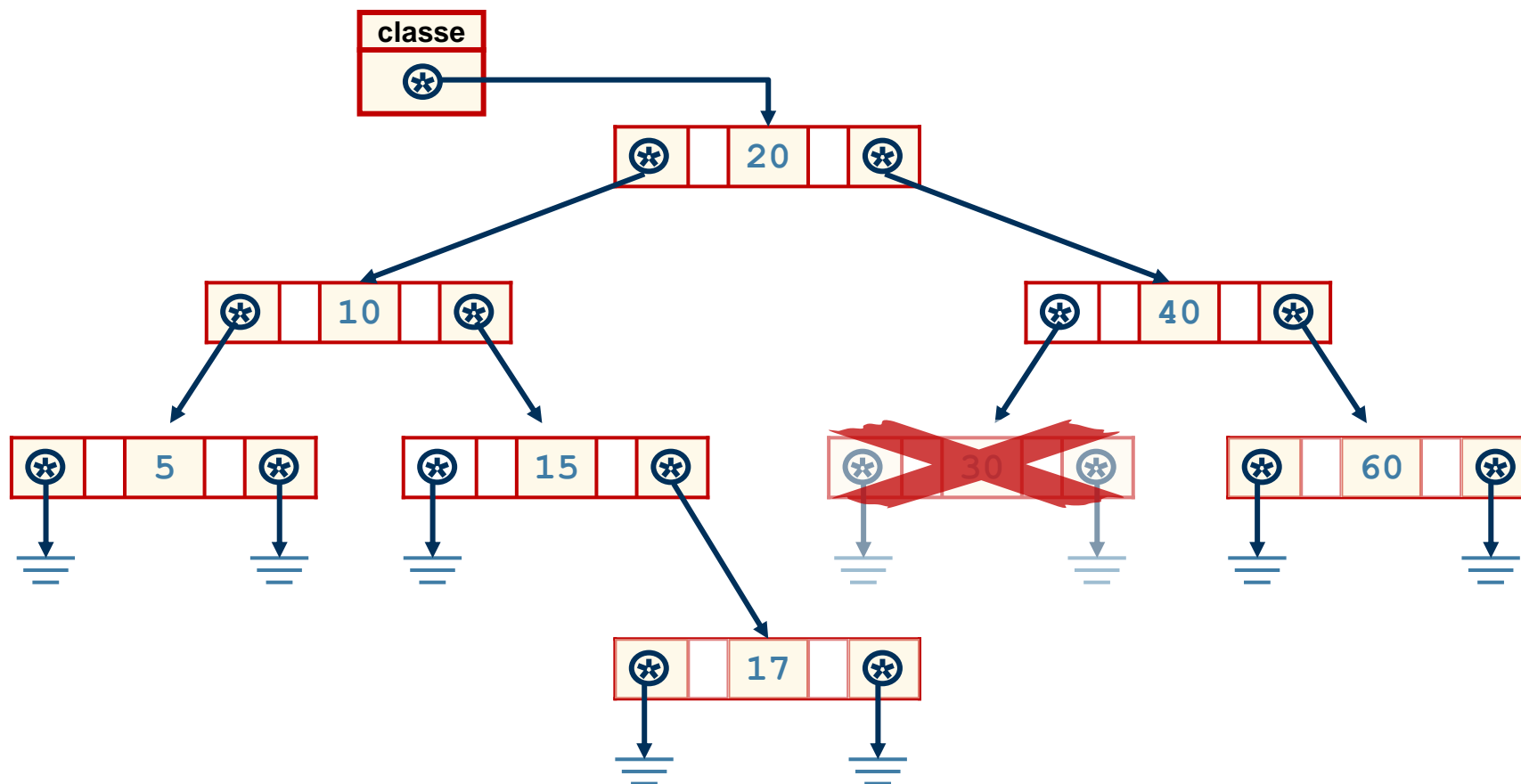
Elemento foglia

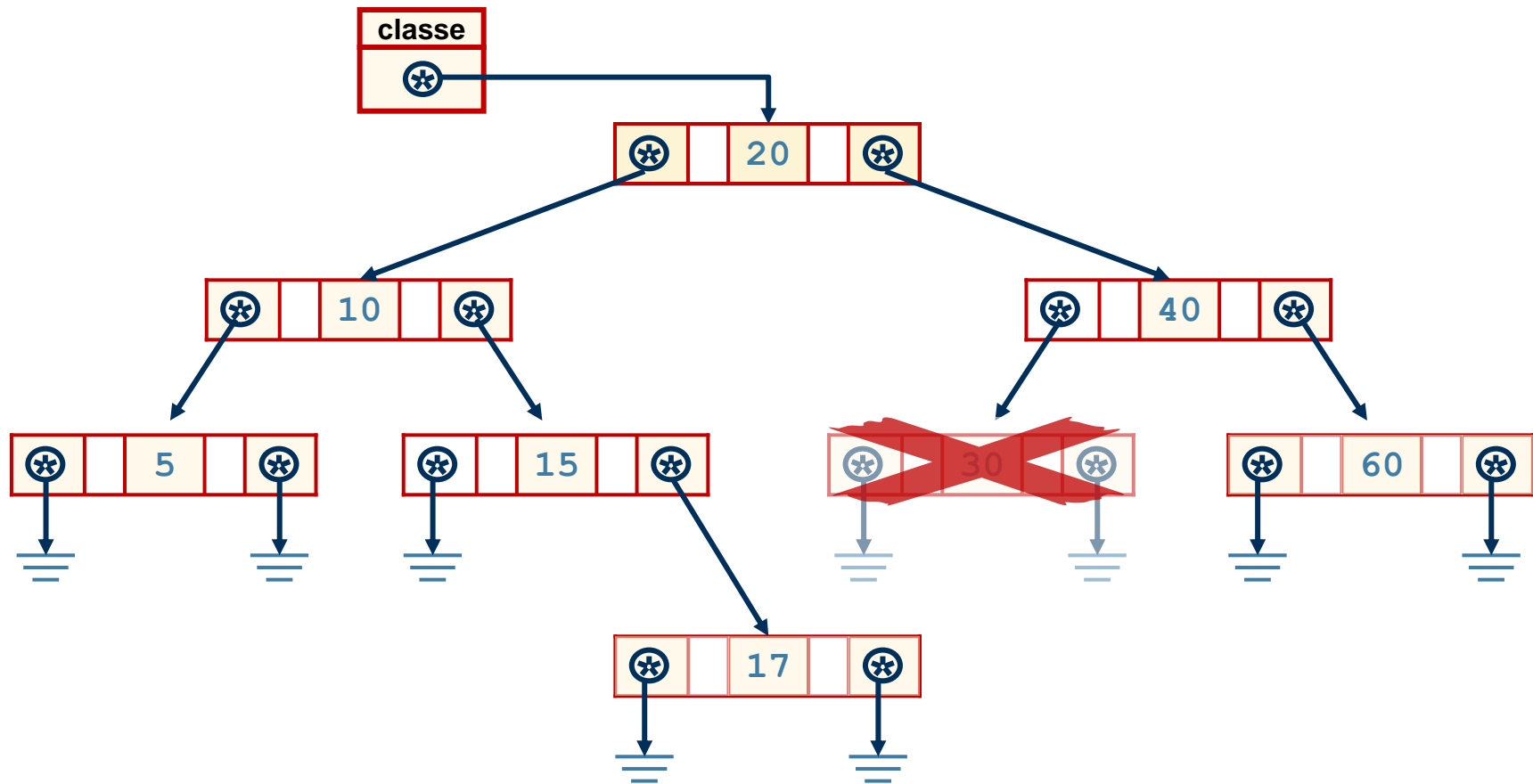


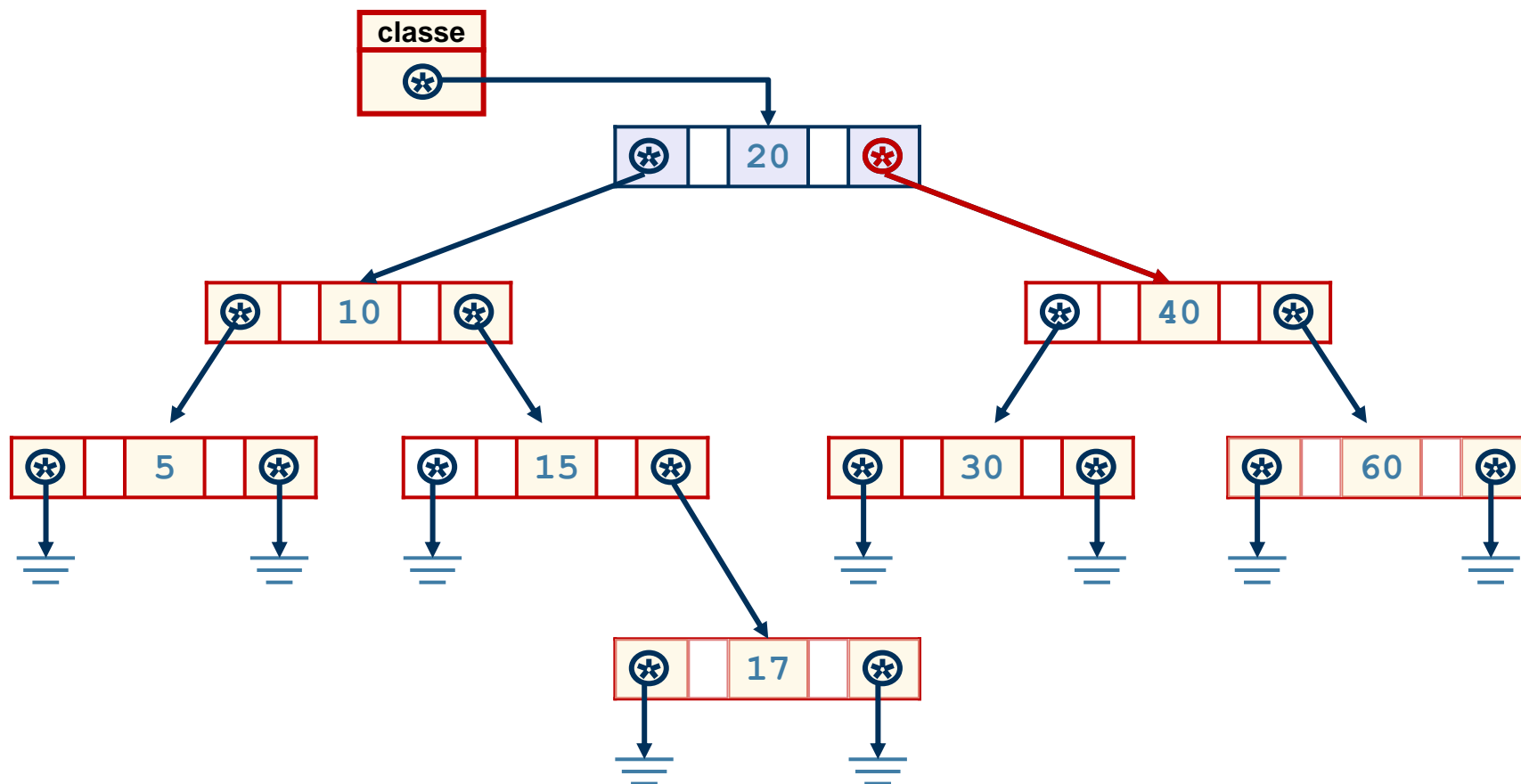


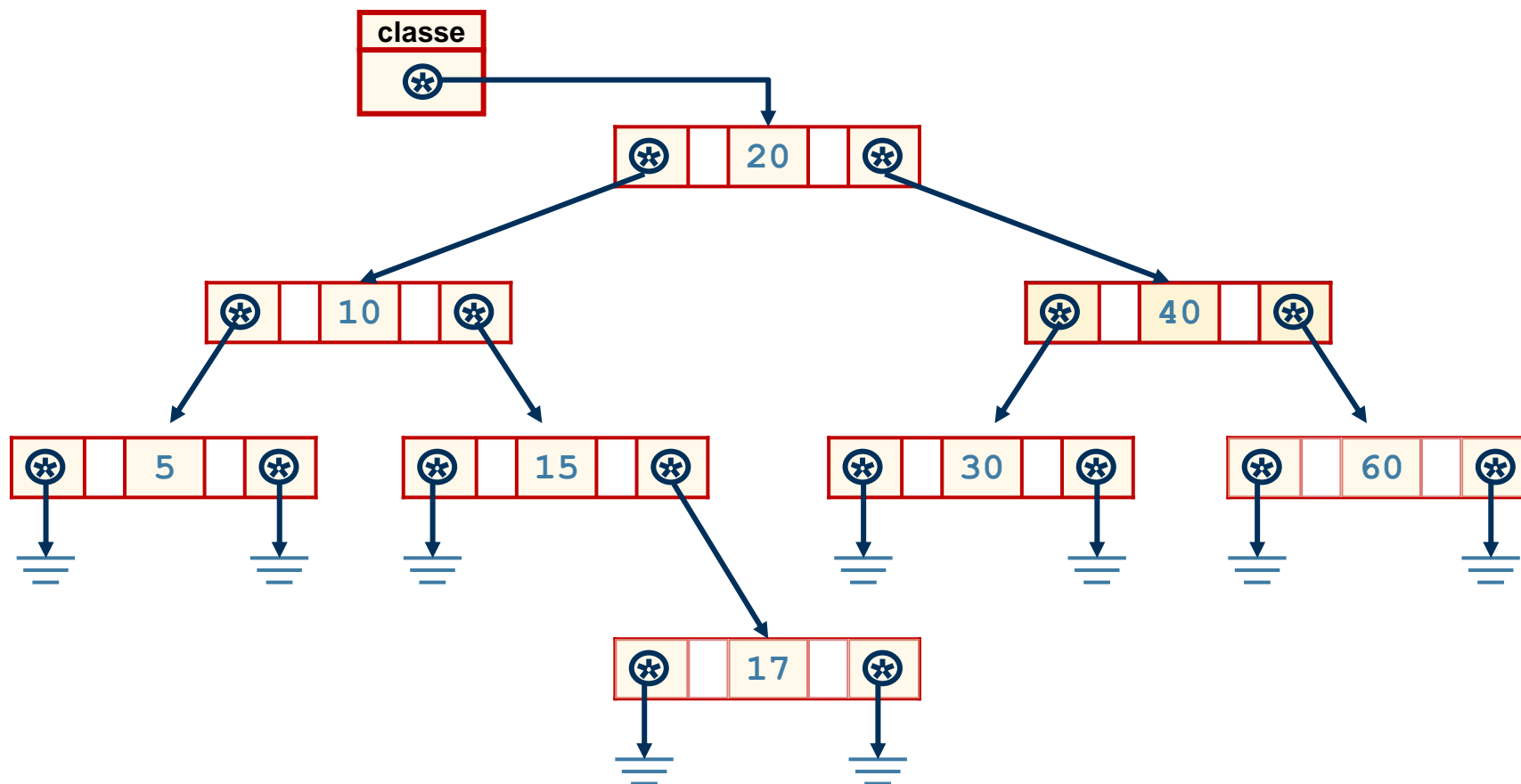
Eliminazione

