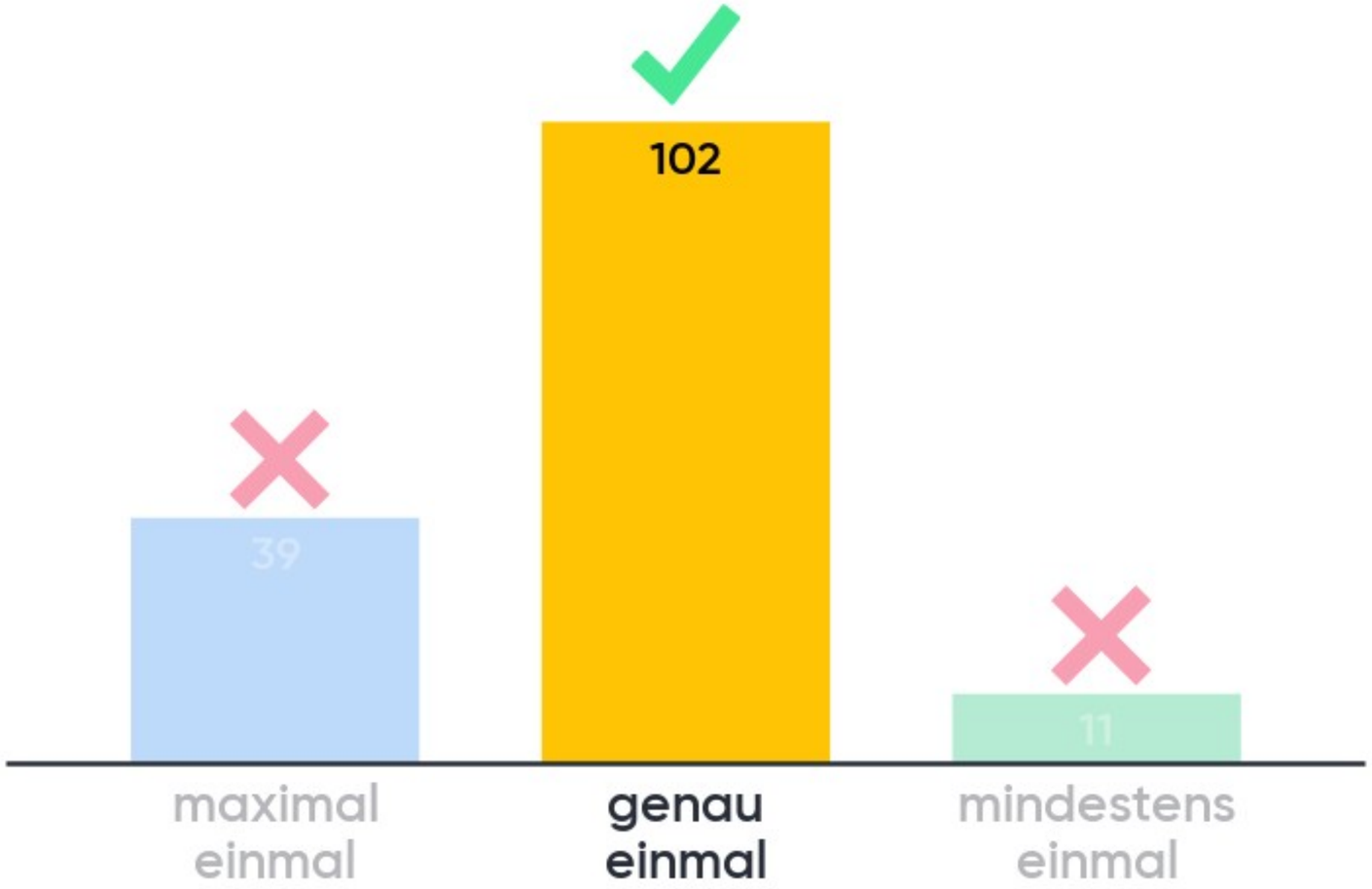
Übung – Quiz 6

Eine Eulertour ist ein geschlossener Weg, der jede Kante ___ besucht.

Mentimeter



152

Leaderboard

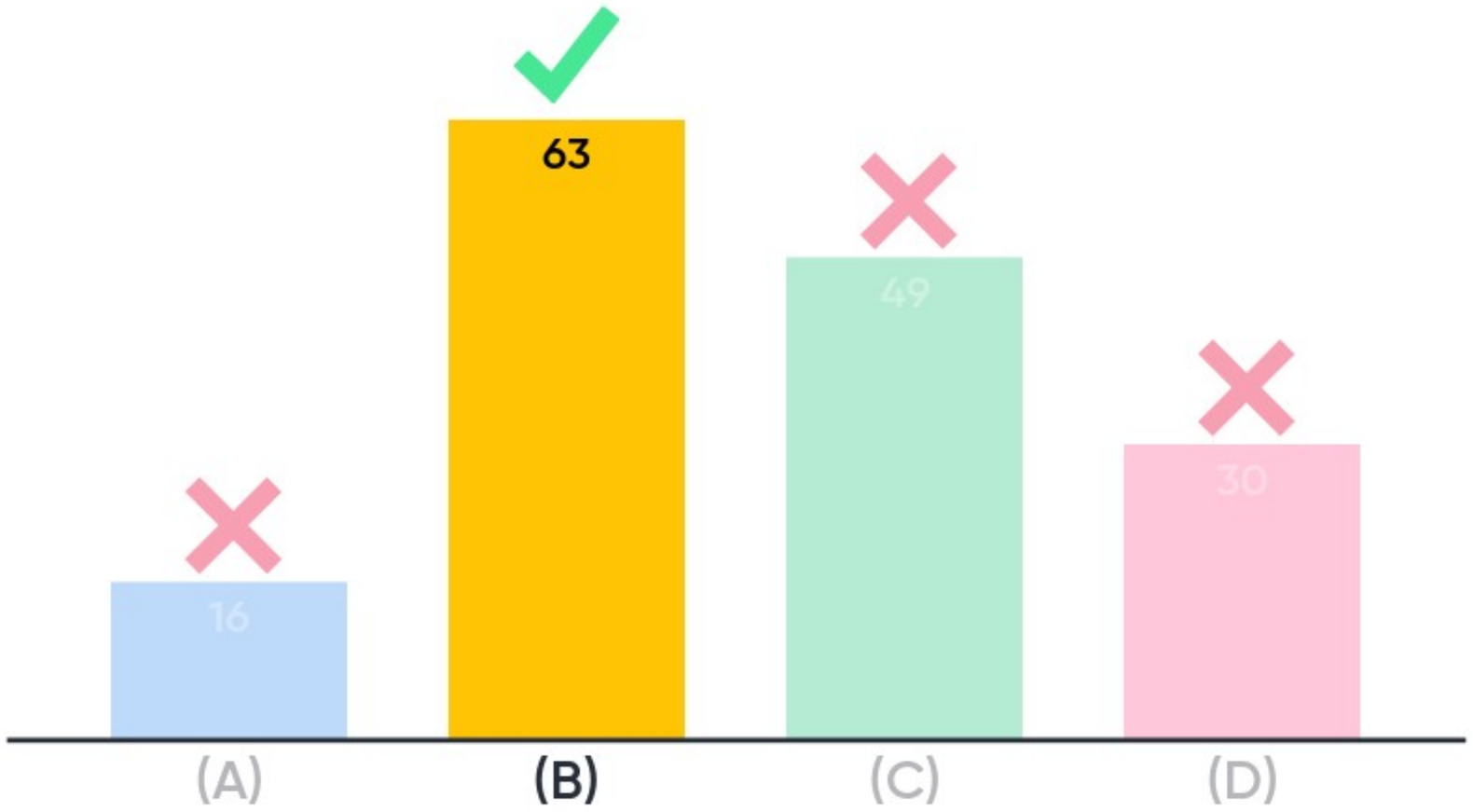
Mentimeter

958 p	Dr med den Rasen *fastest*
954 p	Dragonite
954 p	Yeezus
950 p	3 1415926535897932384626433832
950 p	Ben Dover
950 p	Magical Rhino
949 p	Tom
948 p	S Fekete
944 p	Sanyor
939 p	Paul N

160

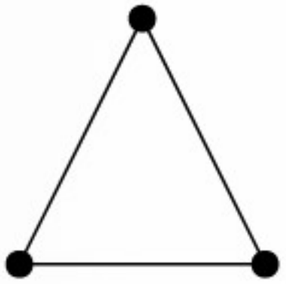
Welcher dieser Graphen besitzt eine Eulertour, einen Hamiltonpfad, aber keinen Hamiltonkreis?

Mentimeter

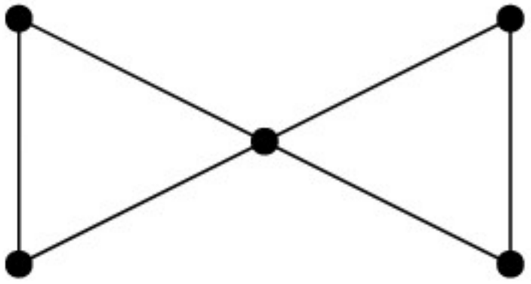


158

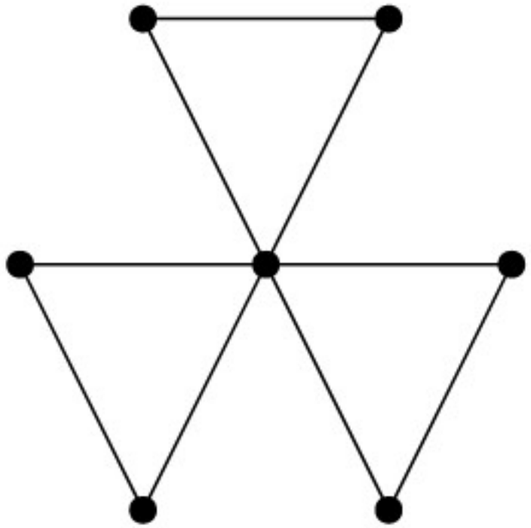
Mentimeter



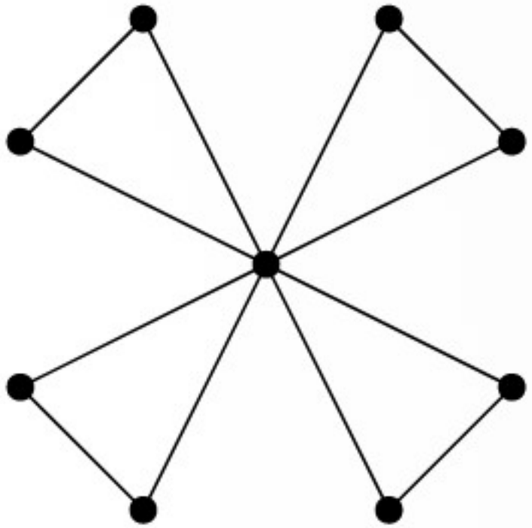
(A)



(B)



(C)



(D)

Leaderboard

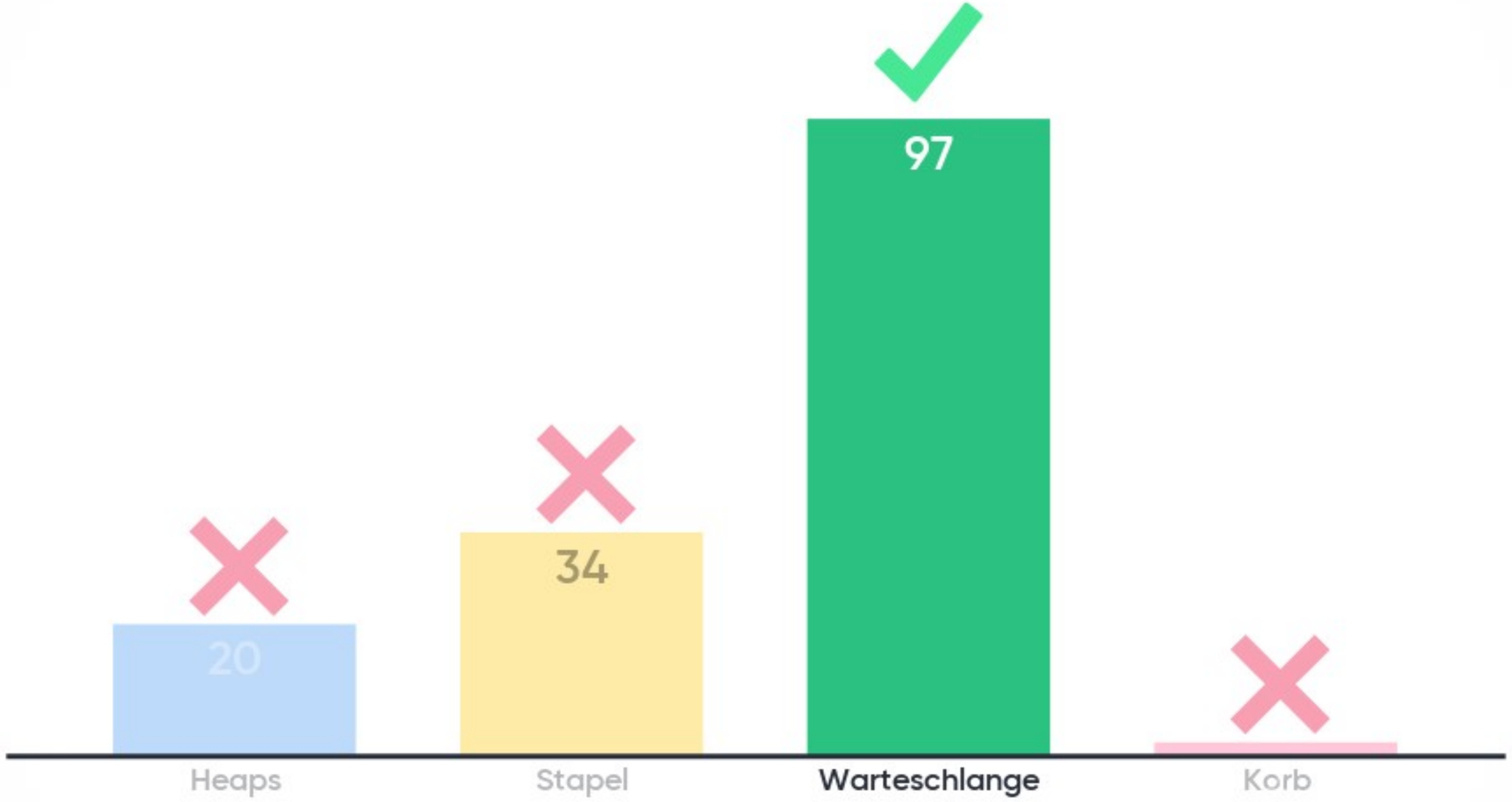
Mentimeter

1915 p	Mamba
1903 p	Leer
1887 p	3 1415926535897932384626433832
1885 p	TheSheriff
1877 p	Eulernacci
1864 p	JoJo
1864 p	Hallo
1857 p	Bana *fastest*
1841 p	Magical Rhino
1832 p	Said

160

Welche Datenstruktur wird für BFS genutzt?

Mentimeter



153

Leaderboard

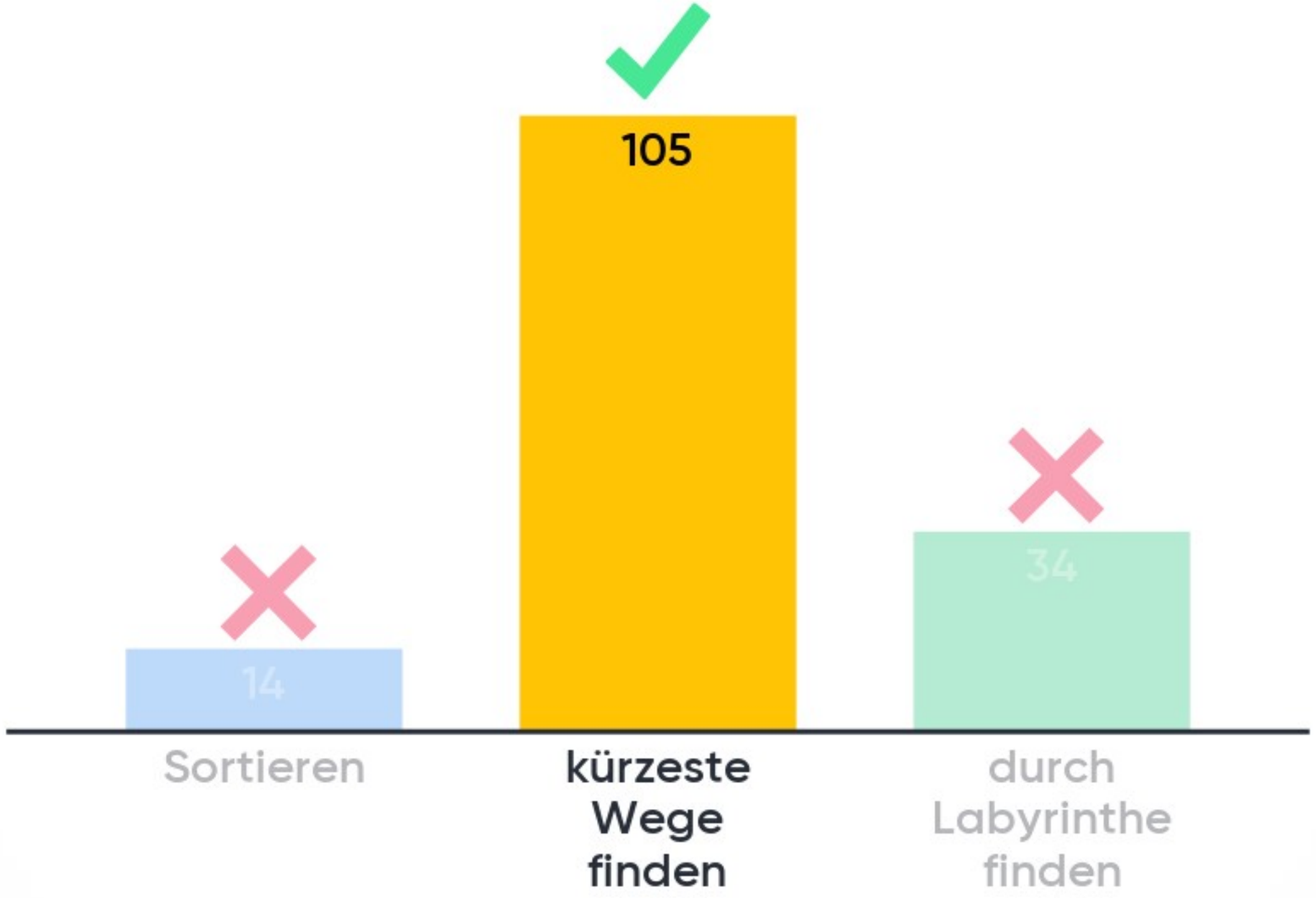
Mentimeter

2842 p	Mamba
2780 p	Eulernacci
2773 p	Señorita
2708 p	MaikW
2694 p	Agent
2644 p	PaulH
2614 p	Max *fastest*
2613 p	JR
2612 p	Watson
2612 p	Hallo

160

Wofür ist BFS am besten geeignet?

Mentimeter



153

Leaderboard

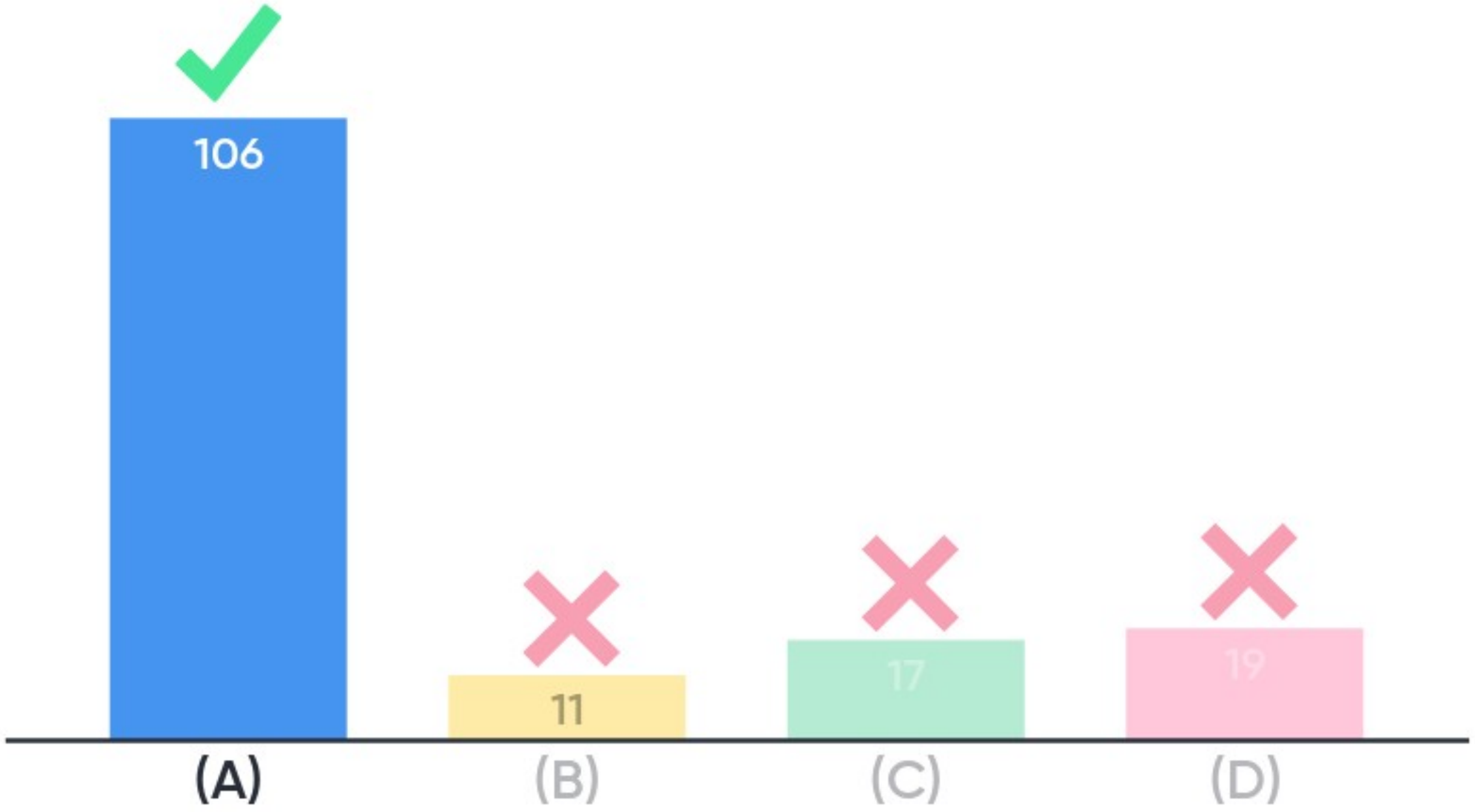
Mentimeter

3711 p	Eulernacci
3660 p	Señorita
3609 p	PaulH *fastest*
3568 p	Tom
3565 p	Max
3539 p	MaikW
3515 p	JR
3512 p	Agent
3512 p	Watson
3467 p	Hallo

160

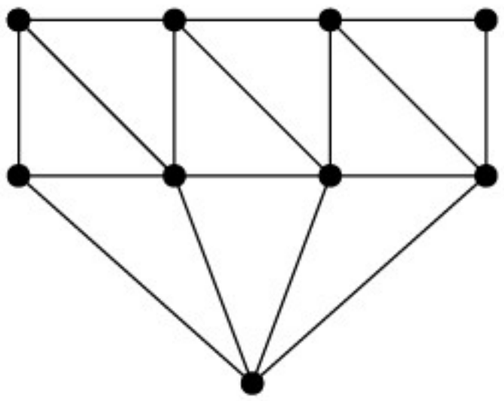
Welcher dieser Bäume ist ein BFS-Baum zum Graphen G mit dem Startknoten v1?