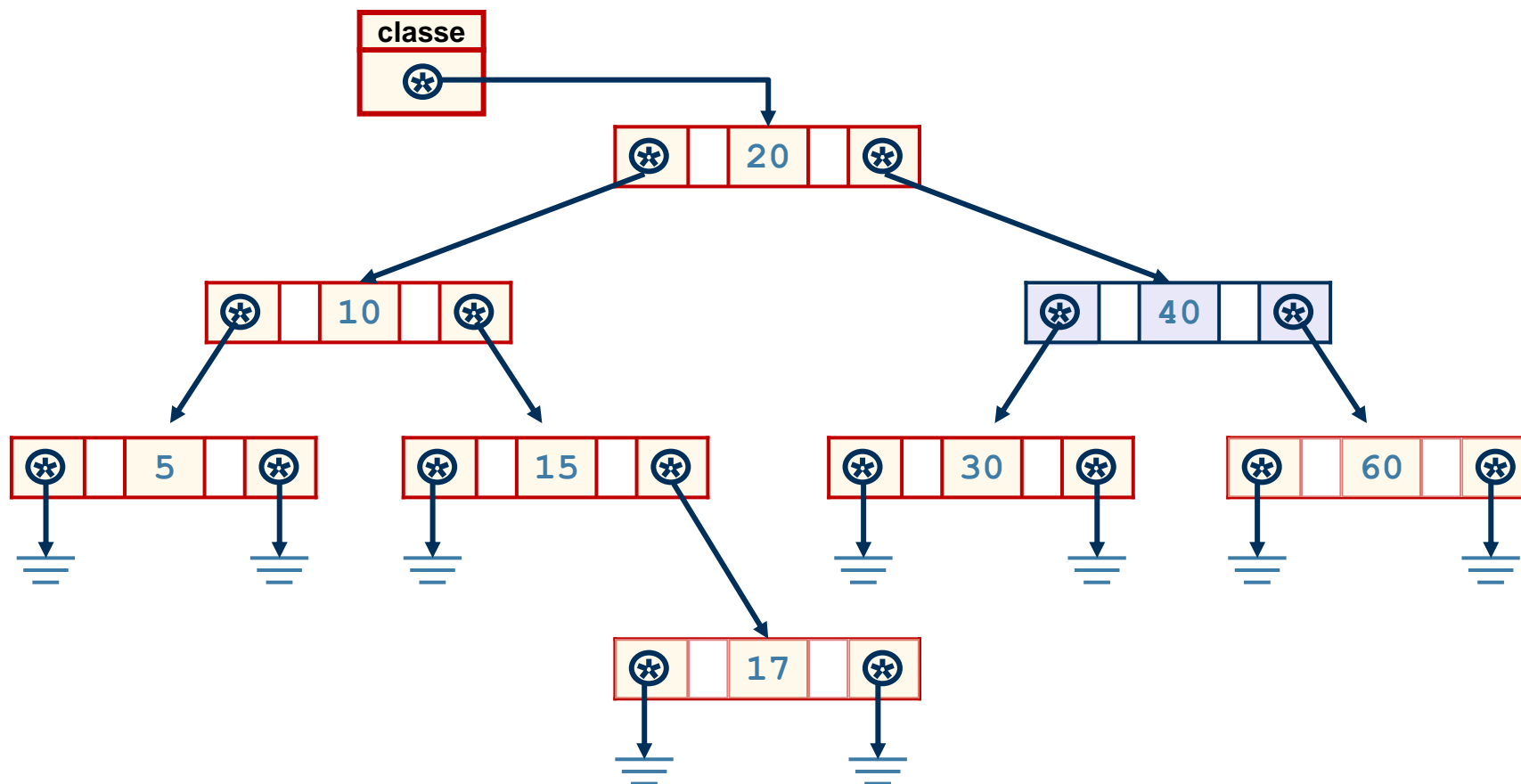


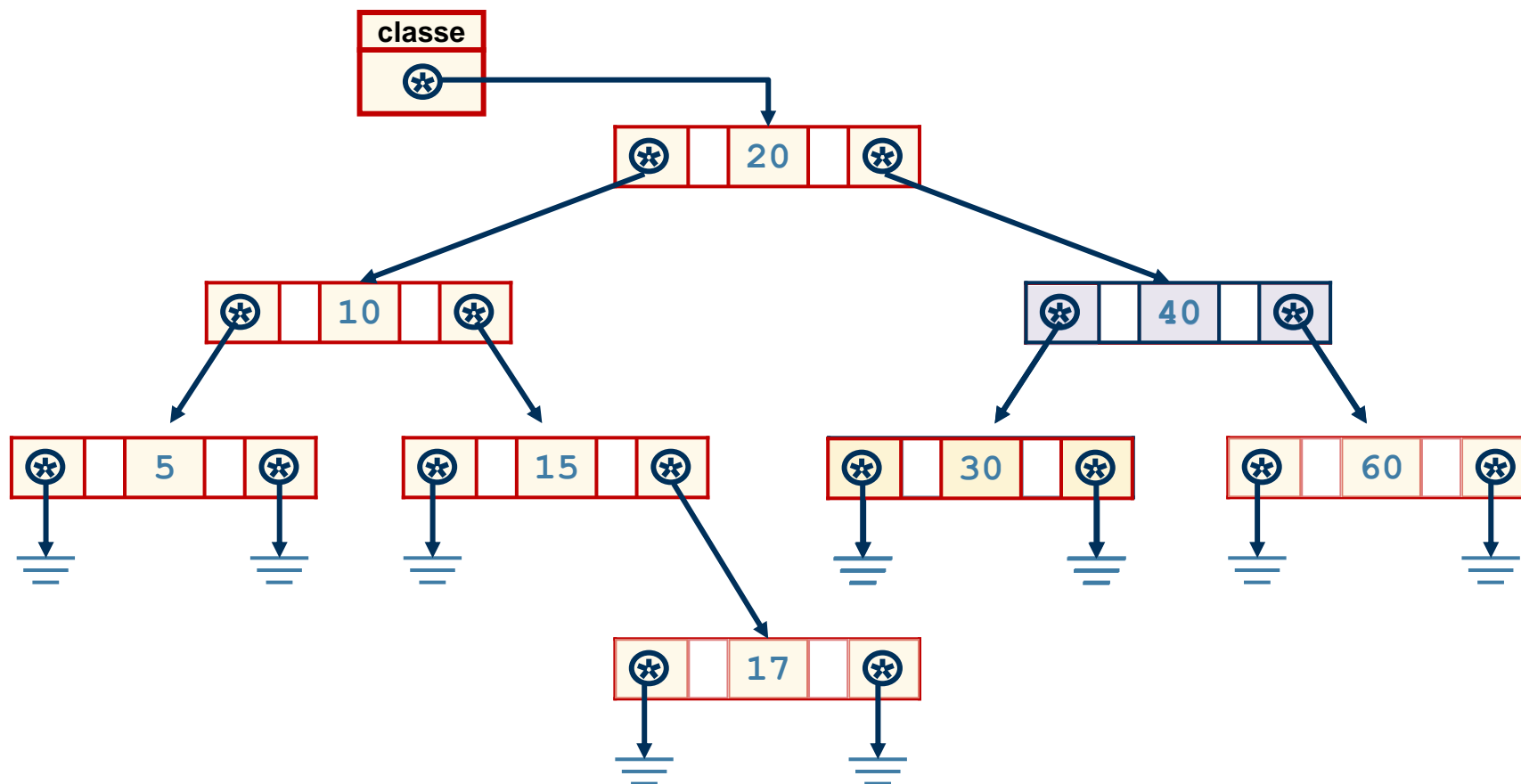


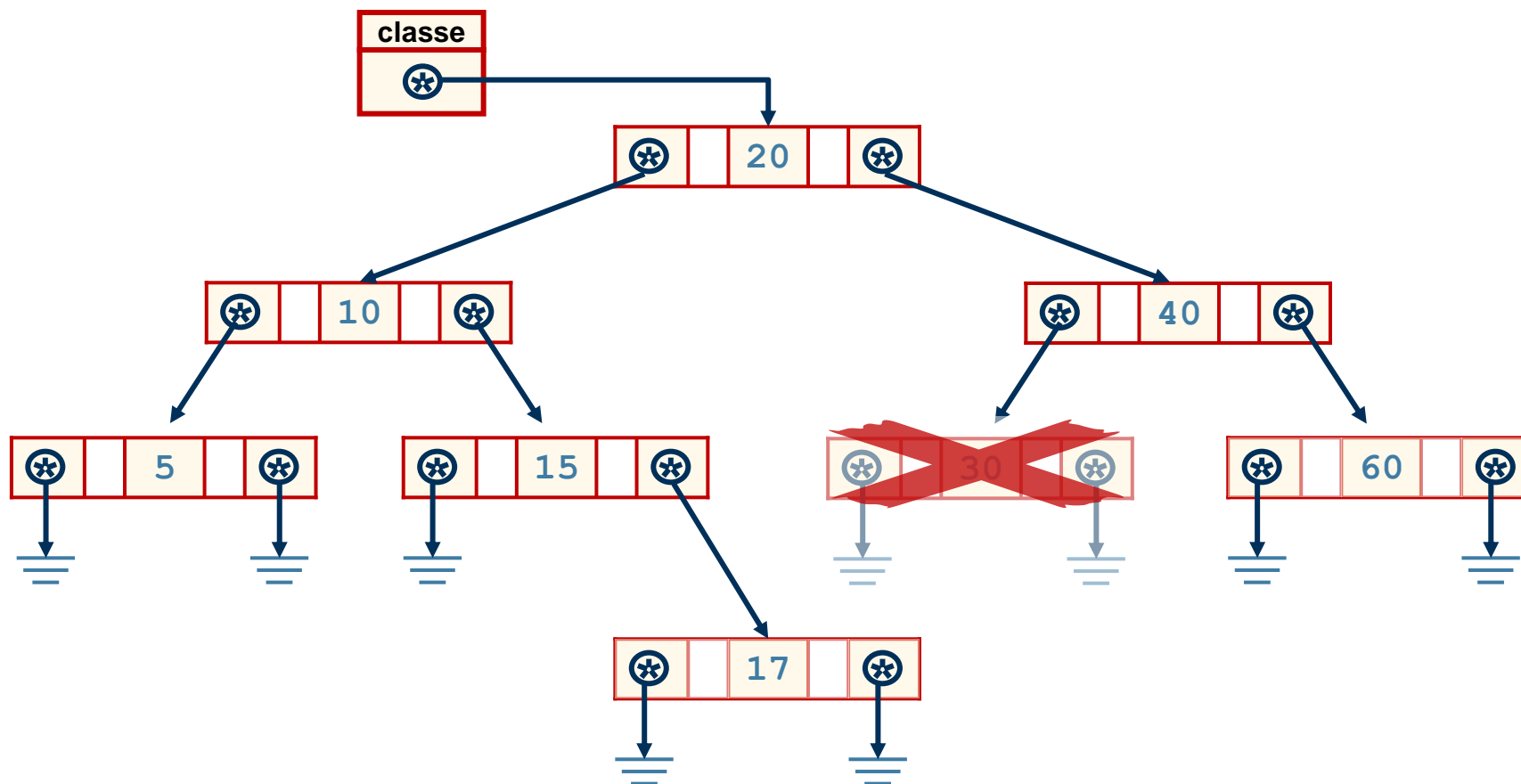


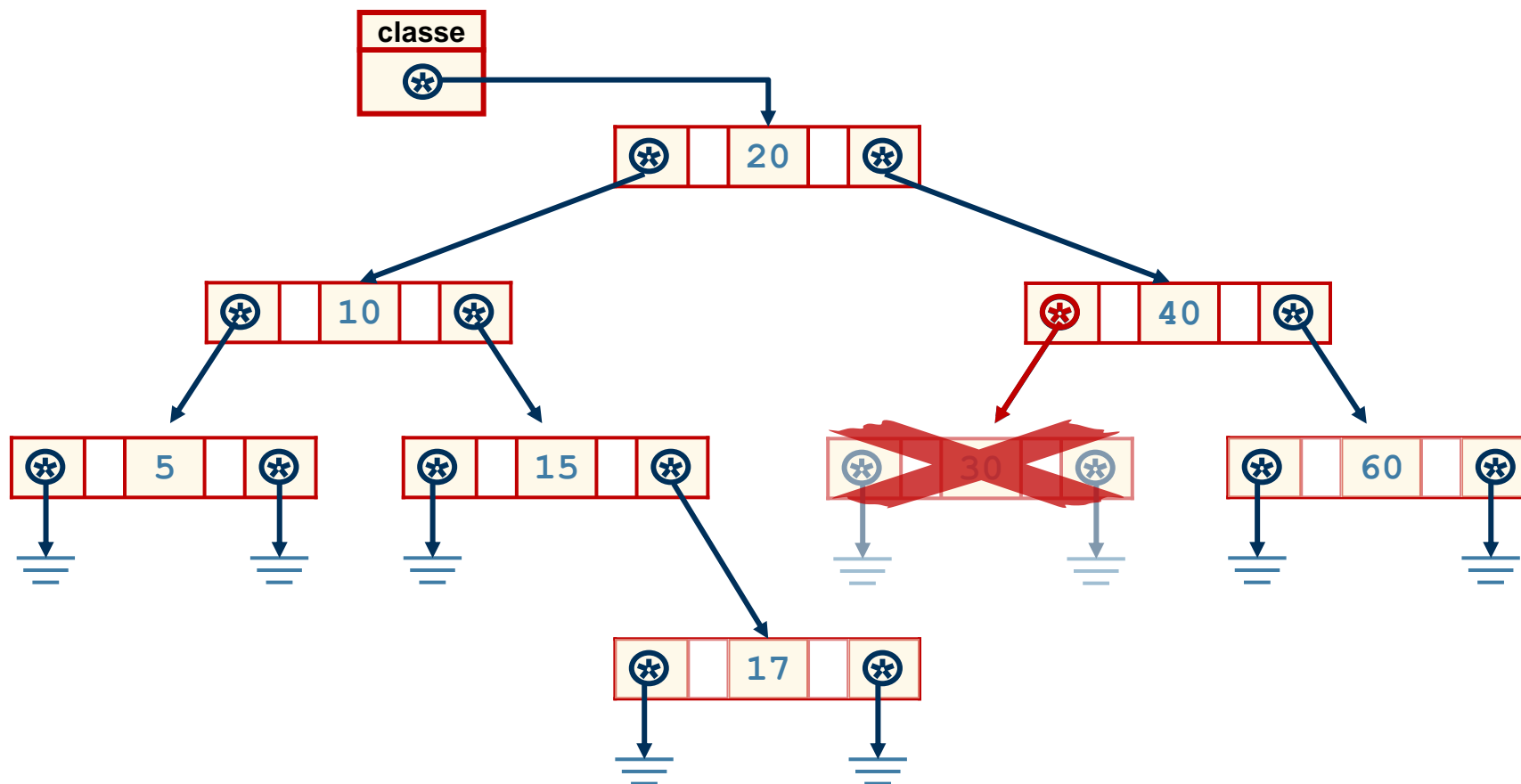


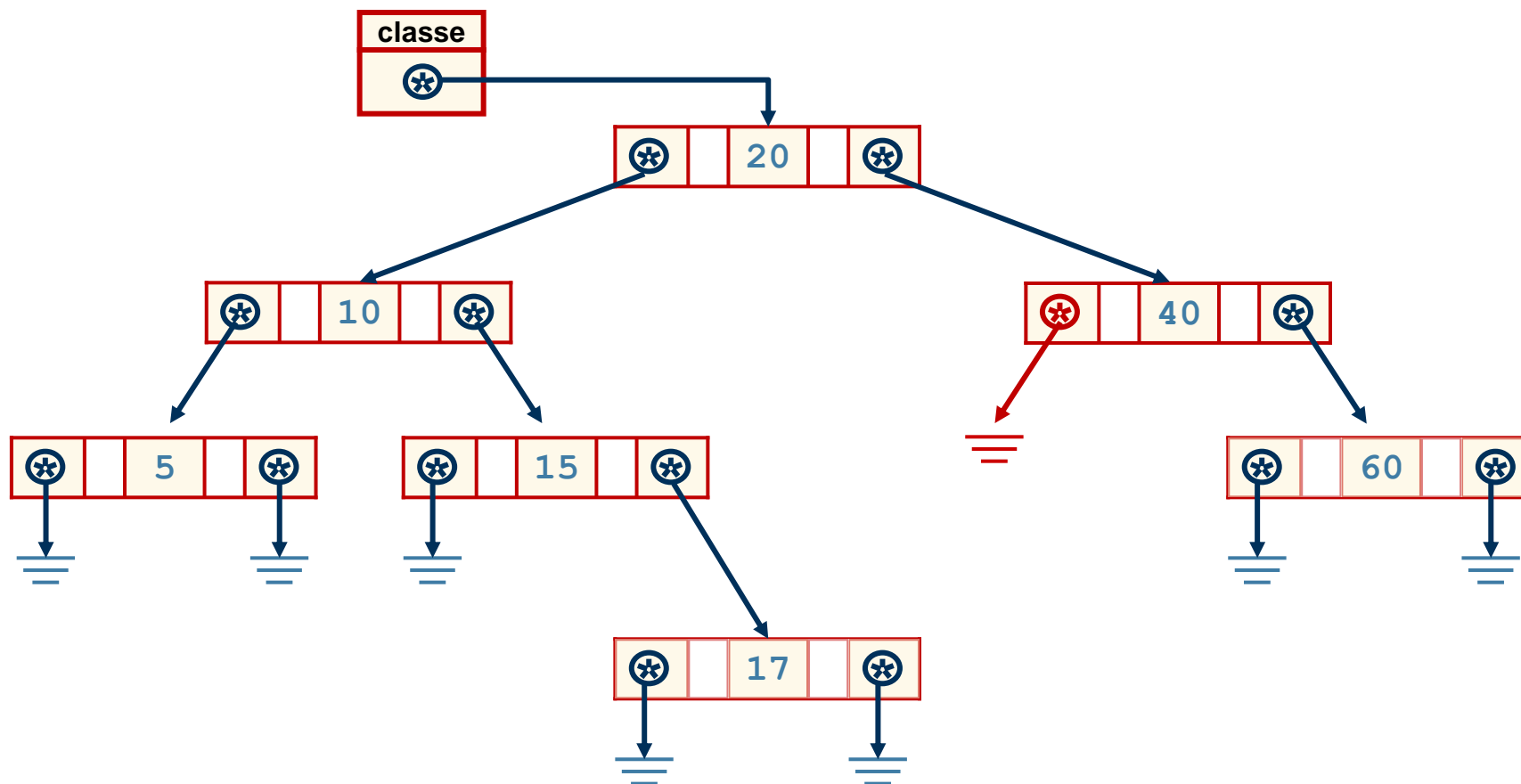