Mentimeter

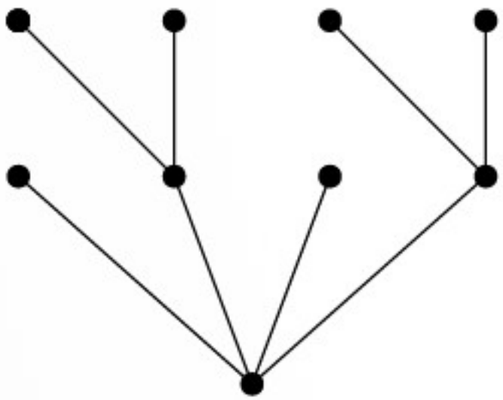


153

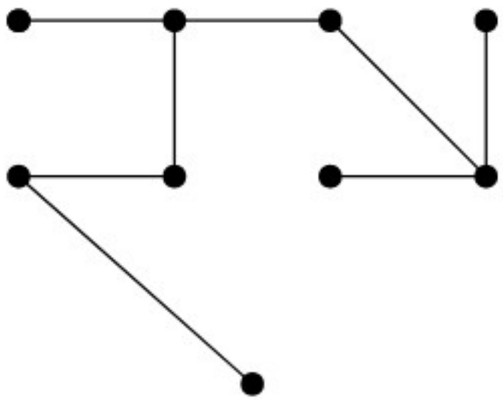
Graph G:



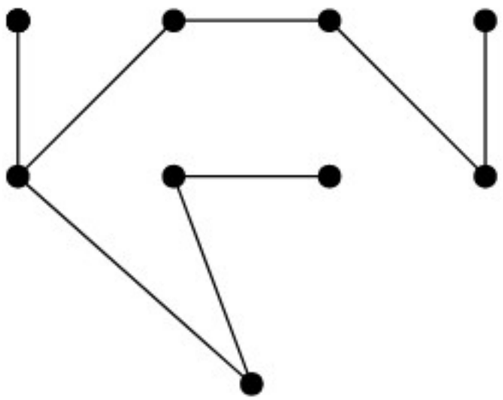
Antworten:



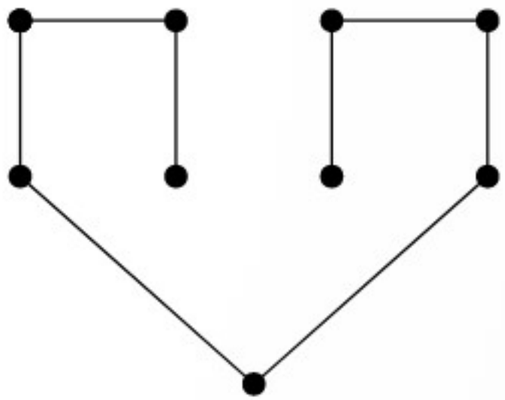
(A)



(B)



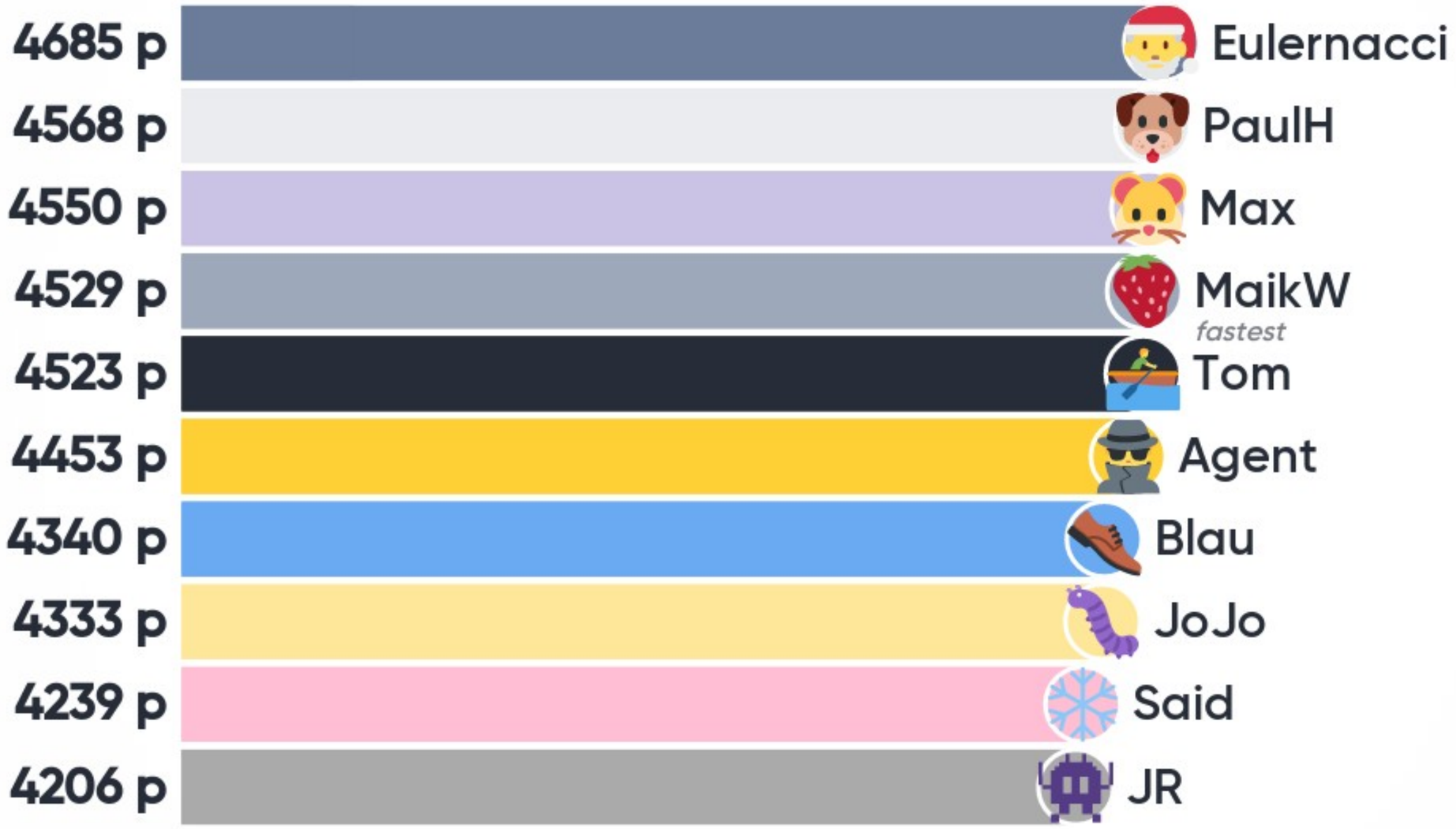
(C)



(D)

Leaderboard

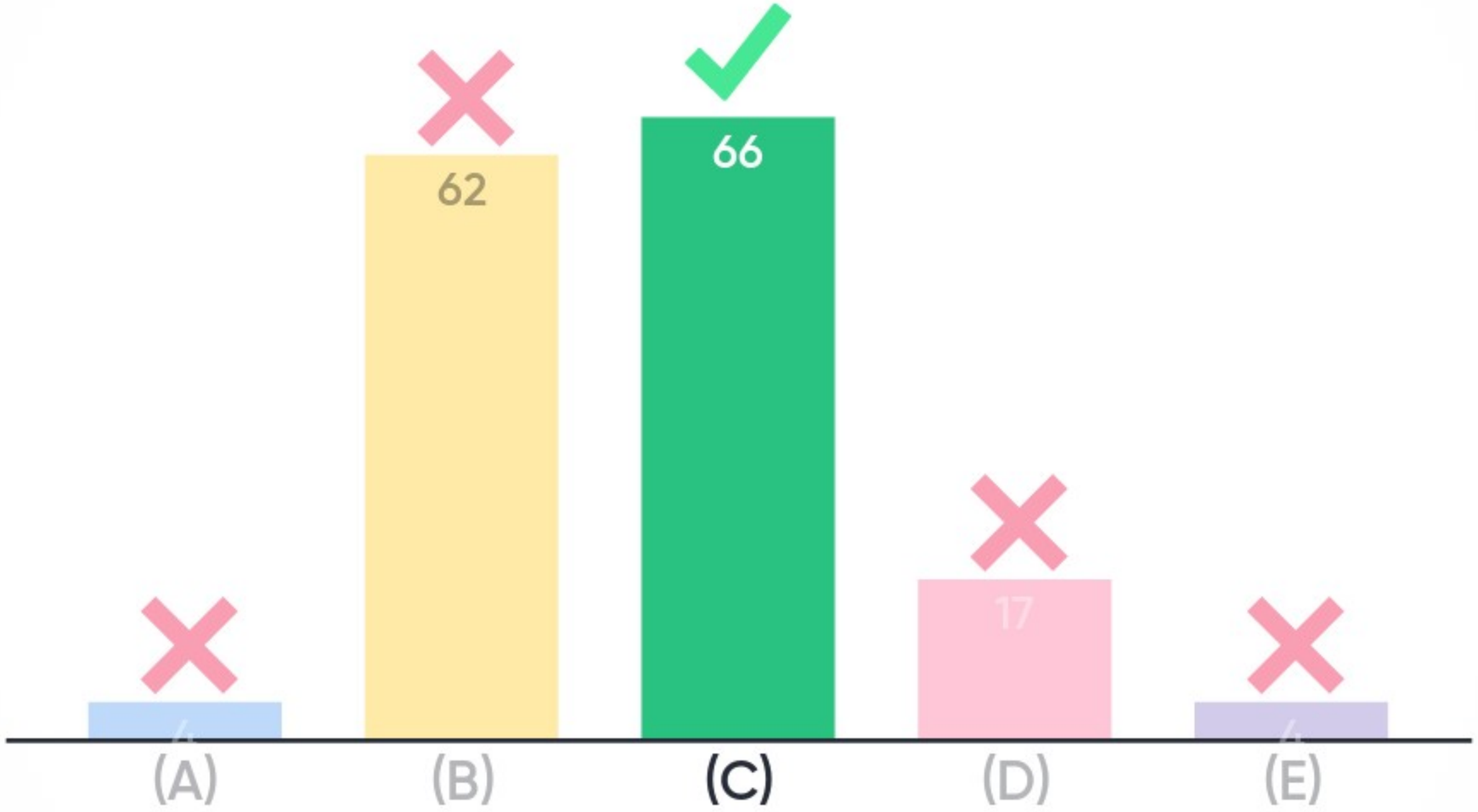
Mentimeter



160

In welcher Klasse liegt die folgende Funktion?

Mentimeter



153

Mentimeter

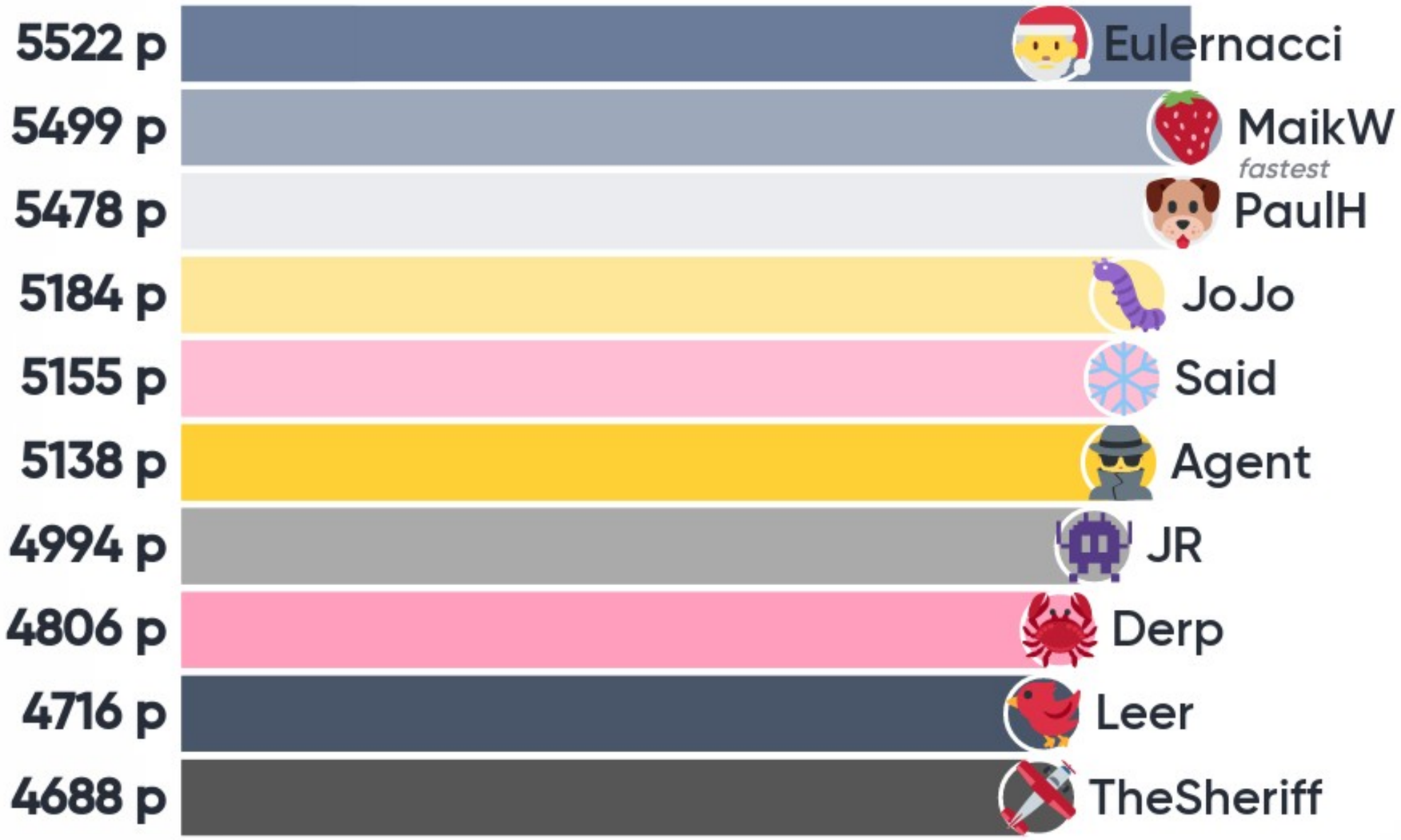
$$f(n) = 4n\log(n) - 5n + 30$$

$O(1)$	$O(n)$	$O(n^2)$	$\Theta(n^2)$	$\Omega(n^2)$
(A)	**(B)**	**(C)**	**(D)**	**(E)**

In welcher Klasse liegt die folgende Funktion?

Leaderboard

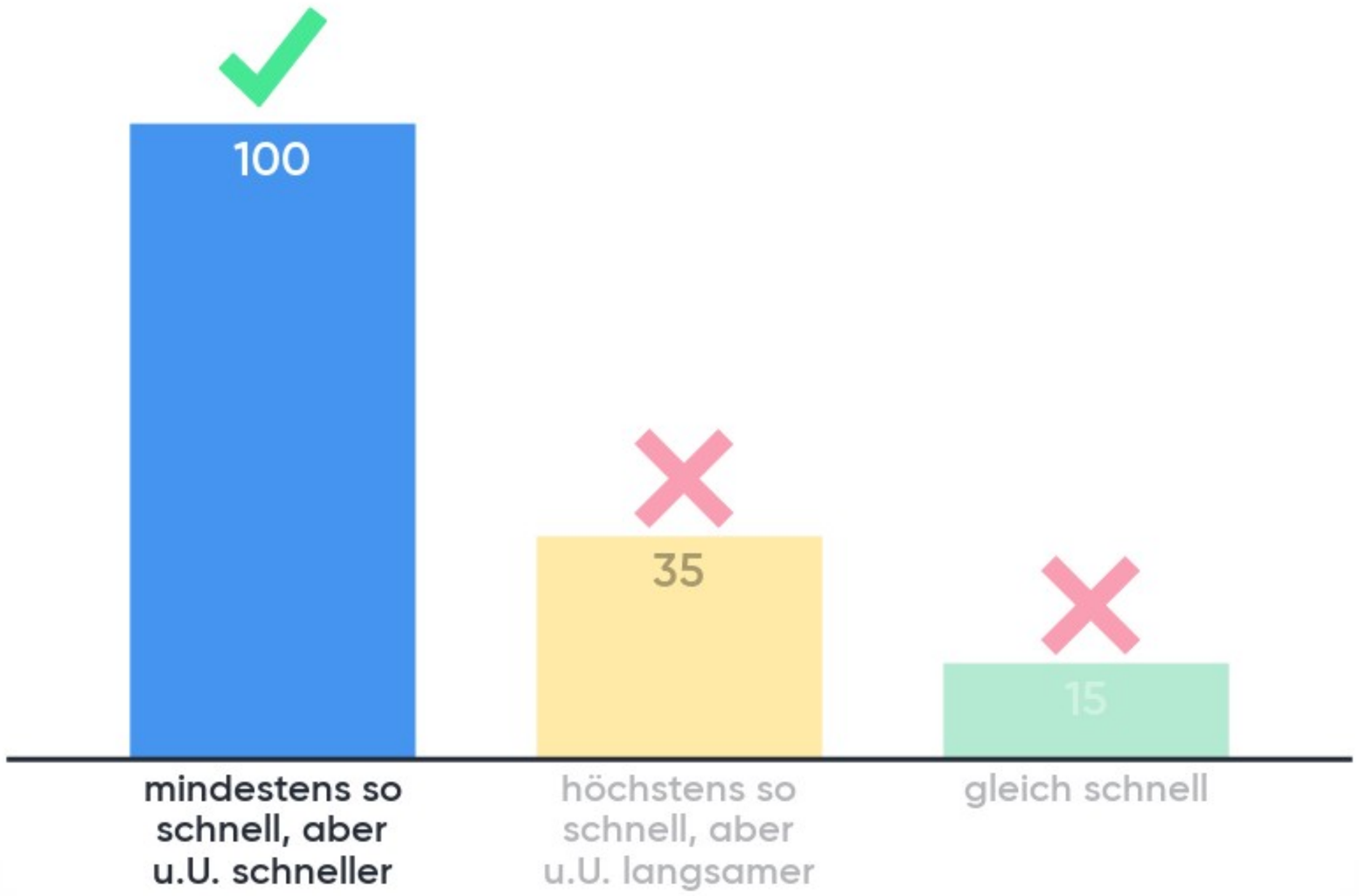
Mentimeter



160

Frage 7

Mentimeter



150

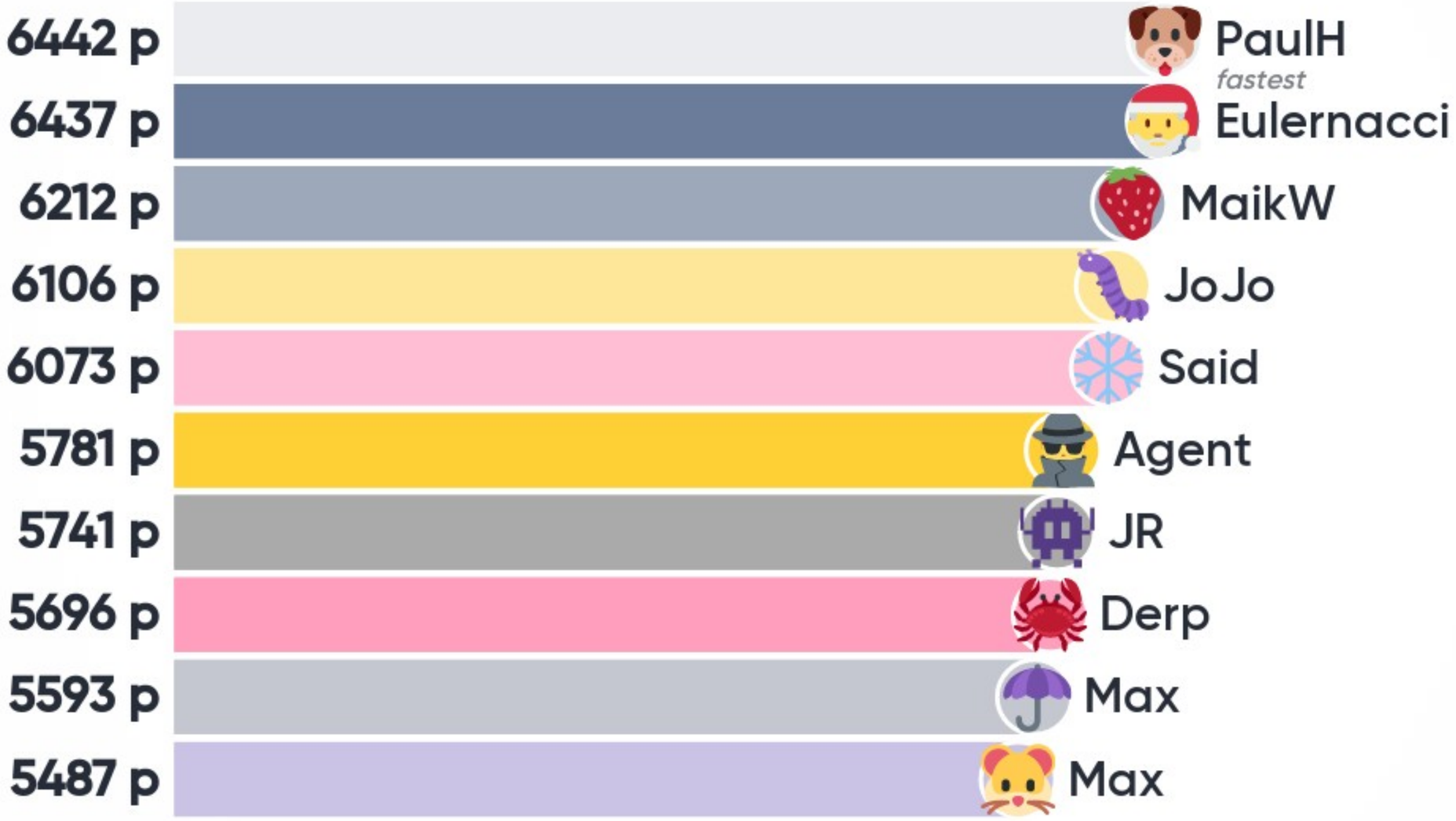
Mentimeter

Alle Funktionen in $\Omega(f(n))$ wachsen bezüglich f(n)...