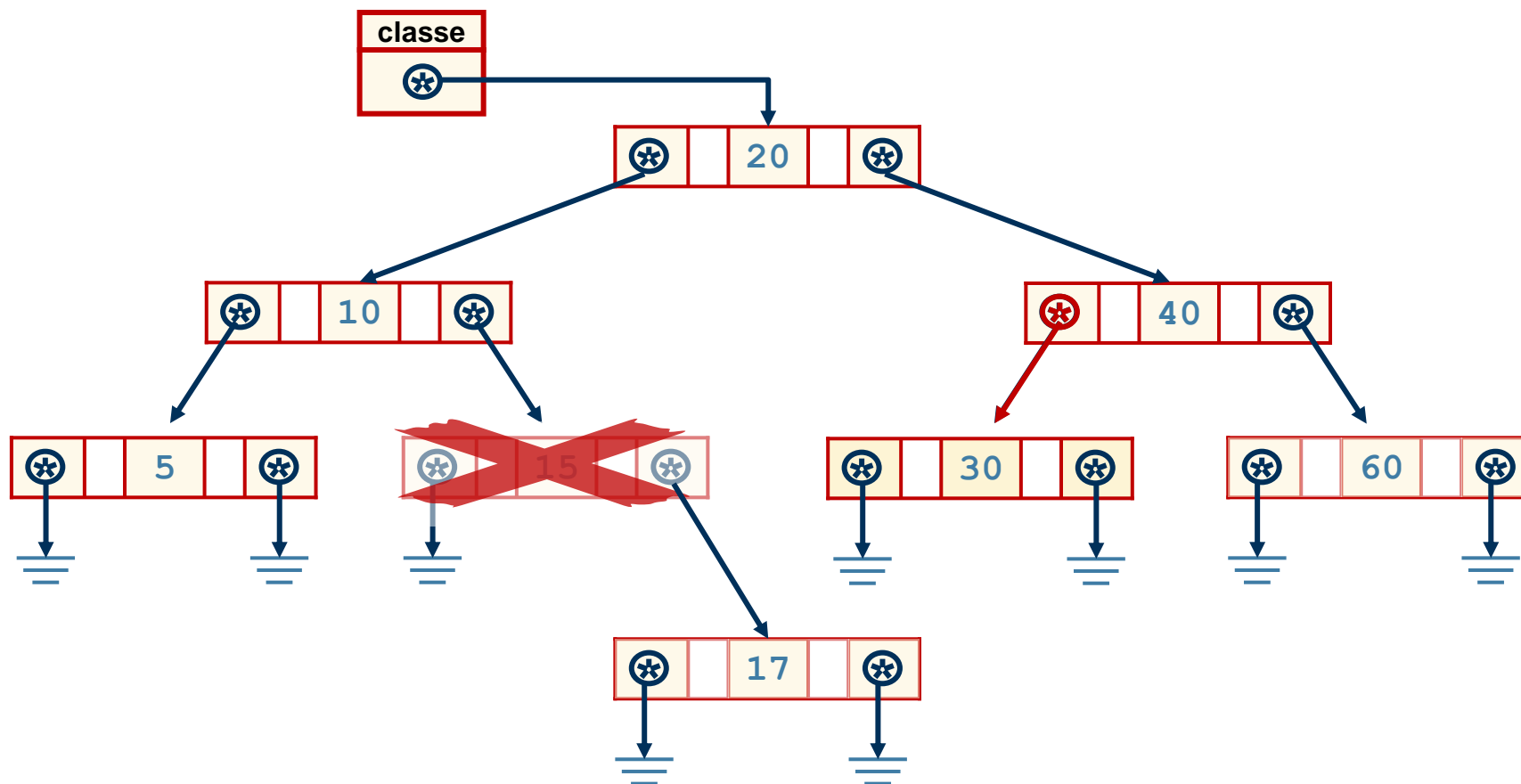


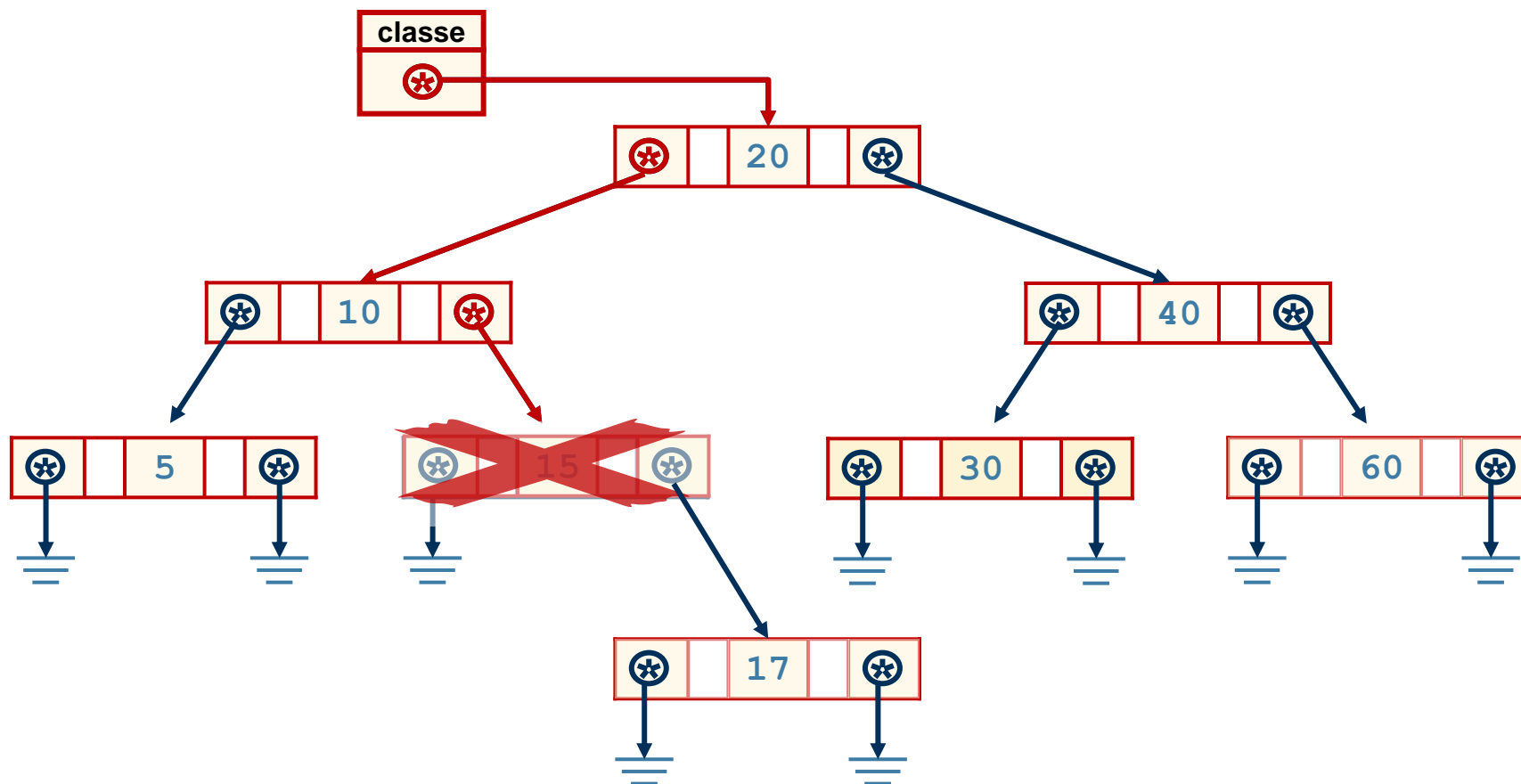


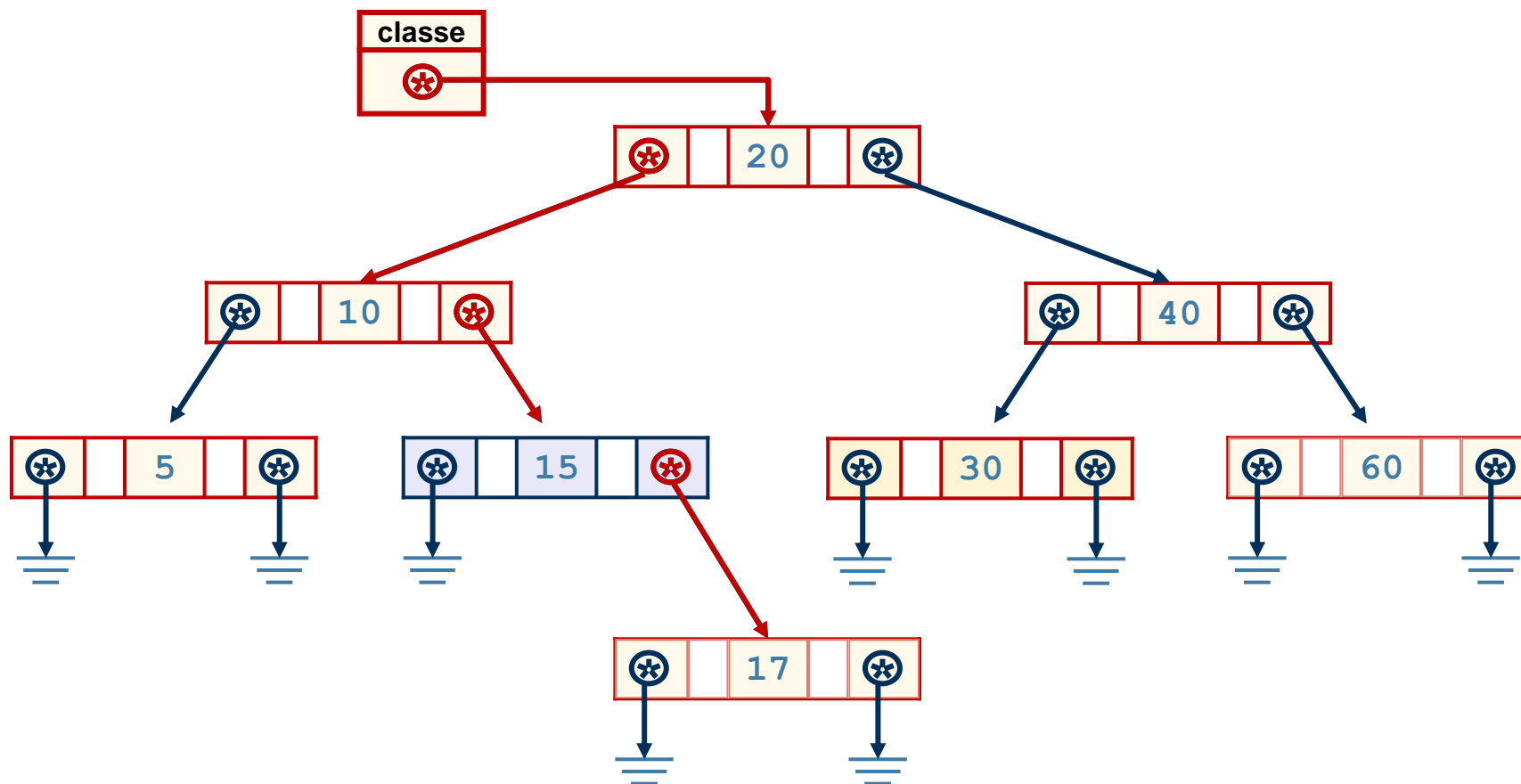


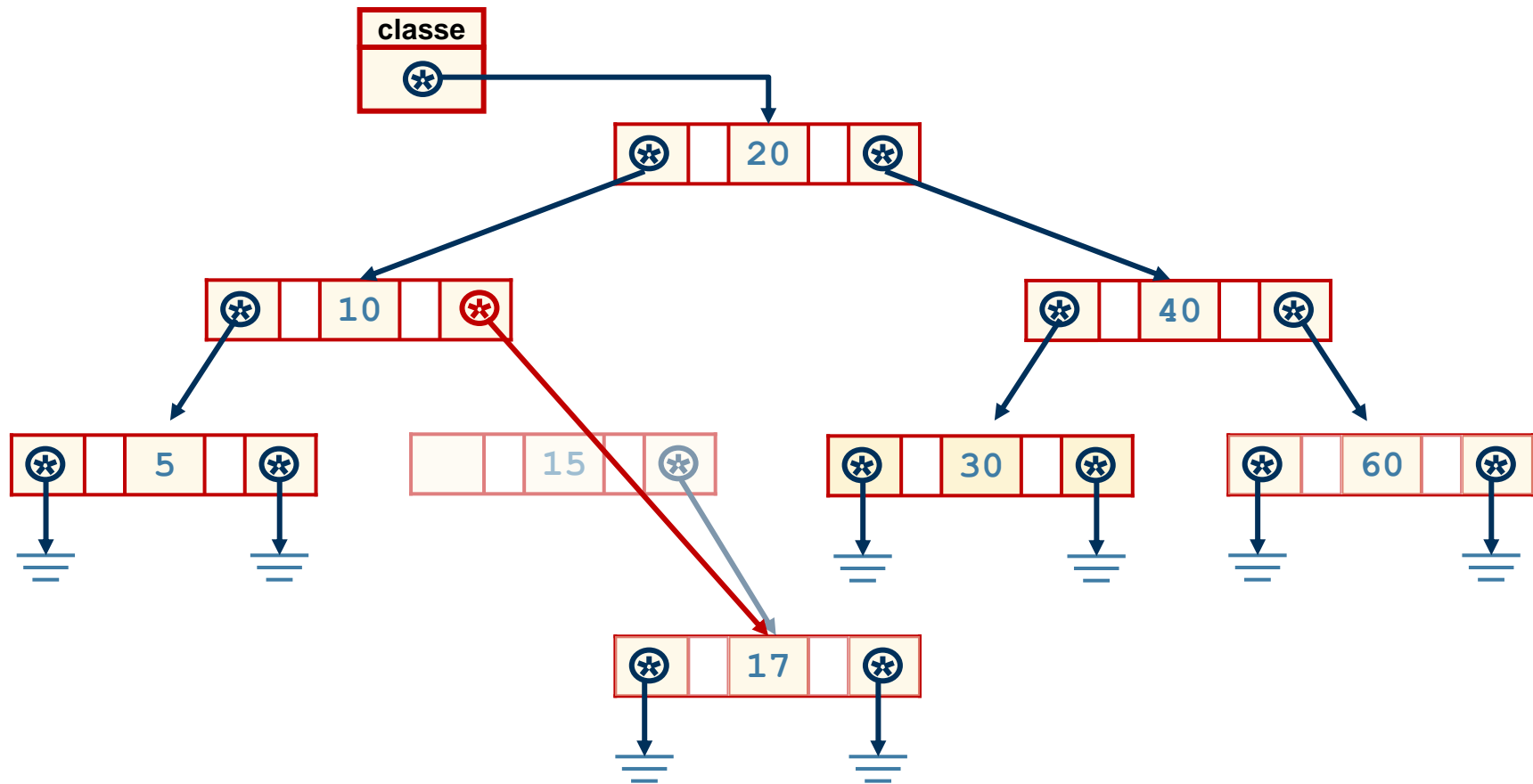


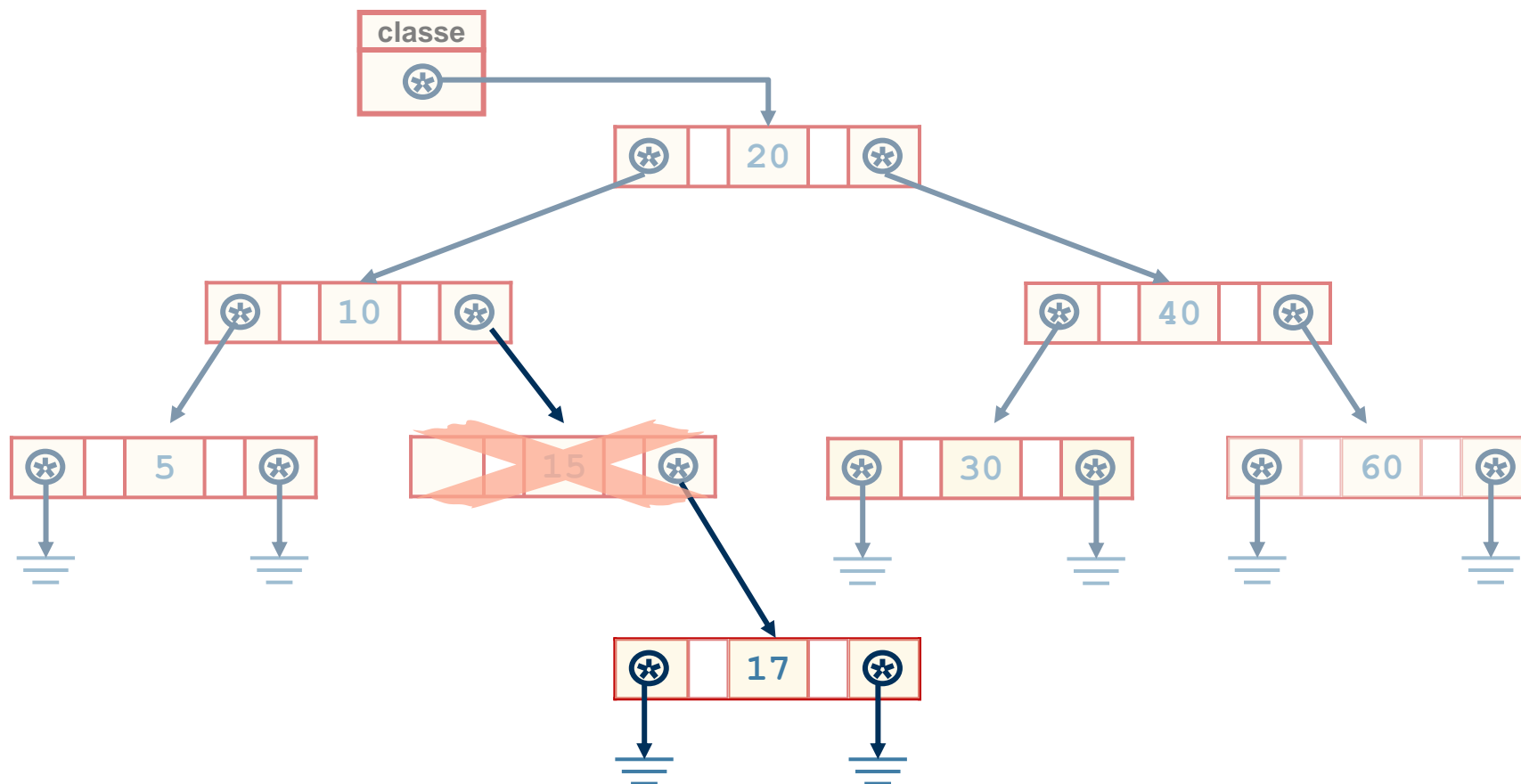