3

Leaderboard

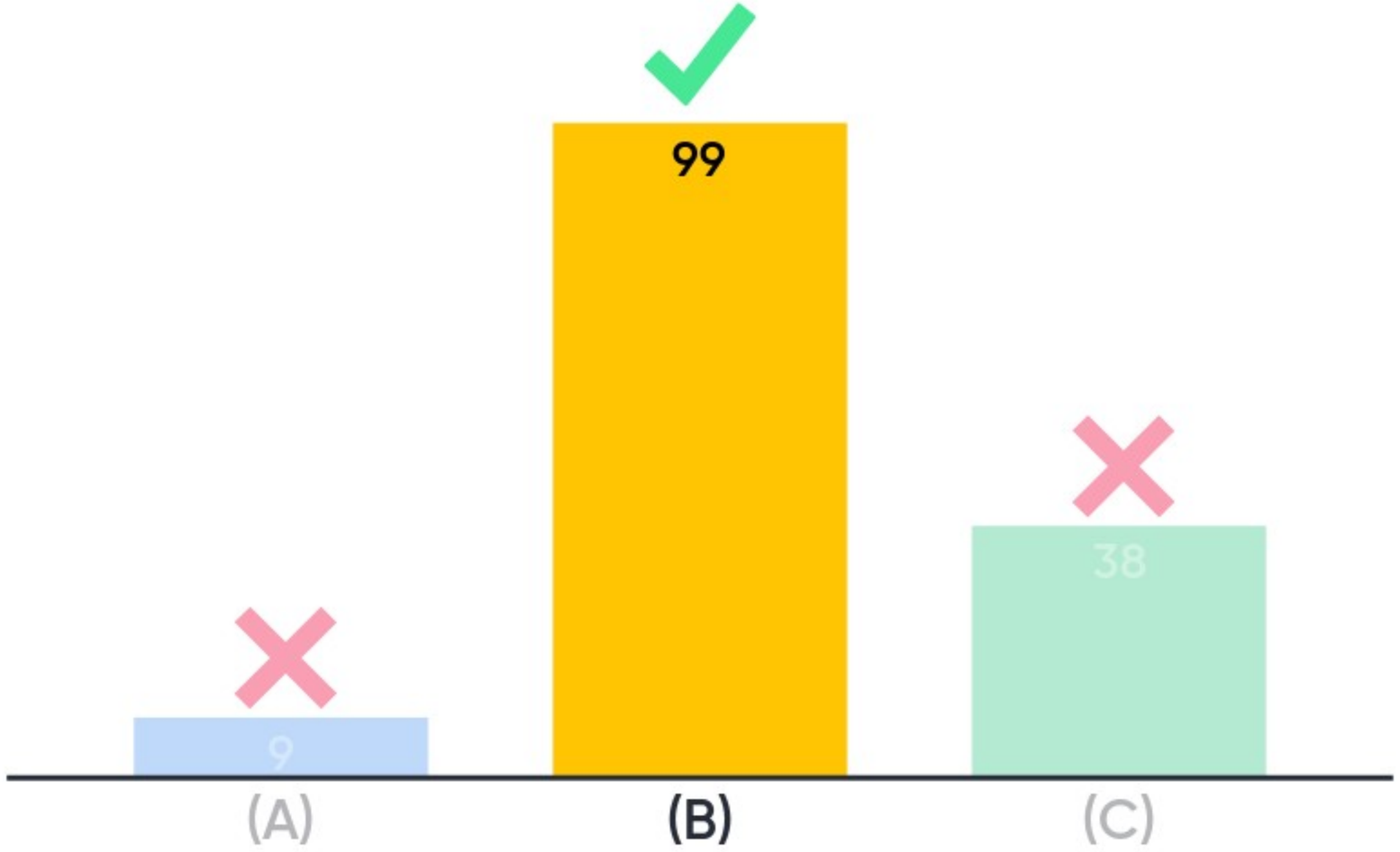
Mentimeter



160

Frage 8

Mentimeter



146

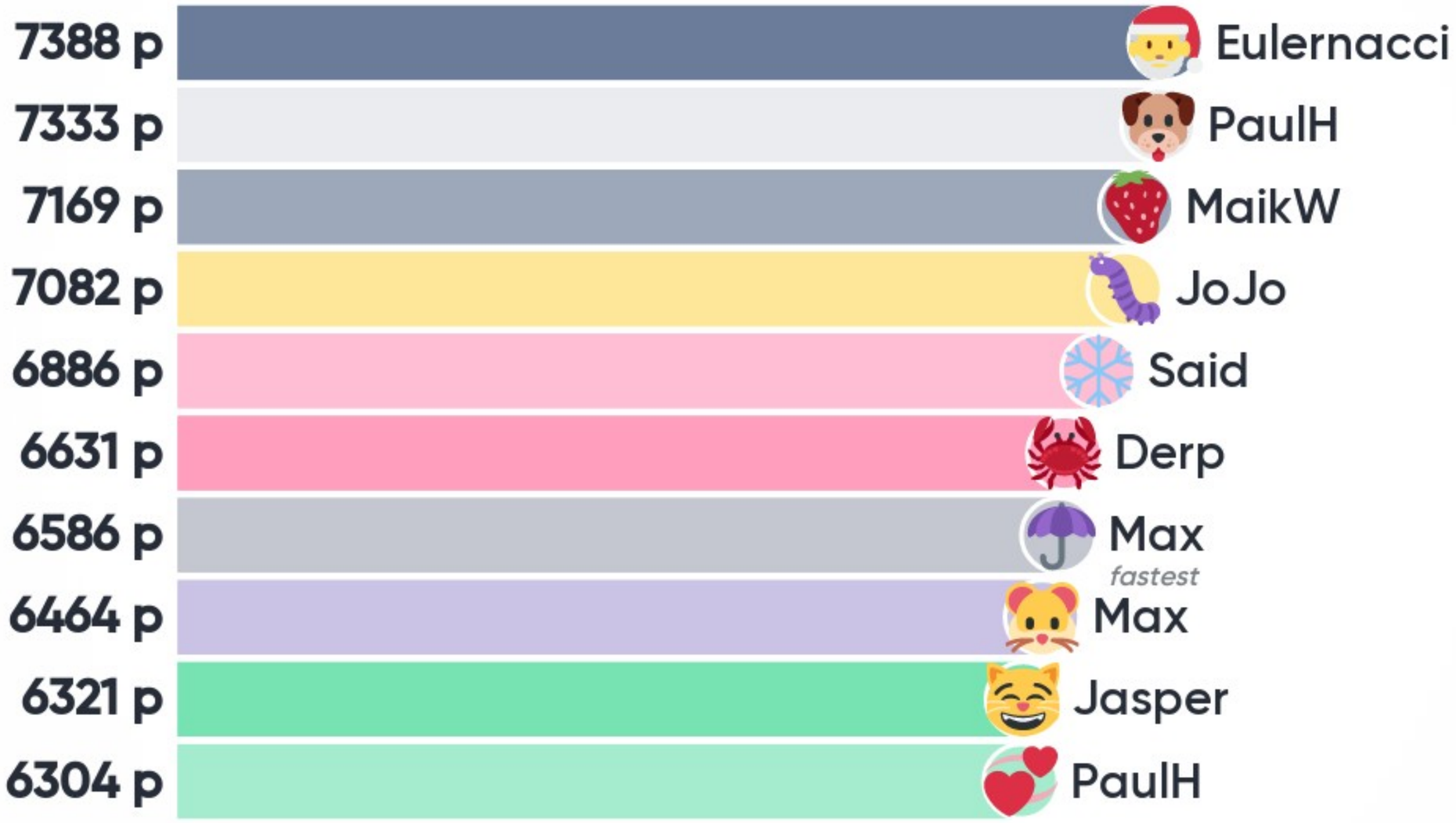
Mentimeter

Welche Klasse ist nicht in $O(n^2)$ enthalten?

$O(n)$	$\Omega(1)$	$\Theta(n \log(n))$
(A)	**(B)**	**(C)**

Leaderboard

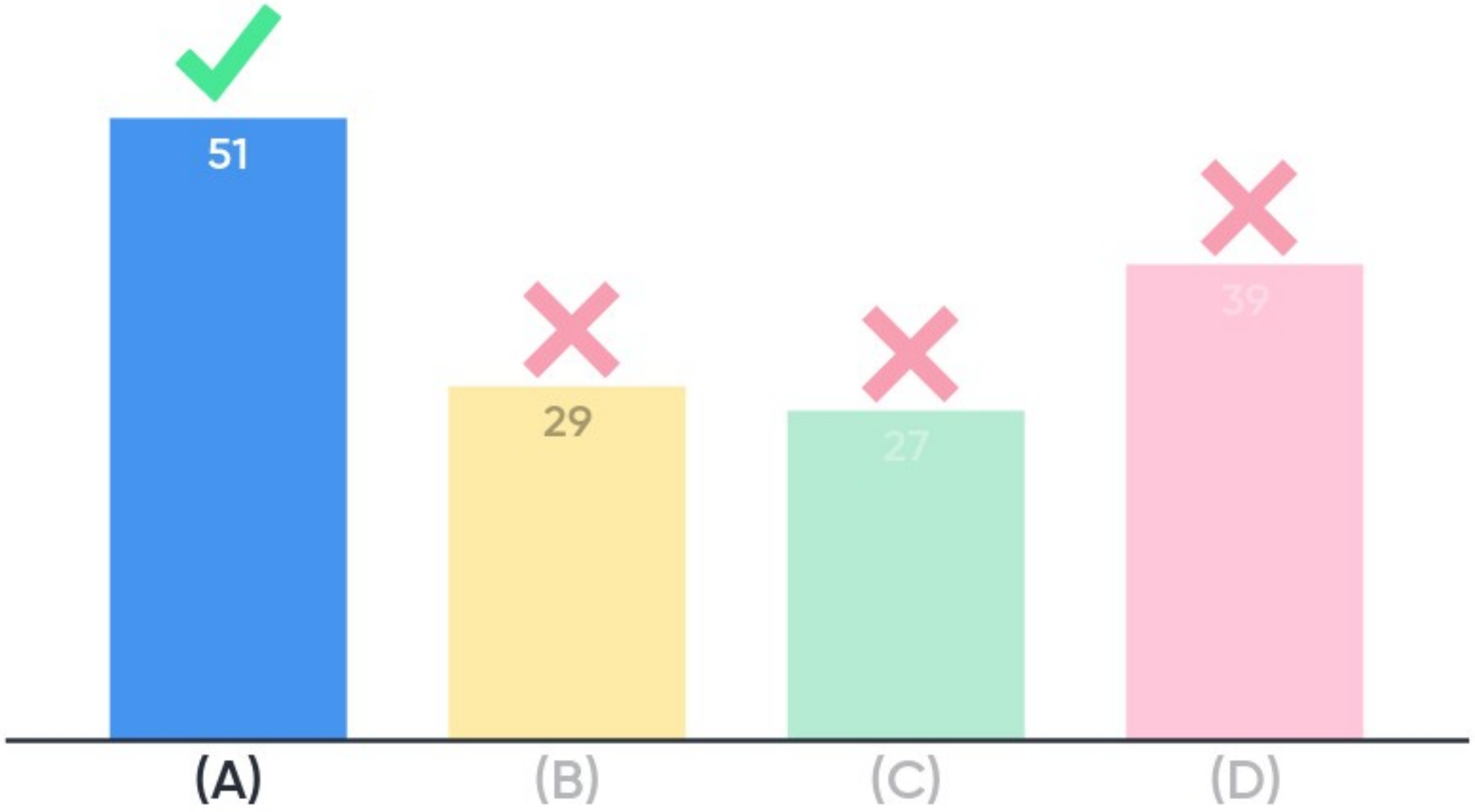
Mentimeter



160

Das Löschen eines identifizierten Elements aus einer doppelt verketteten Liste dauert...

Mentimeter



146

Mentimeter

$(\mathbf{A})\ O(1)$

$(\mathbf{B})\ O(\log(n))$

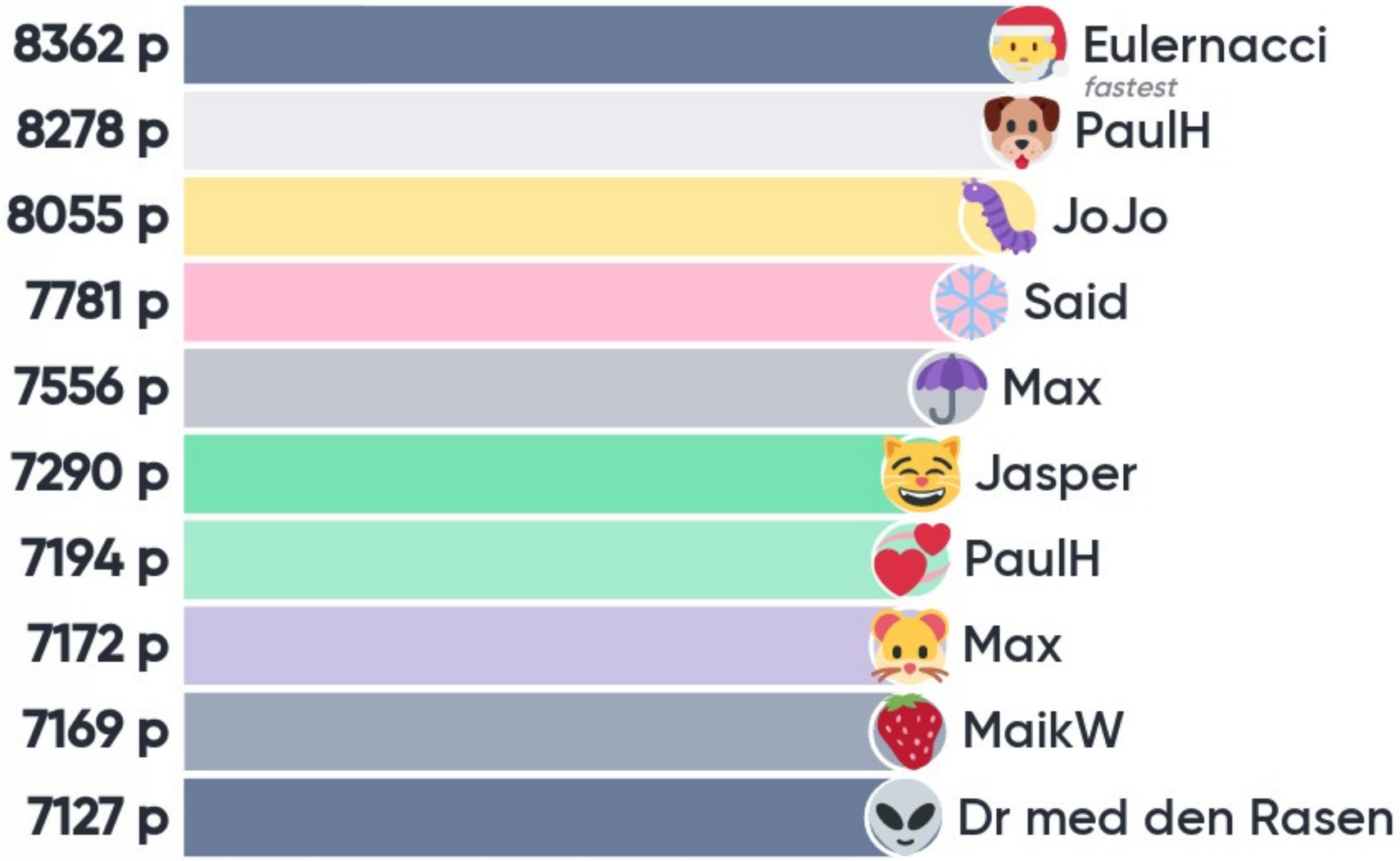
$(\mathbf{C})\ O(n)$

$(\mathbf{D})\ O(n\log(n))$

Das Löschen eines identifizierten Elements aus einer doppelt verketteten Liste dauert...