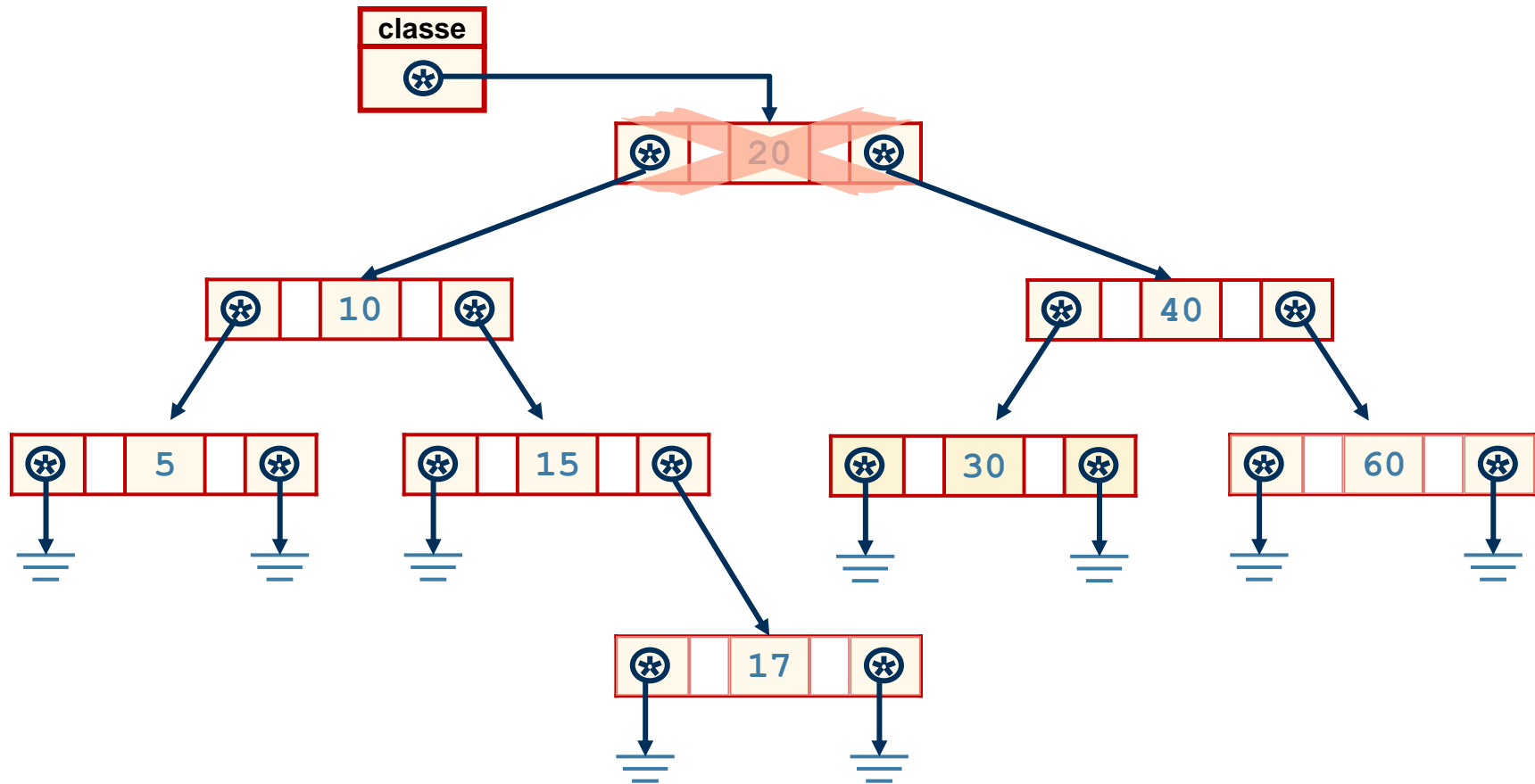




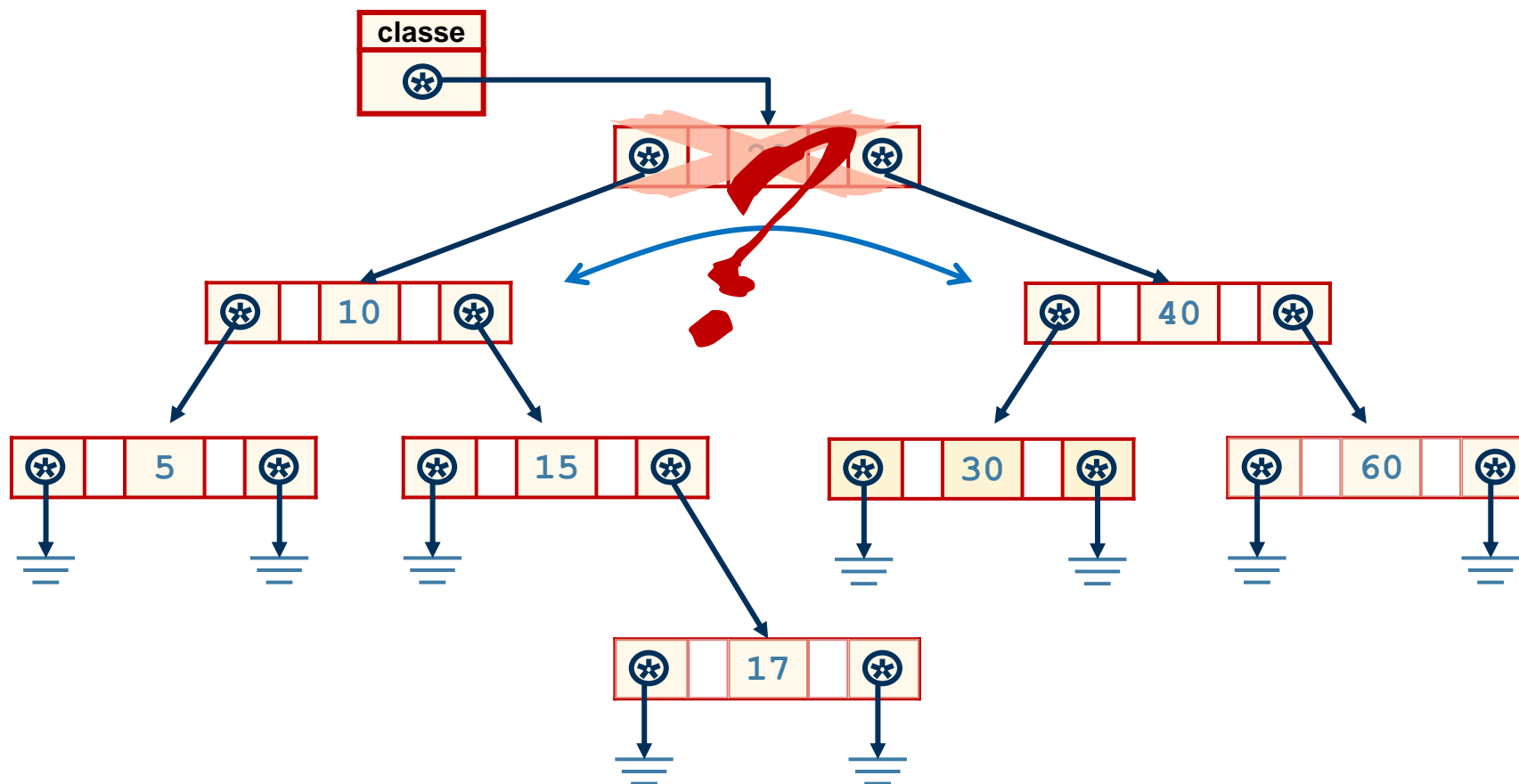


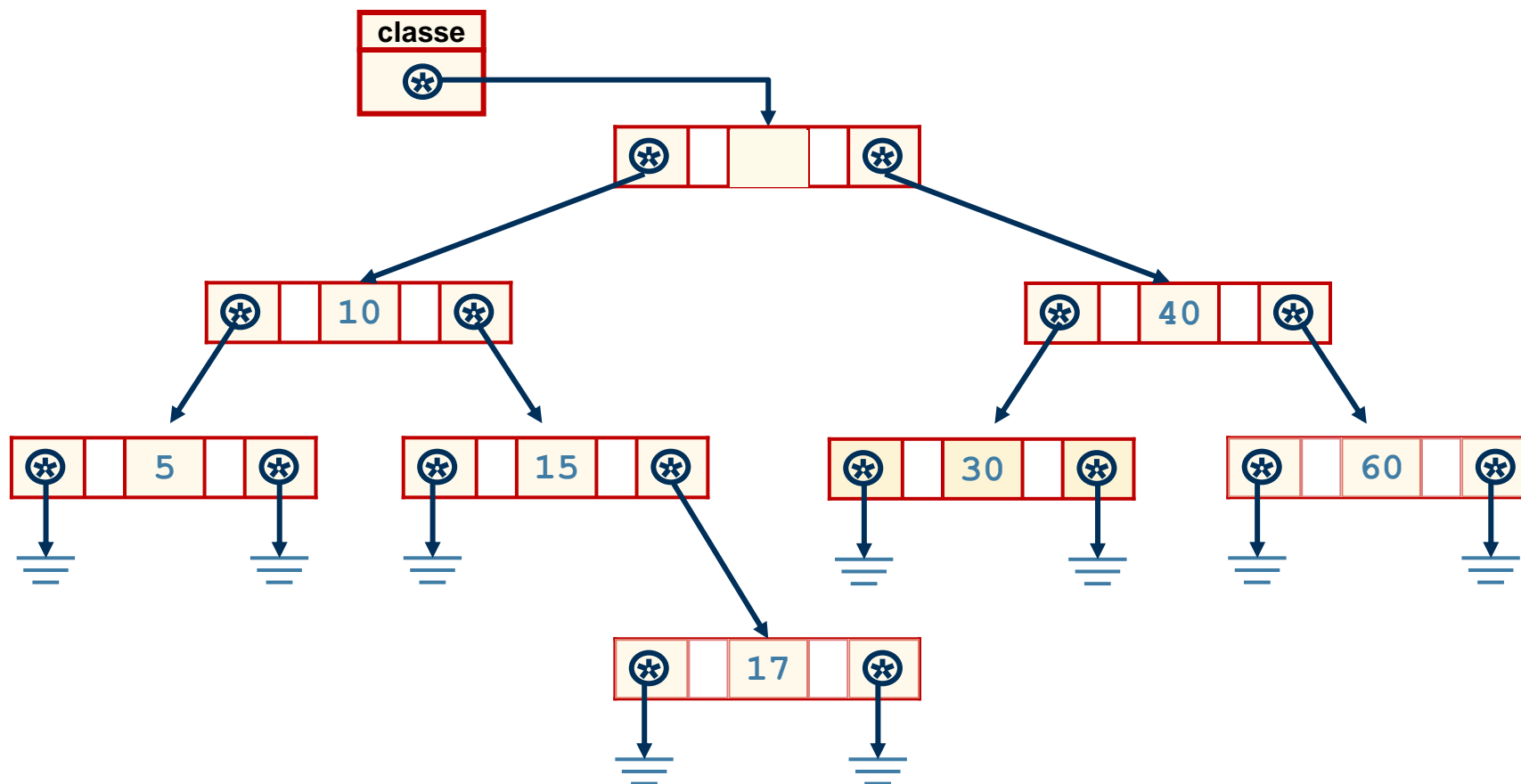


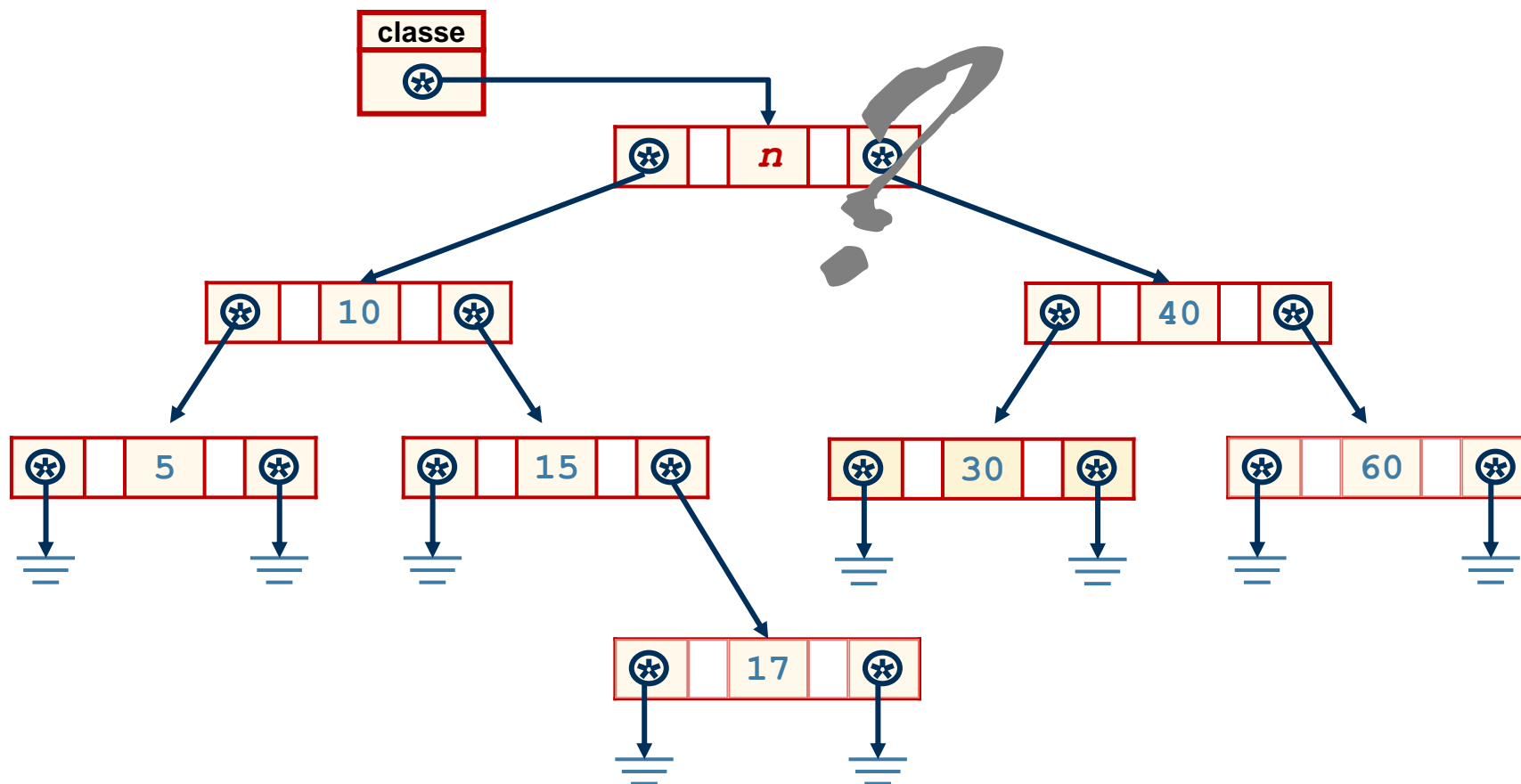
*eliminare un elemento
alterando il meno possibile
la struttura ad albero*



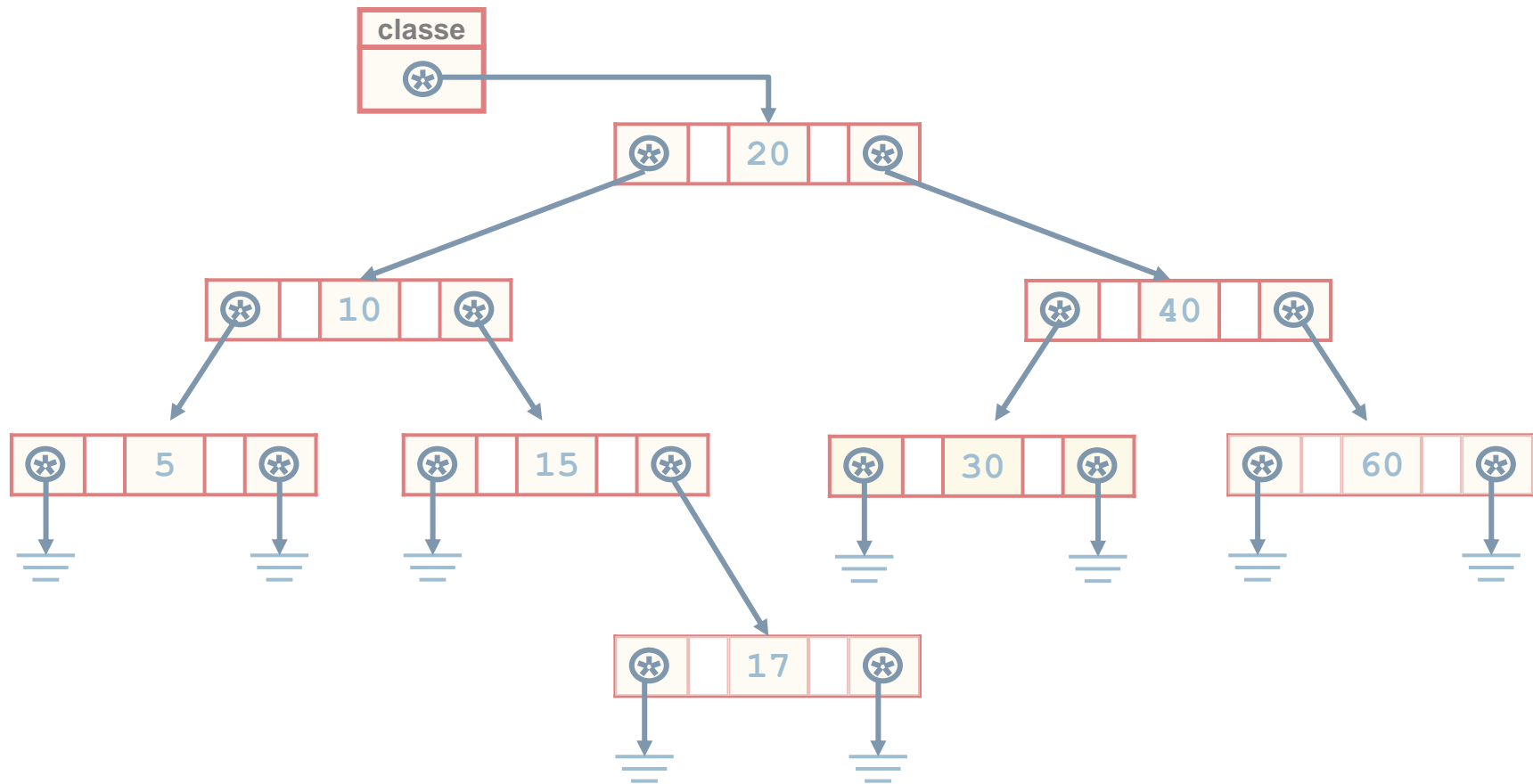
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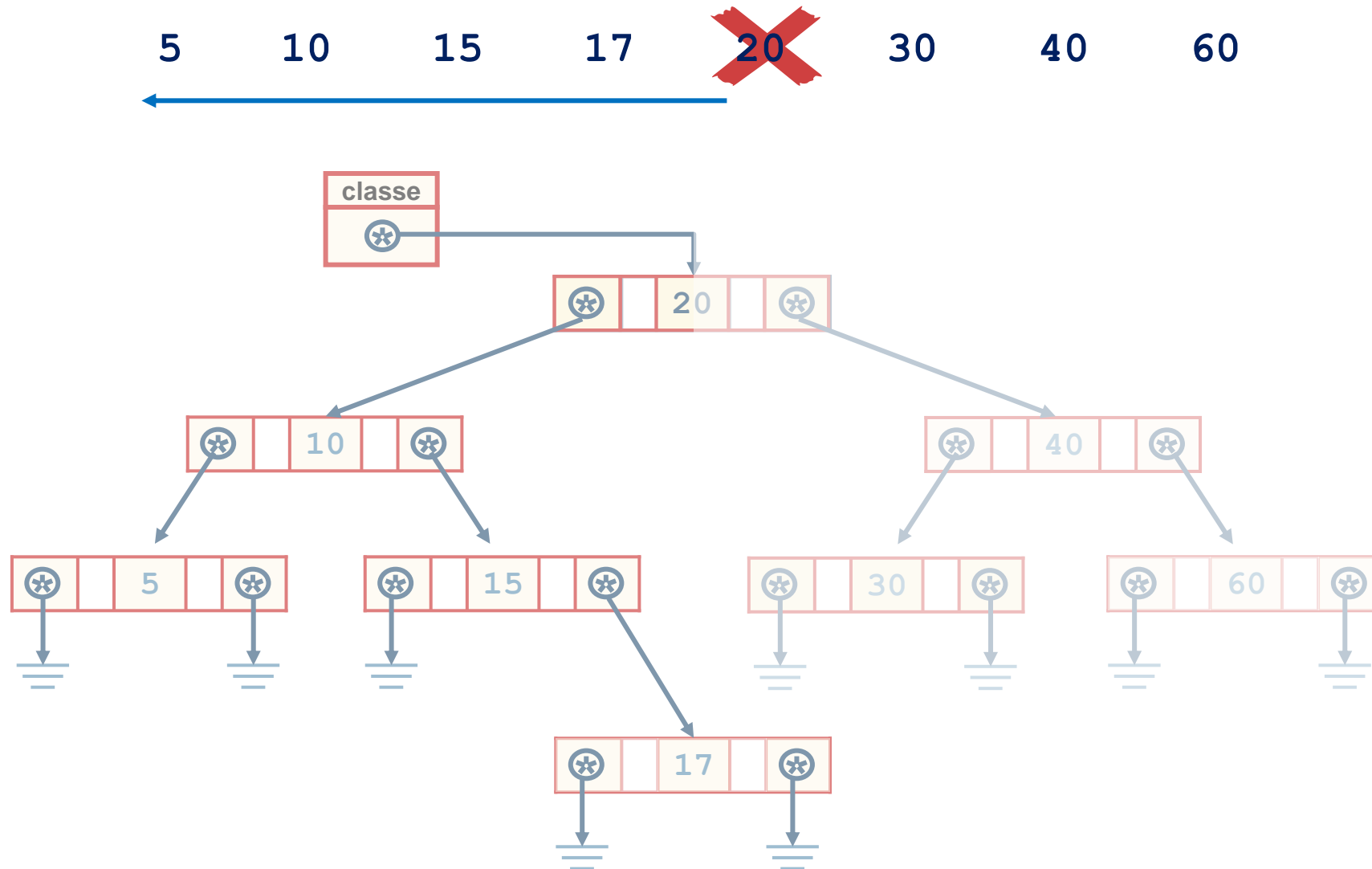