Leaderboard

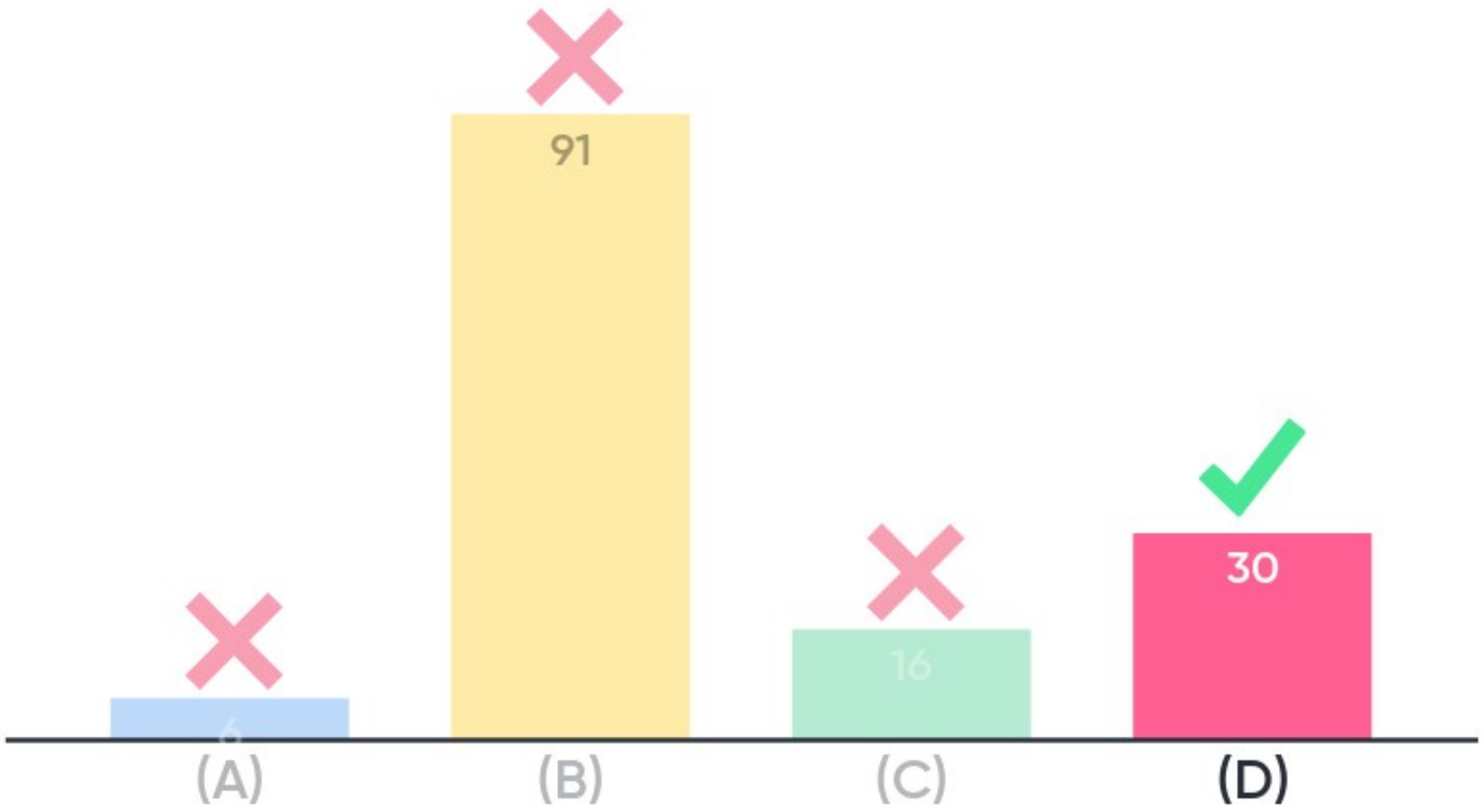
Mentimeter



160

Ein binärer Suchbaum mit n Elementen besitzt welche Höhe?

Mentimeter



143

Mentimeter

$(\mathbf{A})\ O(1)$

$(\mathbf{B})\ O(\log(n))$

$(\mathbf{C})\ O(\sqrt{n})$

$(\mathbf{D})\ O(n)$

Ein binärer Suchbaum mit n Elementen besitzt welche Höhe?

Leaderboard

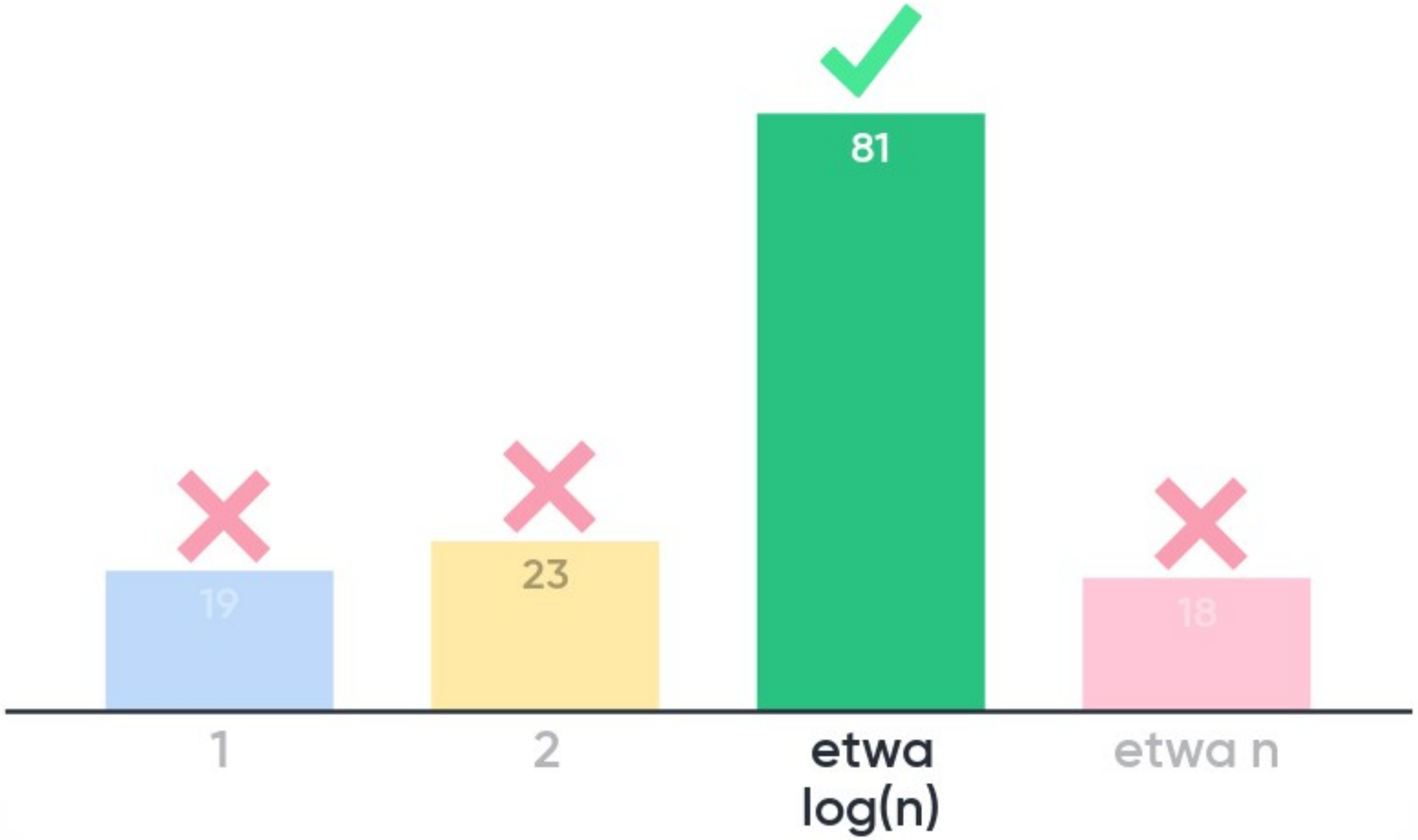
Mentimeter

8362 p	Eulernacci
8278 p	PaulH
8055 p	JoJo
8033 p	Jasper
7781 p	Said
7556 p	Max
7553 p	Jasper'sEndgegner
7529 p	Derp
7380 p	iusearchbtw *fastest*
7370 p	Agent

160

Die Anzahl an Rotationen nach dem Löschen eines Elements aus einem AVL-Baum ist...

Mentimeter



141

Leaderboard

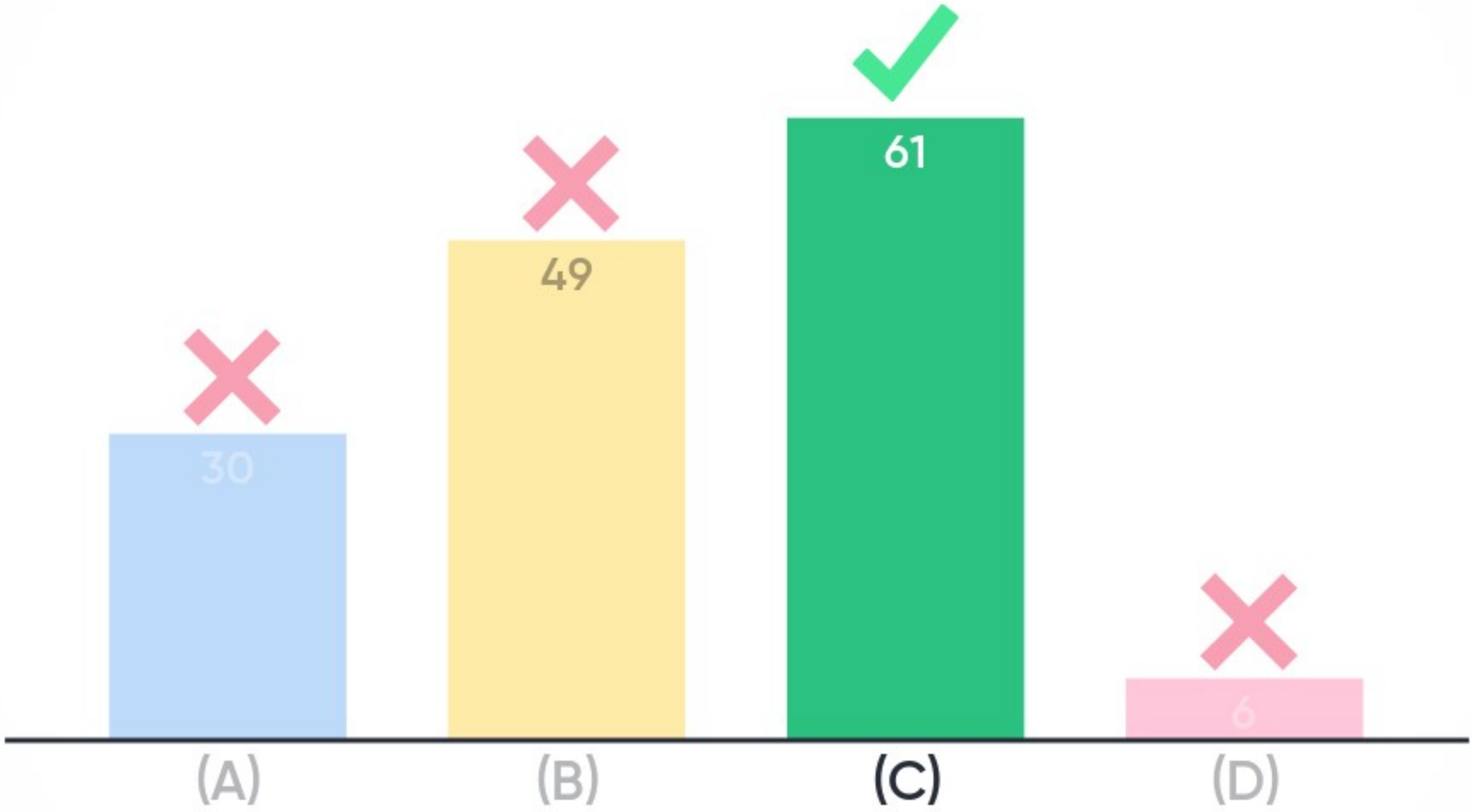
Mentimeter

9214 p	PaulH *fastest*
9158 p	Eulernacci
8942 p	JoJo
8914 p	Jasper
8515 p	Said
8487 p	Max
8442 p	Jasper'sEndgegner
8333 p	Derp
8232 p	knecht
8225 p	iusearchbtw

160

Welcher der folgenden Bäume ist ein AVL-Baum?