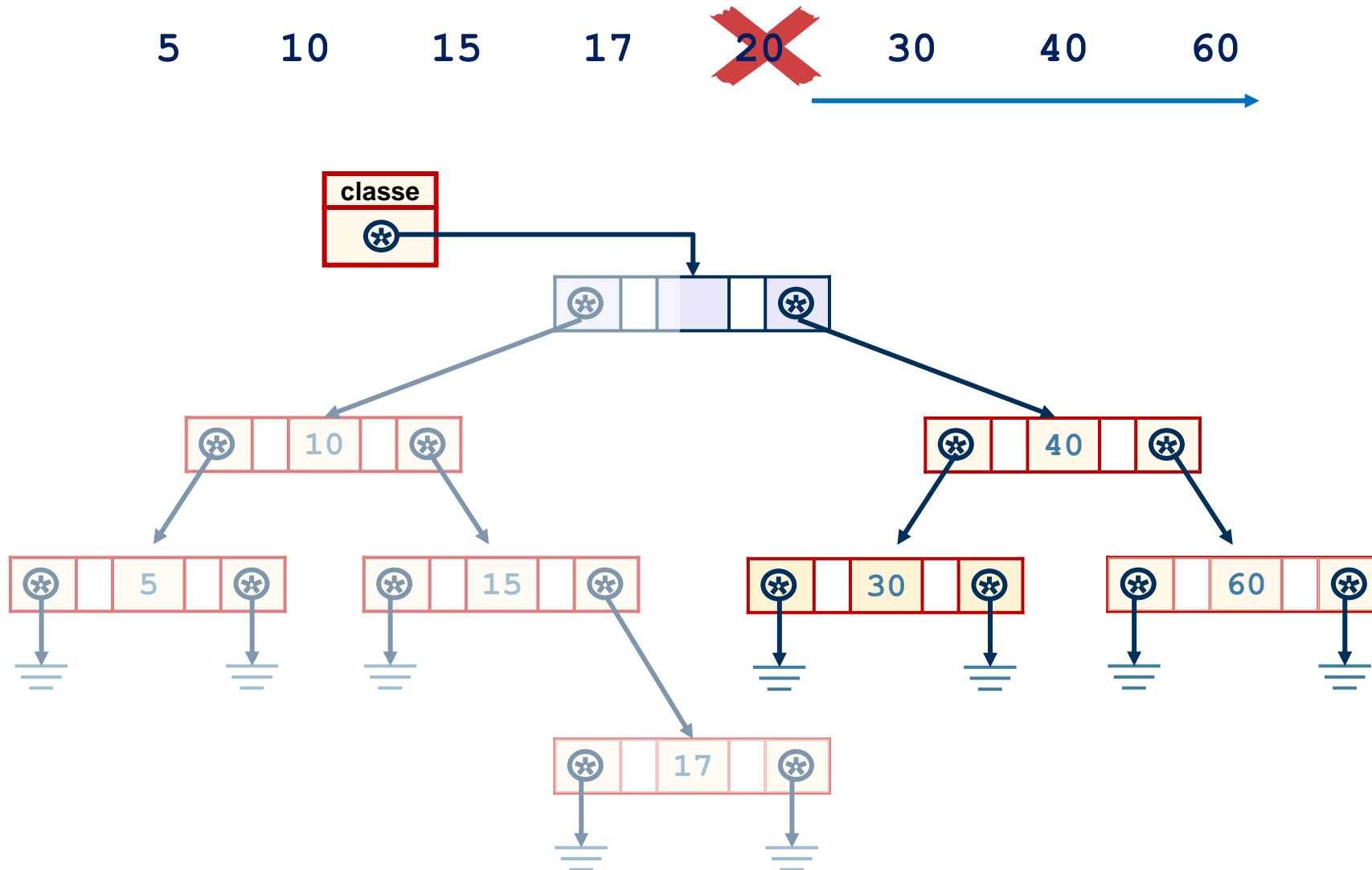




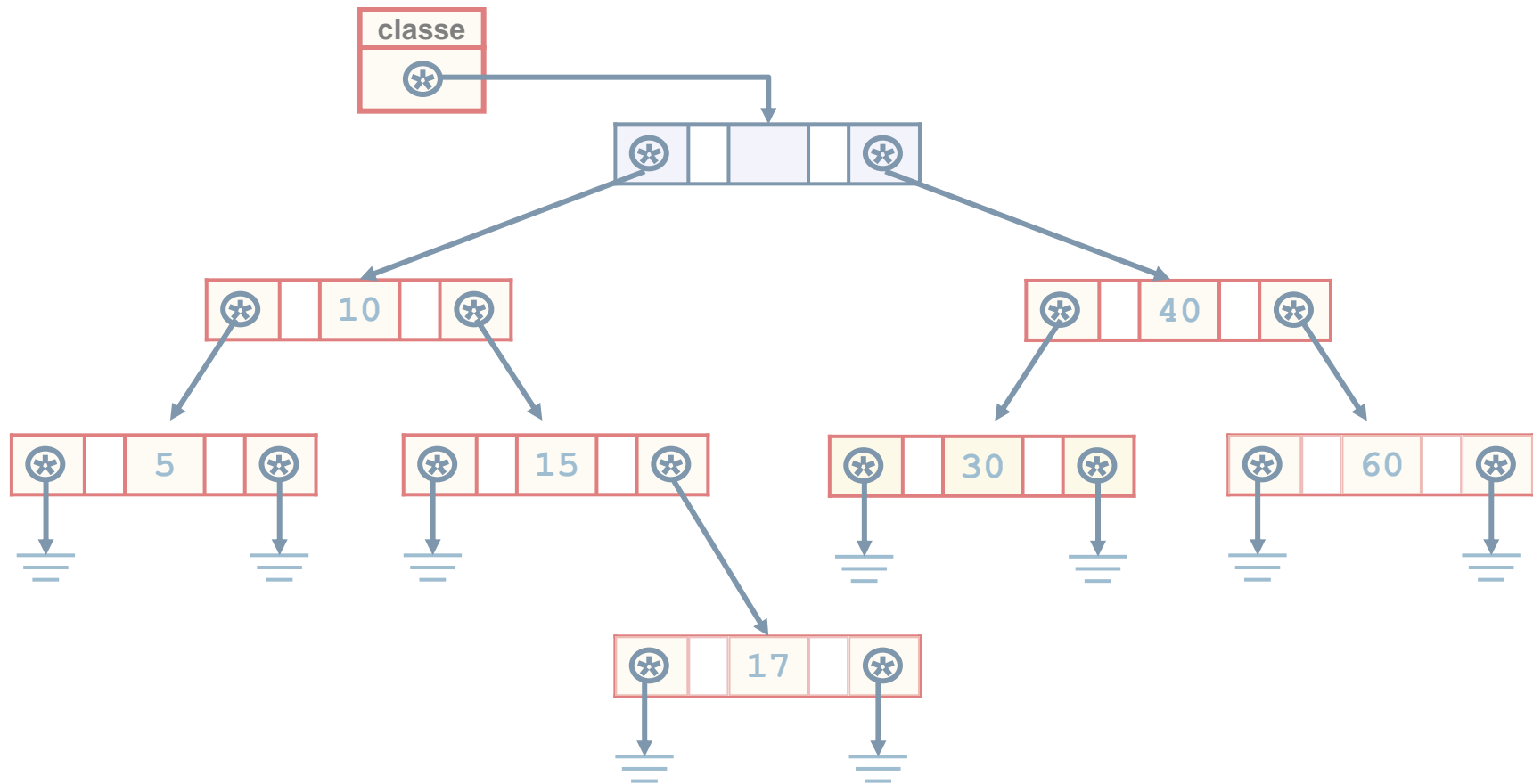
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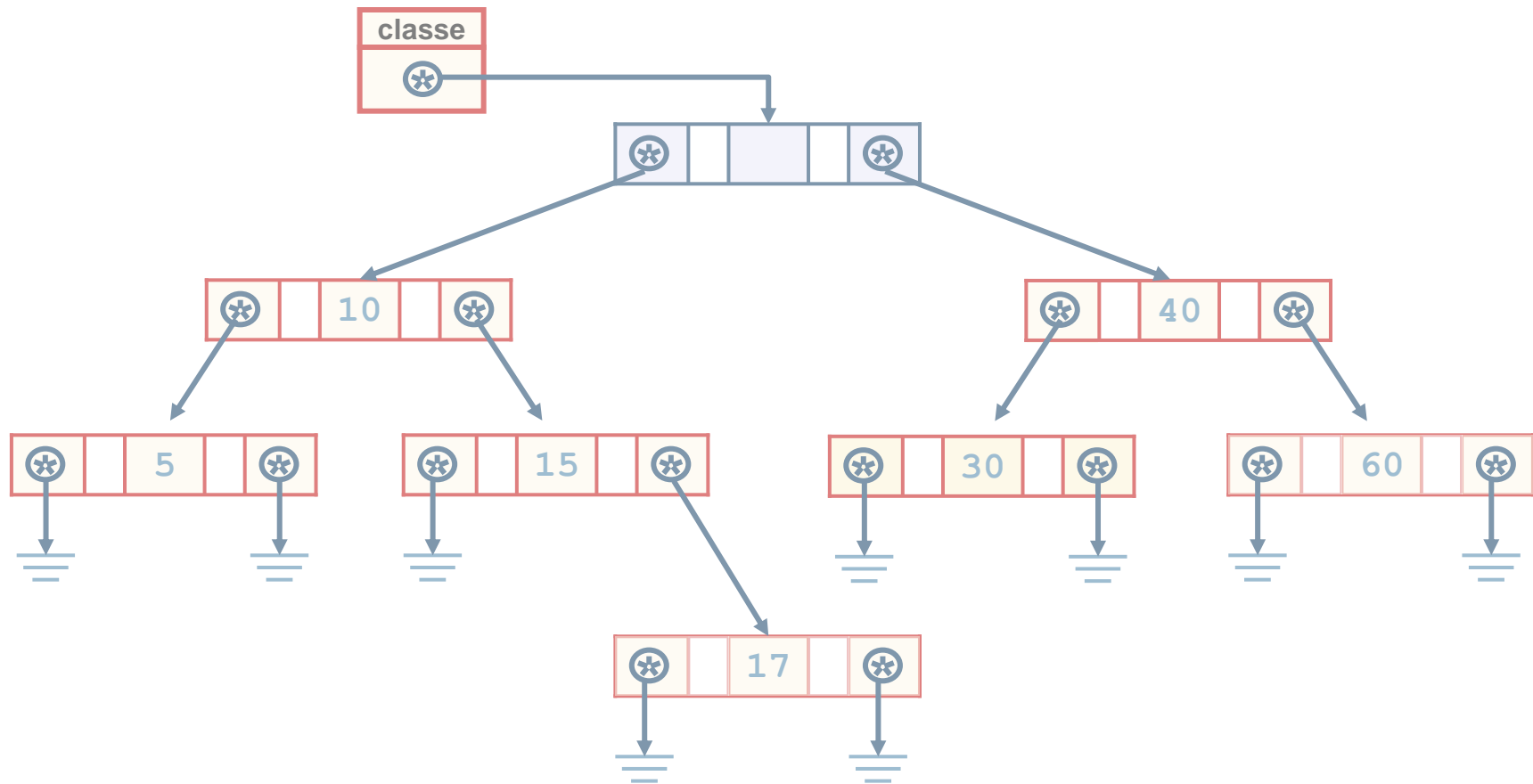