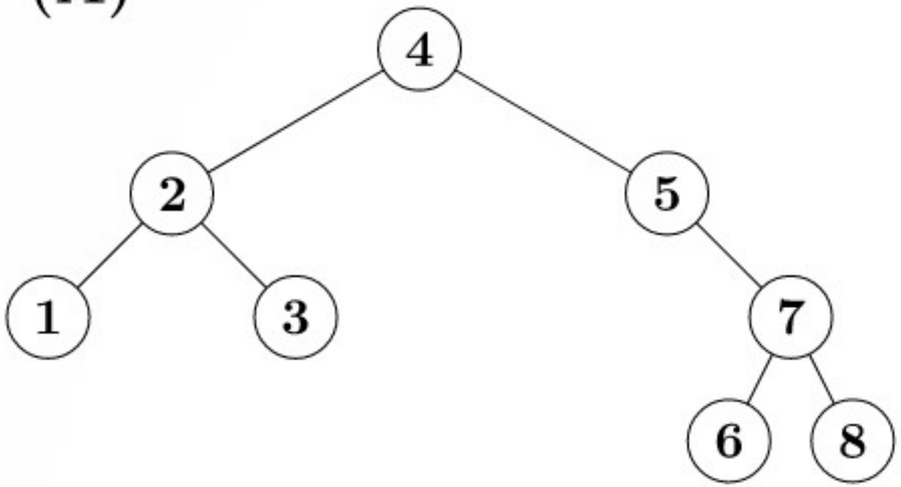
Mentimeter



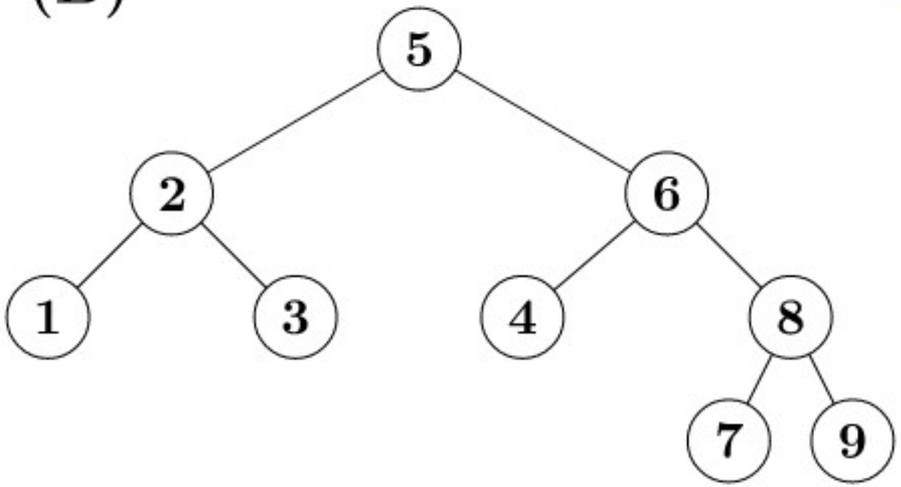
146

Mentimeter

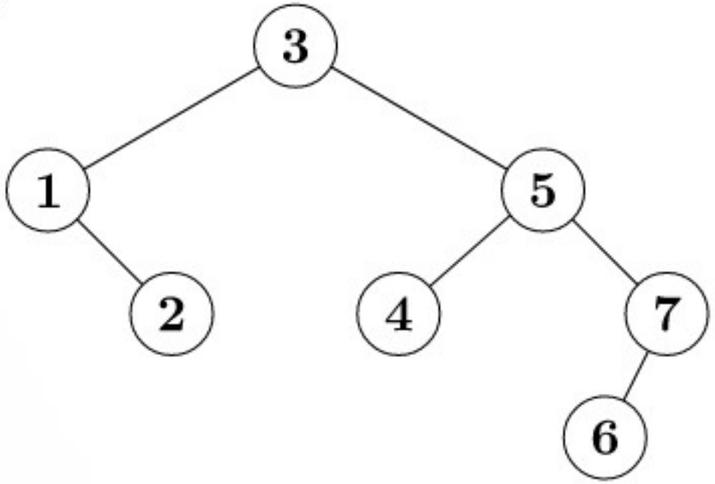
(A)



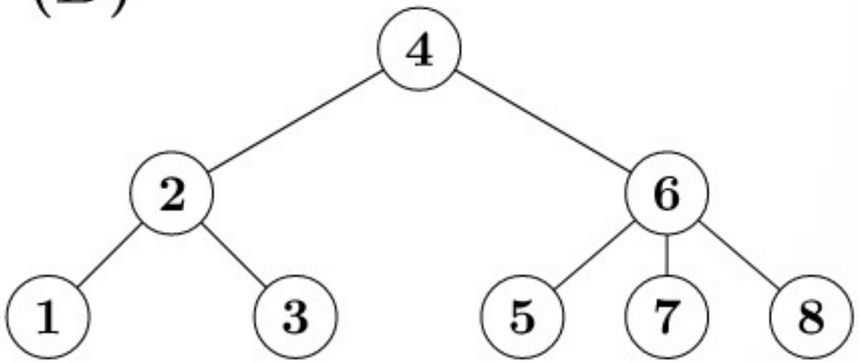
(B)



(C)

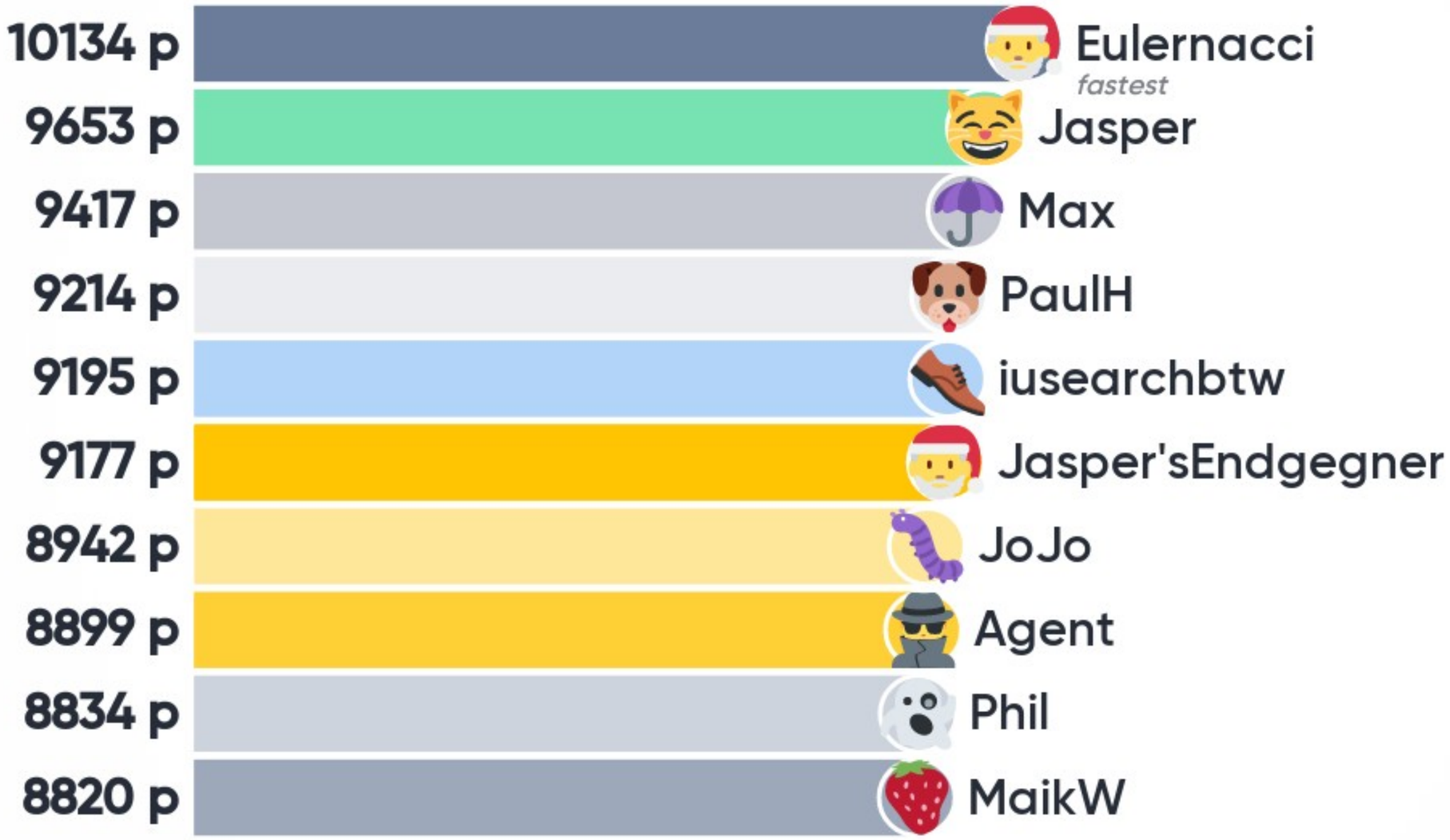


(D)



Leaderboard

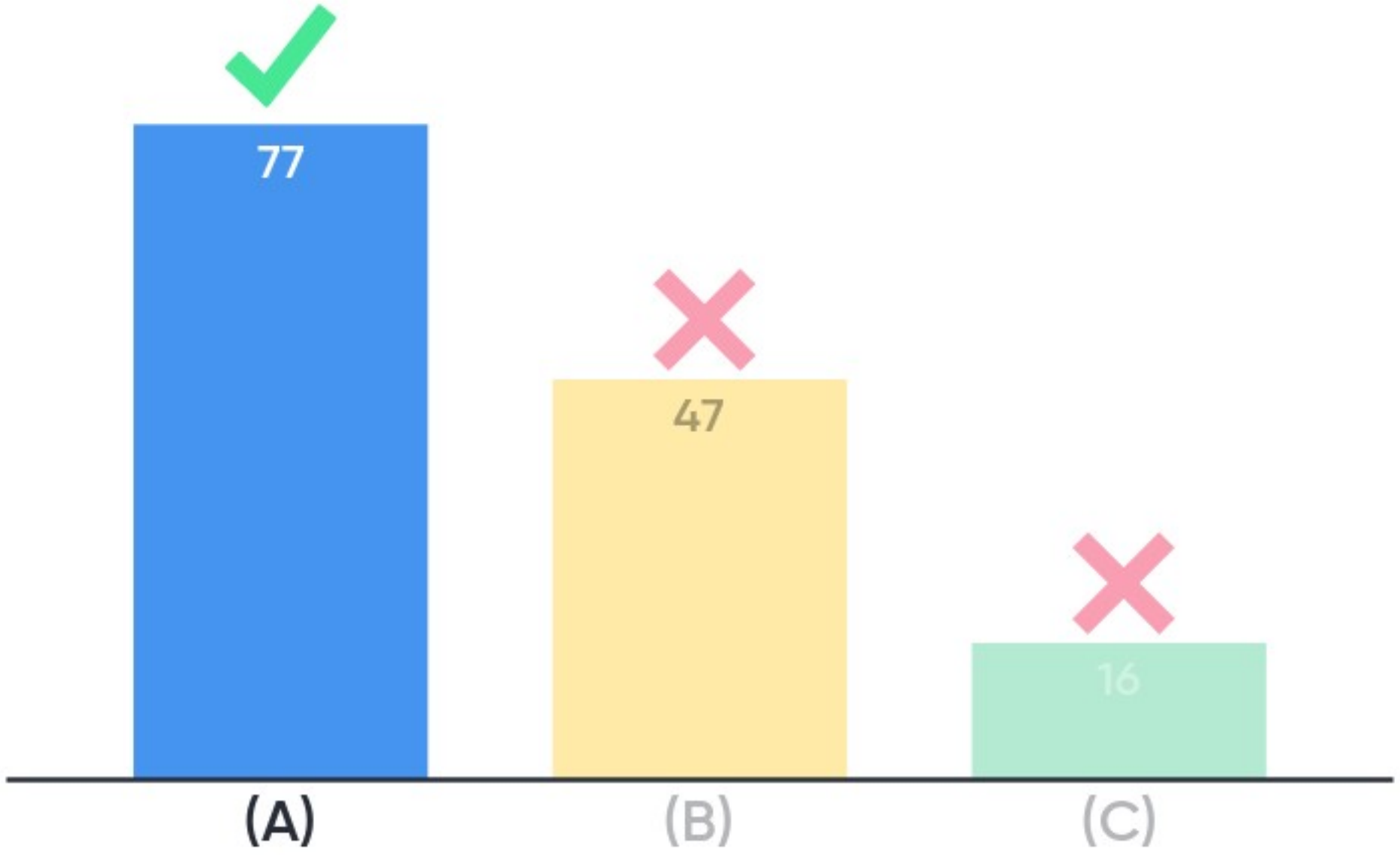
Mentimeter



160

Unter welcher Bedingung können n Zahlen mit je d Ziffern in O(n) Zeit sortiert werden?

Mentimeter



140

$d \in O(1)$	$n = d$	geht gar nicht
(A)	**(B)**	**(C)**

Unter welcher Bedingung können n Zahlen mit je d Ziffern in O(n) Zeit sortiert werden?