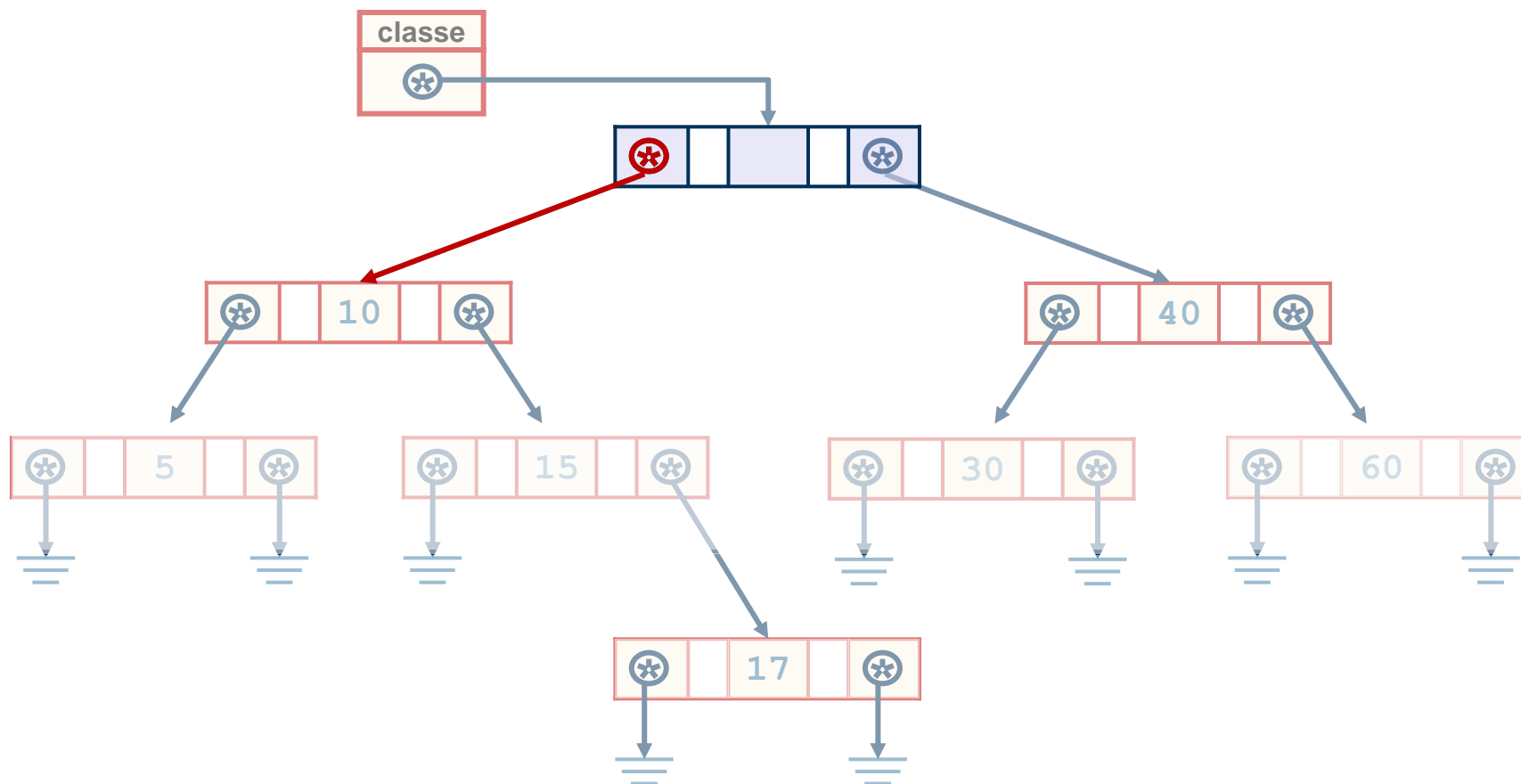


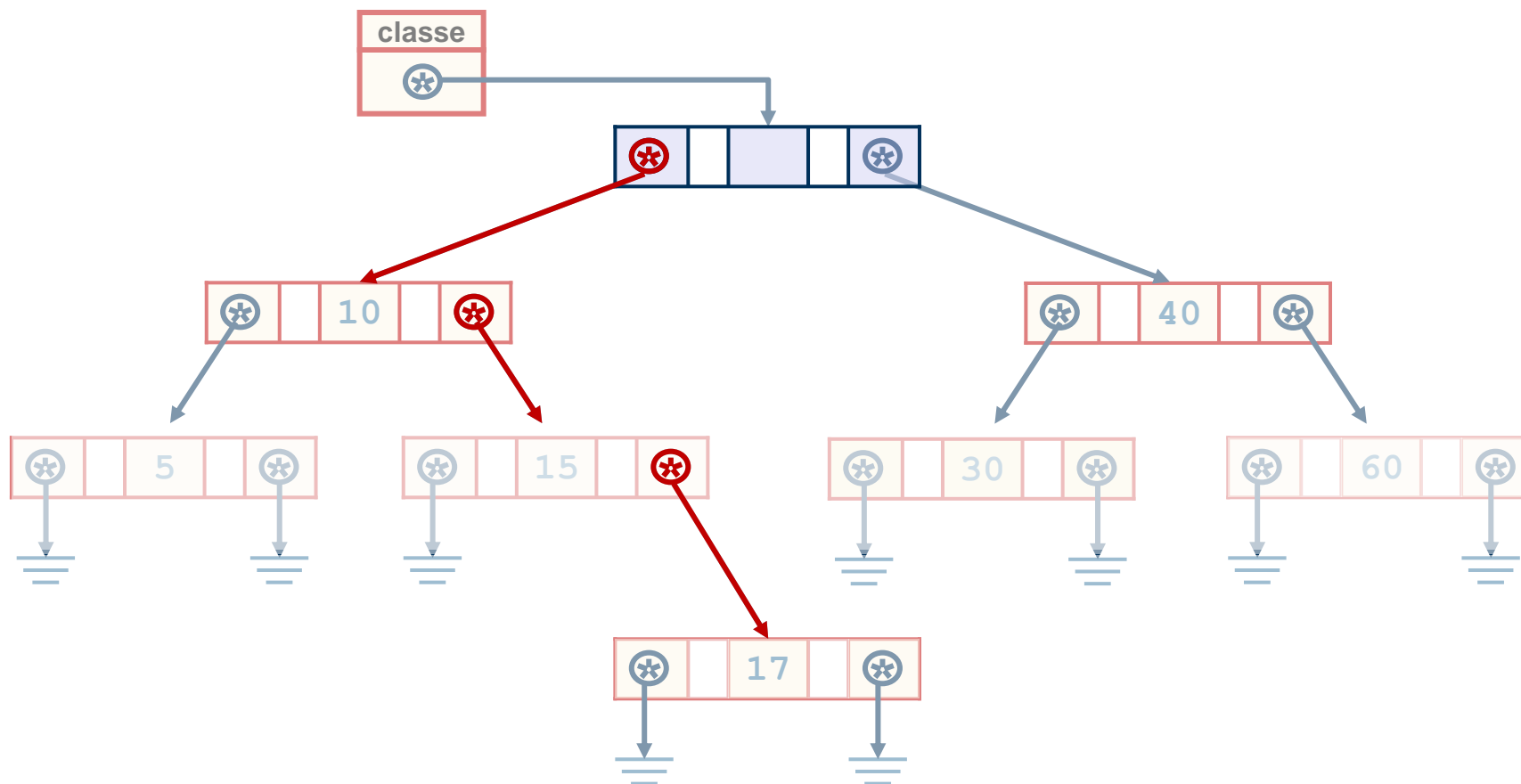
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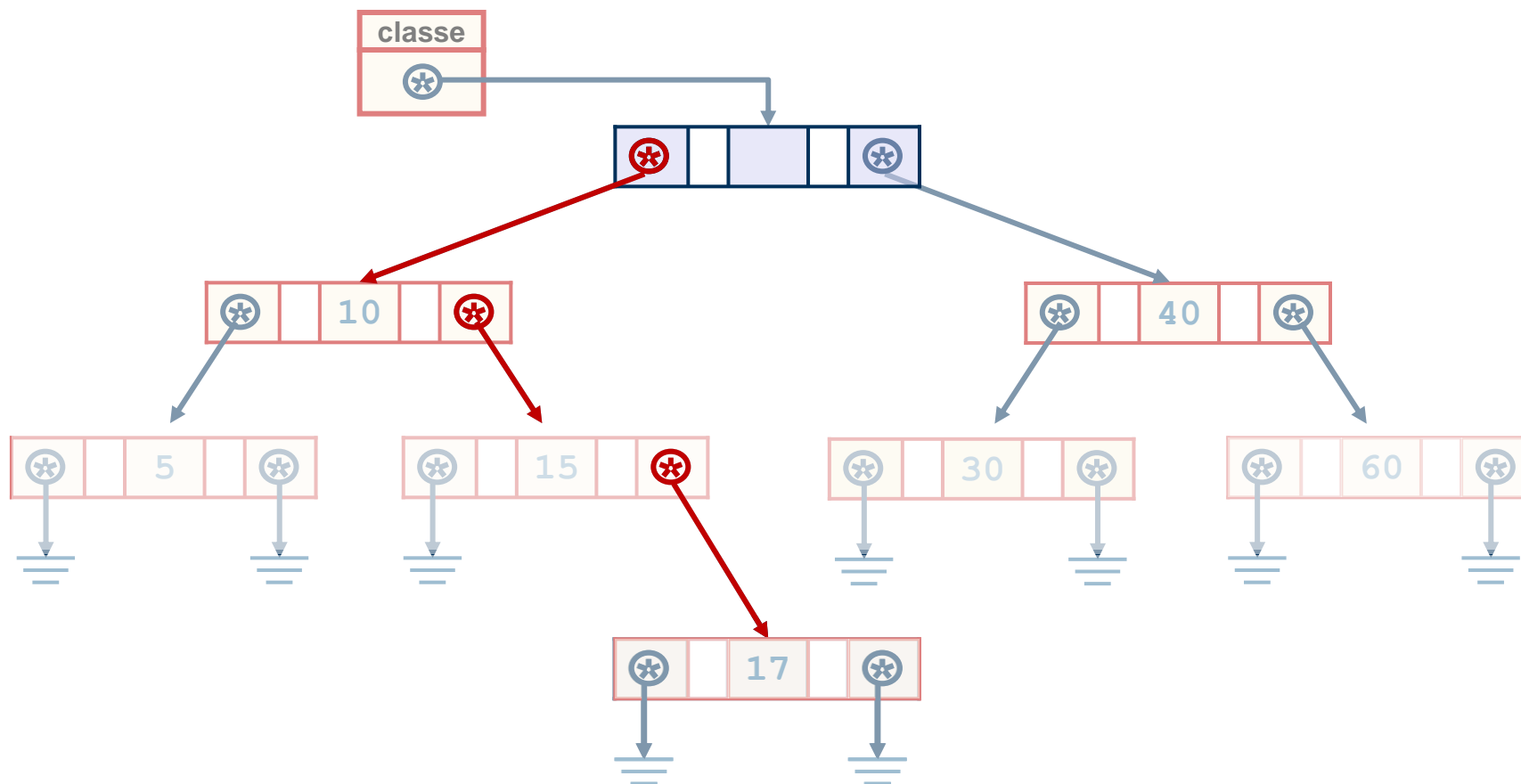


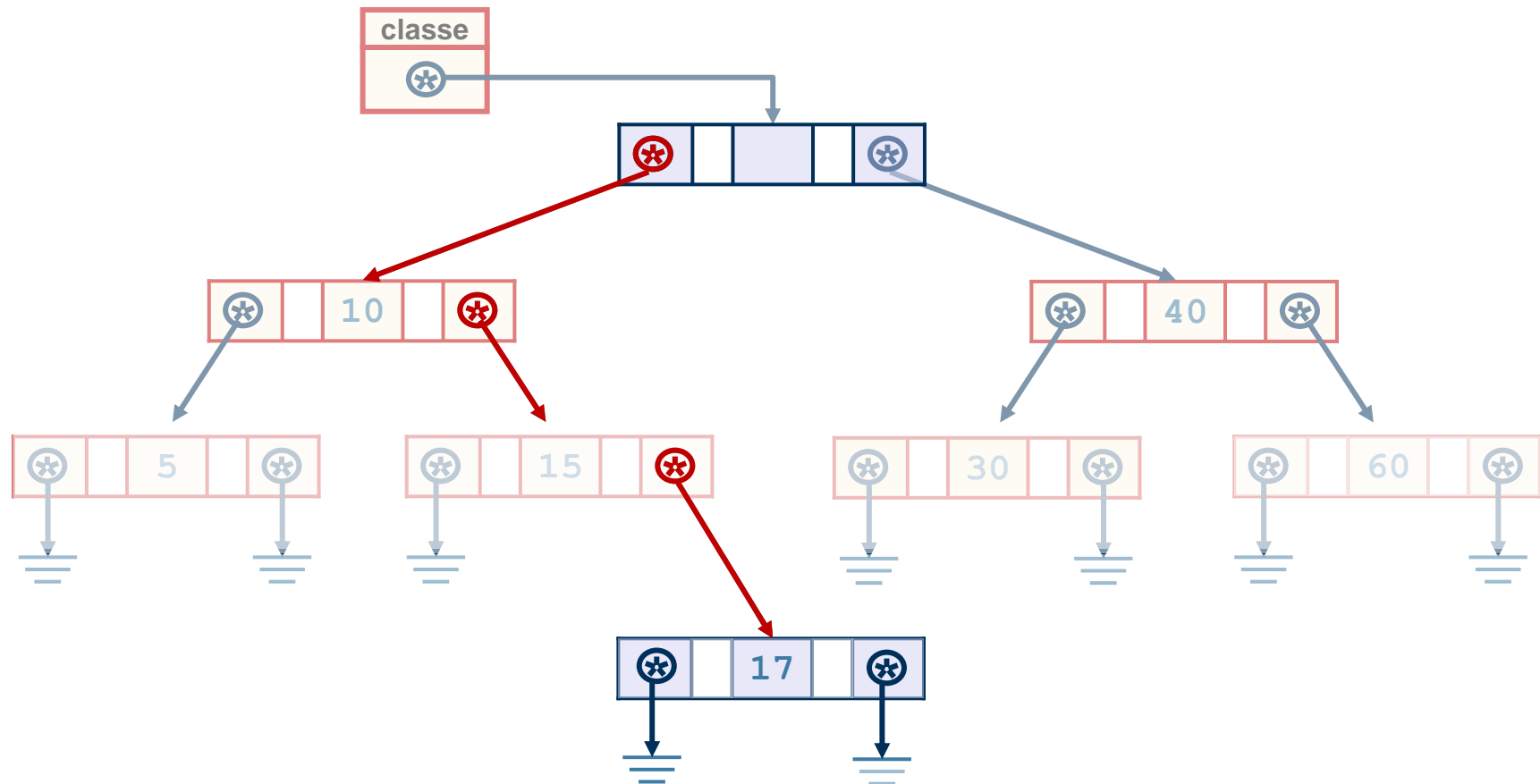
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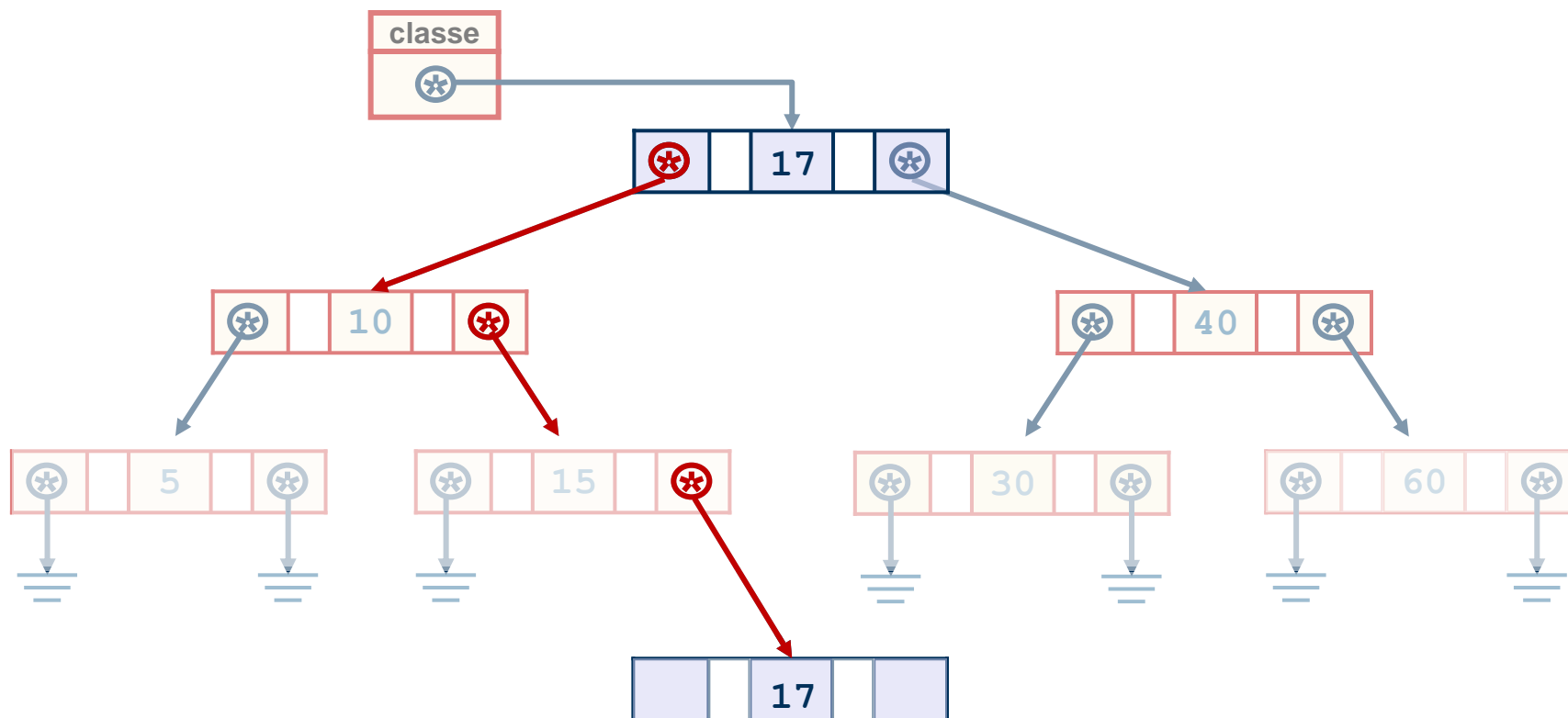


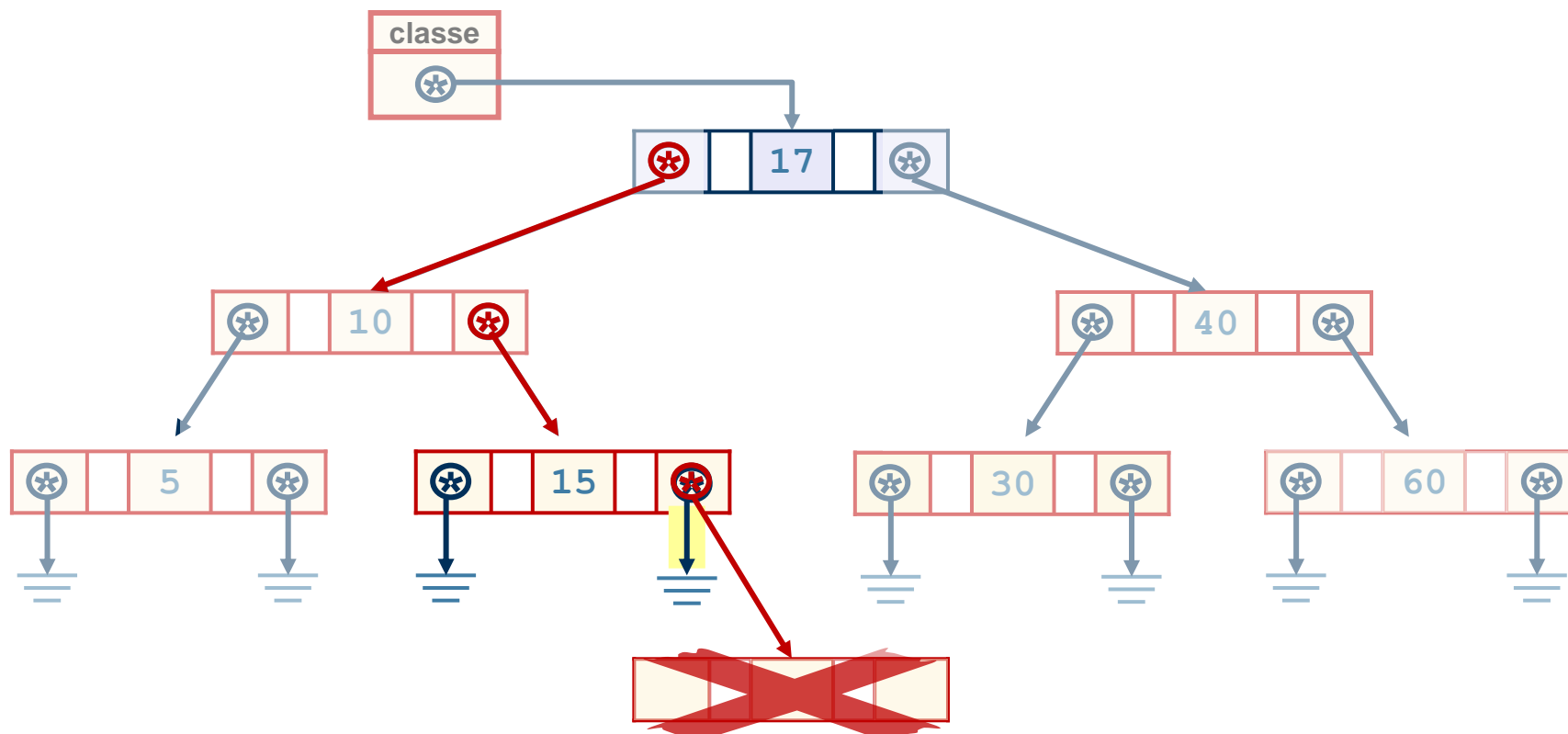


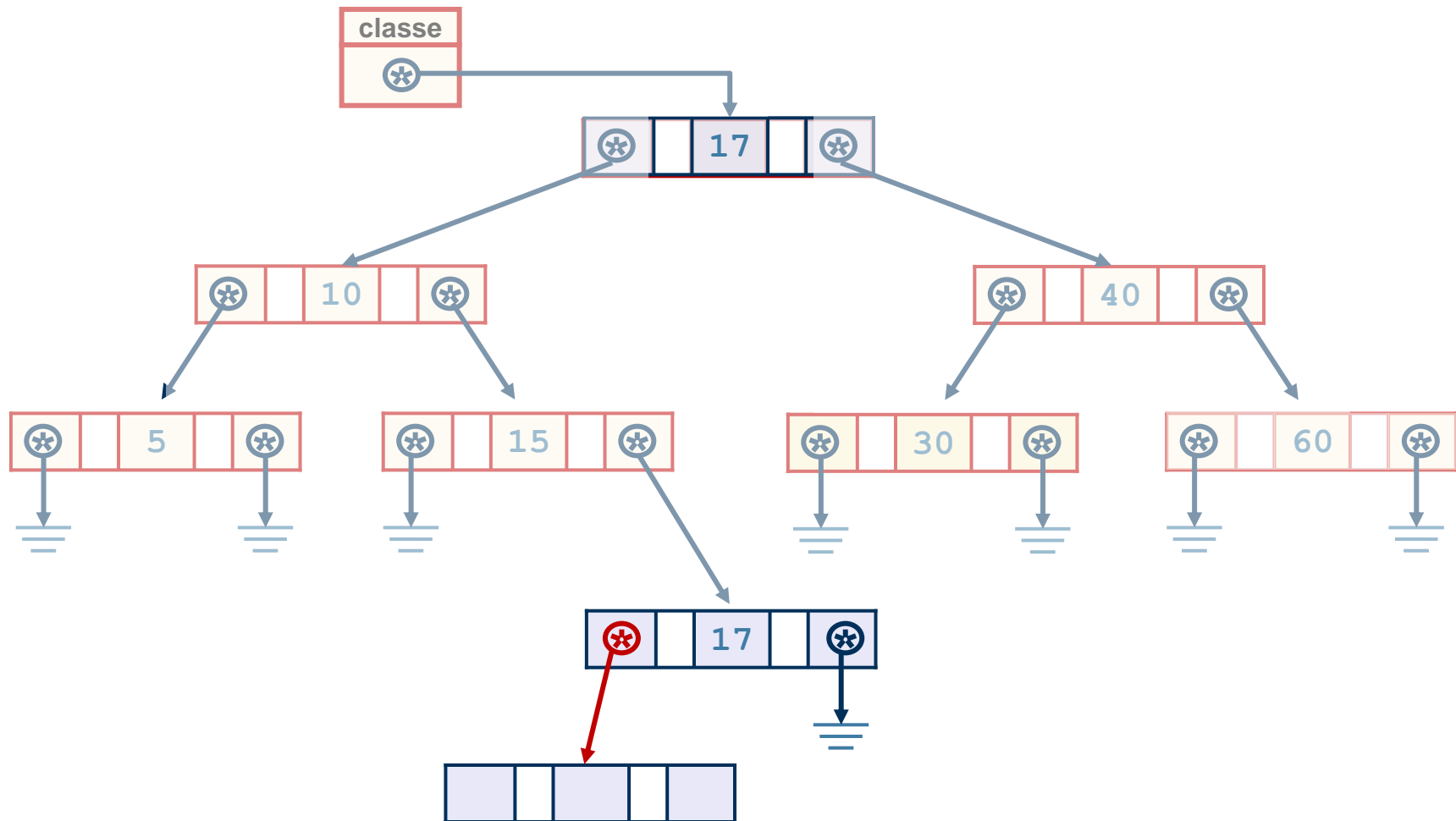


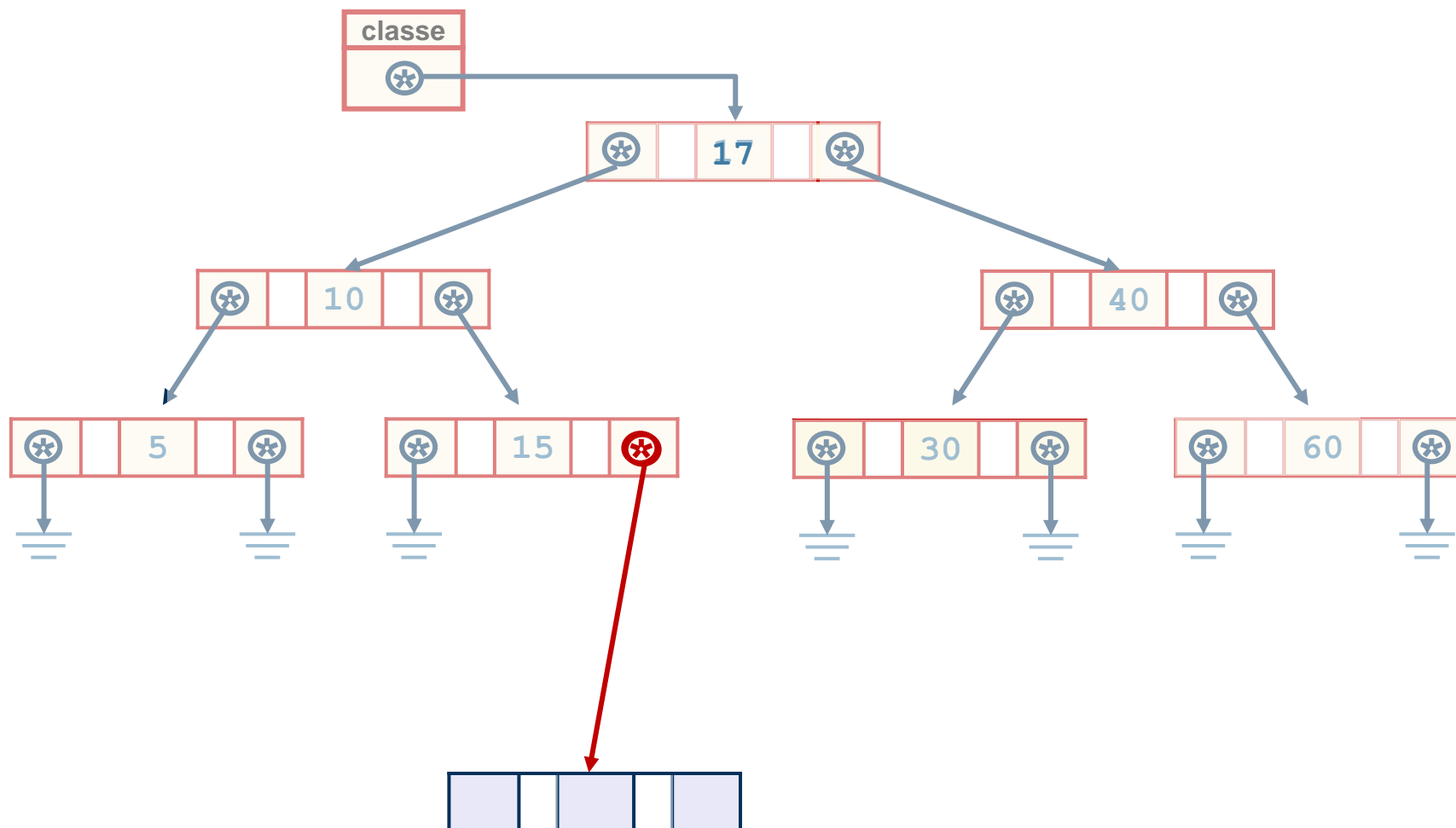












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