Leaderboard

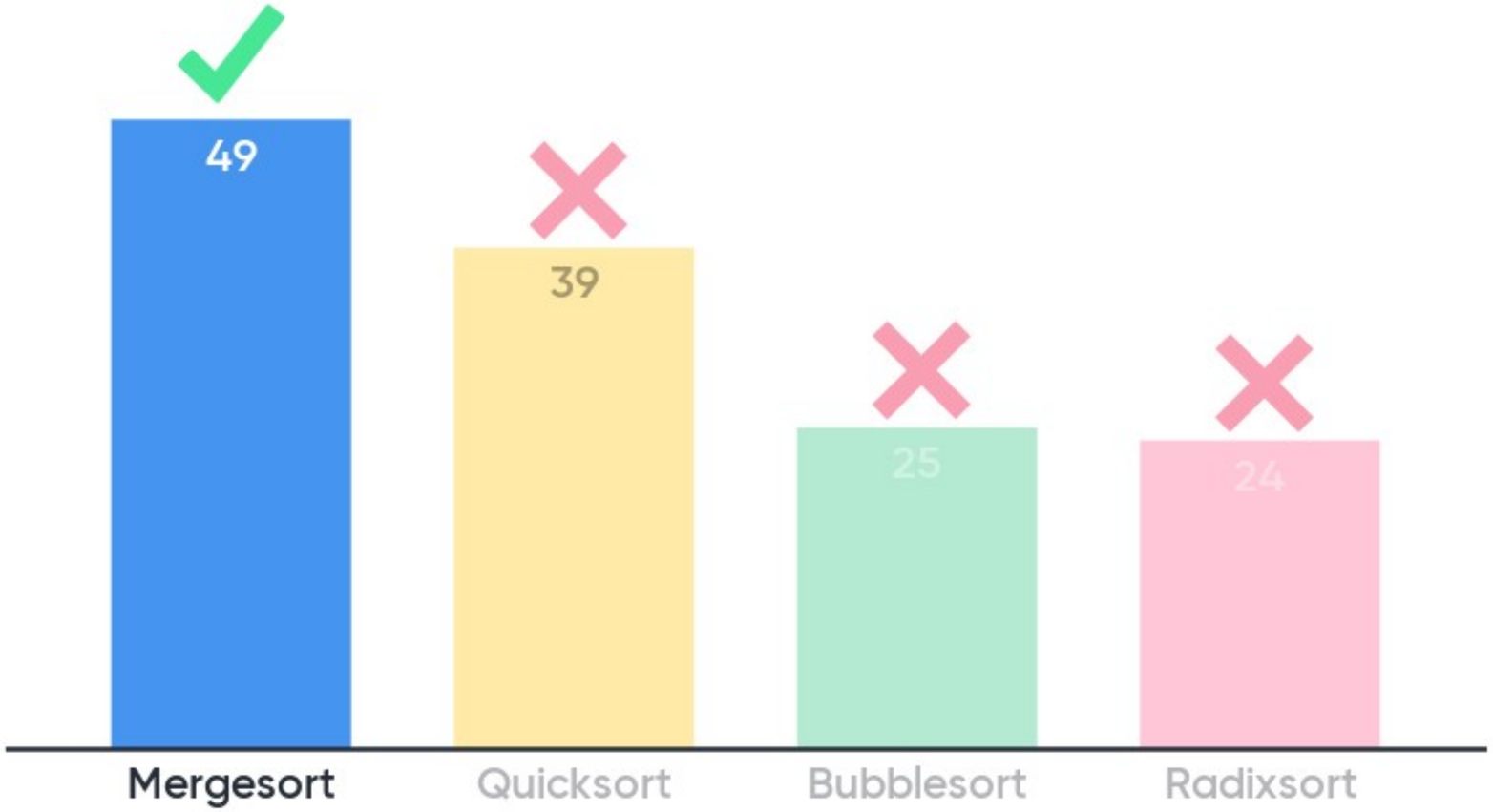
Mentimeter

11109 p	Eulernacci
10543 p	Jasper
10377 p	Max
10203 p	PaulH *fastest*
10056 p	Jasper'sEndgegner
9912 p	JoJo
9803 p	Agent
9799 p	MaikW
9219 p	Sky
9215 p	knecht

160

Welcher der folgenden Algorithmen (nach VL) besitzt die beste Worst-Case Laufzeit?

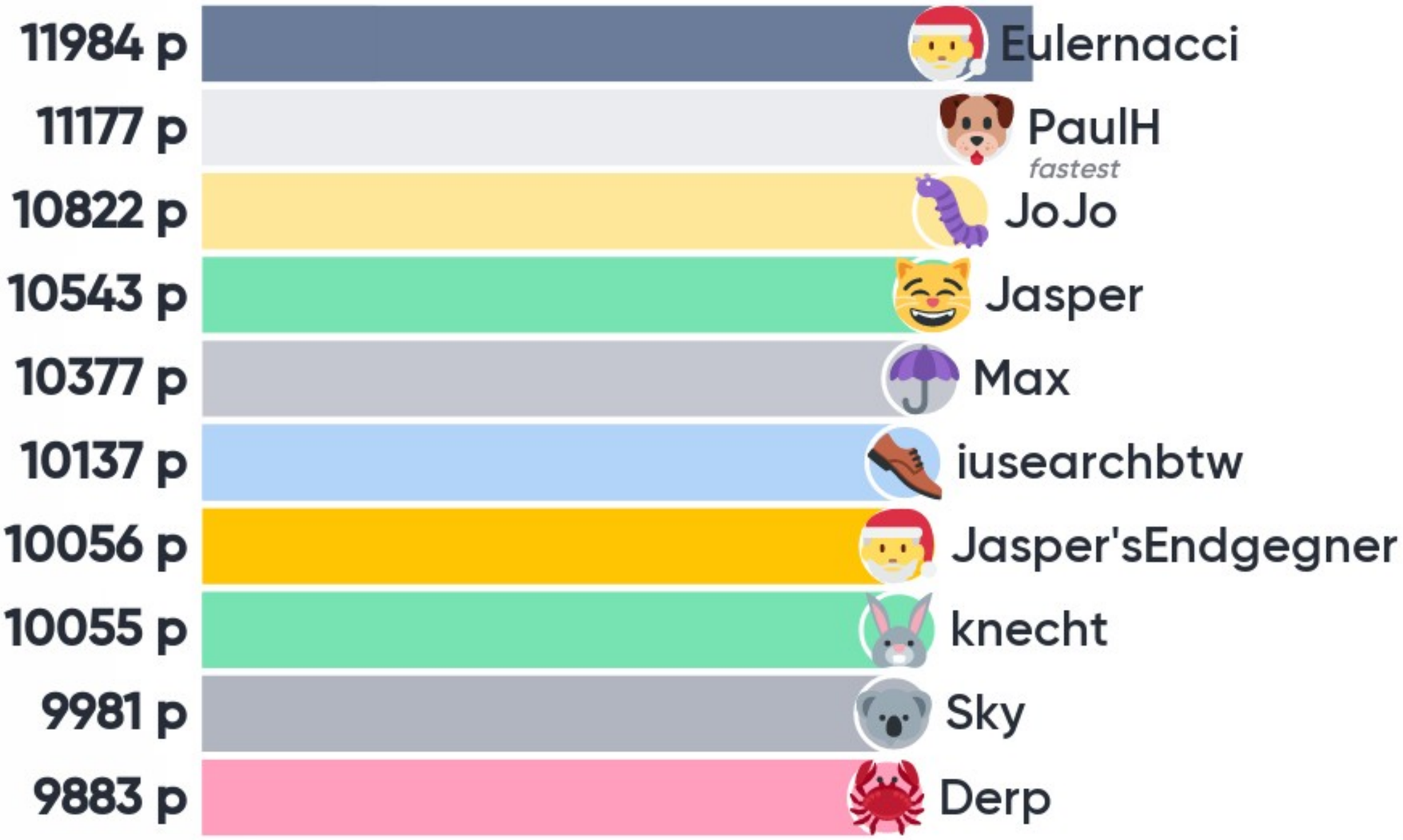
Mentimeter



137

Leaderboard

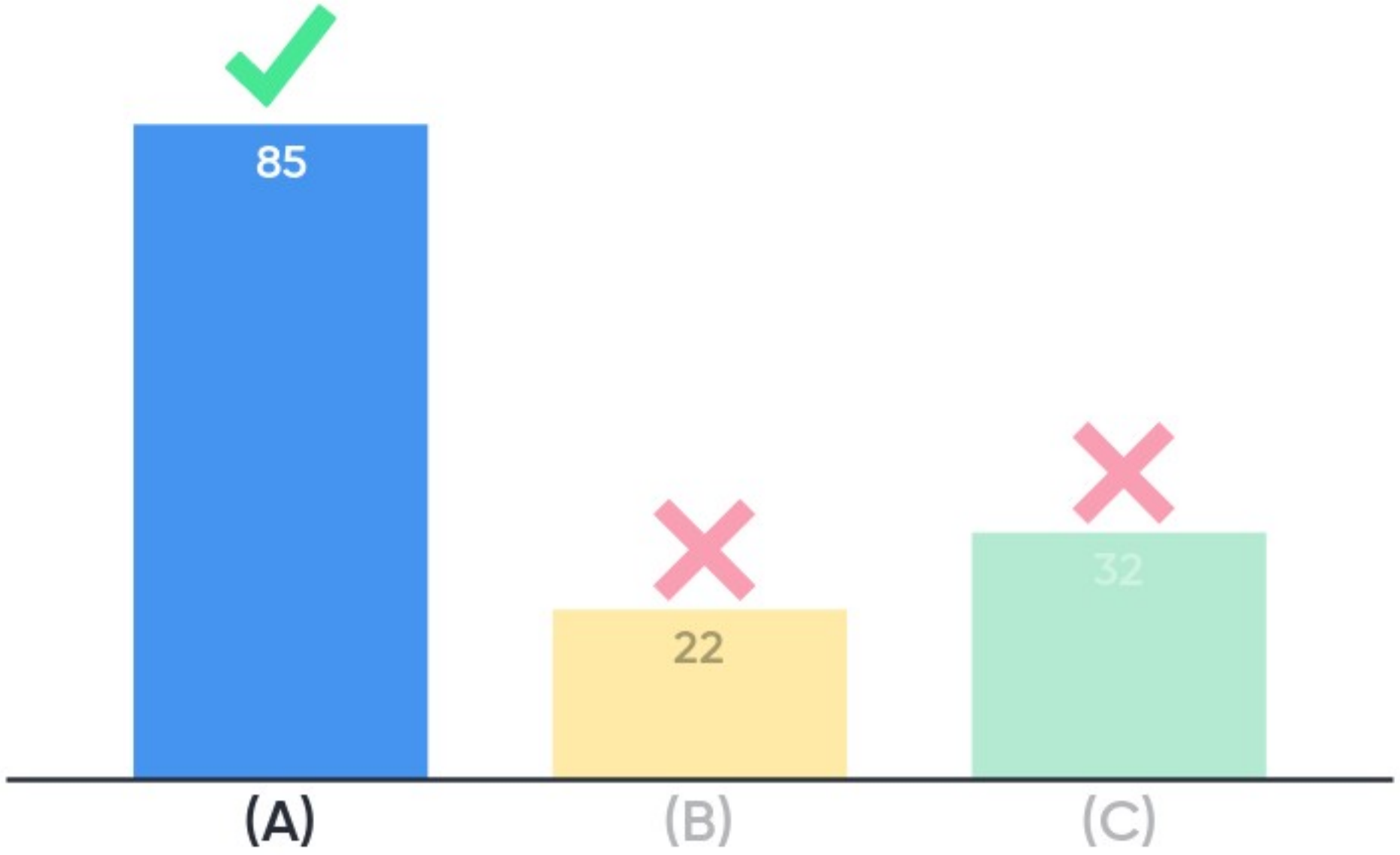
Mentimeter



160

Welche Laufzeit besitzt der Algorithmus zum Finden eines Medians?

Mentimeter



139

Mentimeter

$$\textbf{(A)} \quad T(n) = T(\tfrac{n}{5}) + T(\tfrac{7n}{10}) + \Theta(n)$$

$$\textbf{(B)} \quad T(n) = T(\tfrac{n}{5}) + T(\tfrac{4n}{5}) + \Theta(n)$$

$$\textbf{(C)} \quad T(n) = T(\tfrac{n}{5}) + T(\tfrac{7n}{10}) + \Theta(n^2)$$

Welche Laufzeit besitzt der Algorithmus zum Finden eines Medians?

Leaderboard

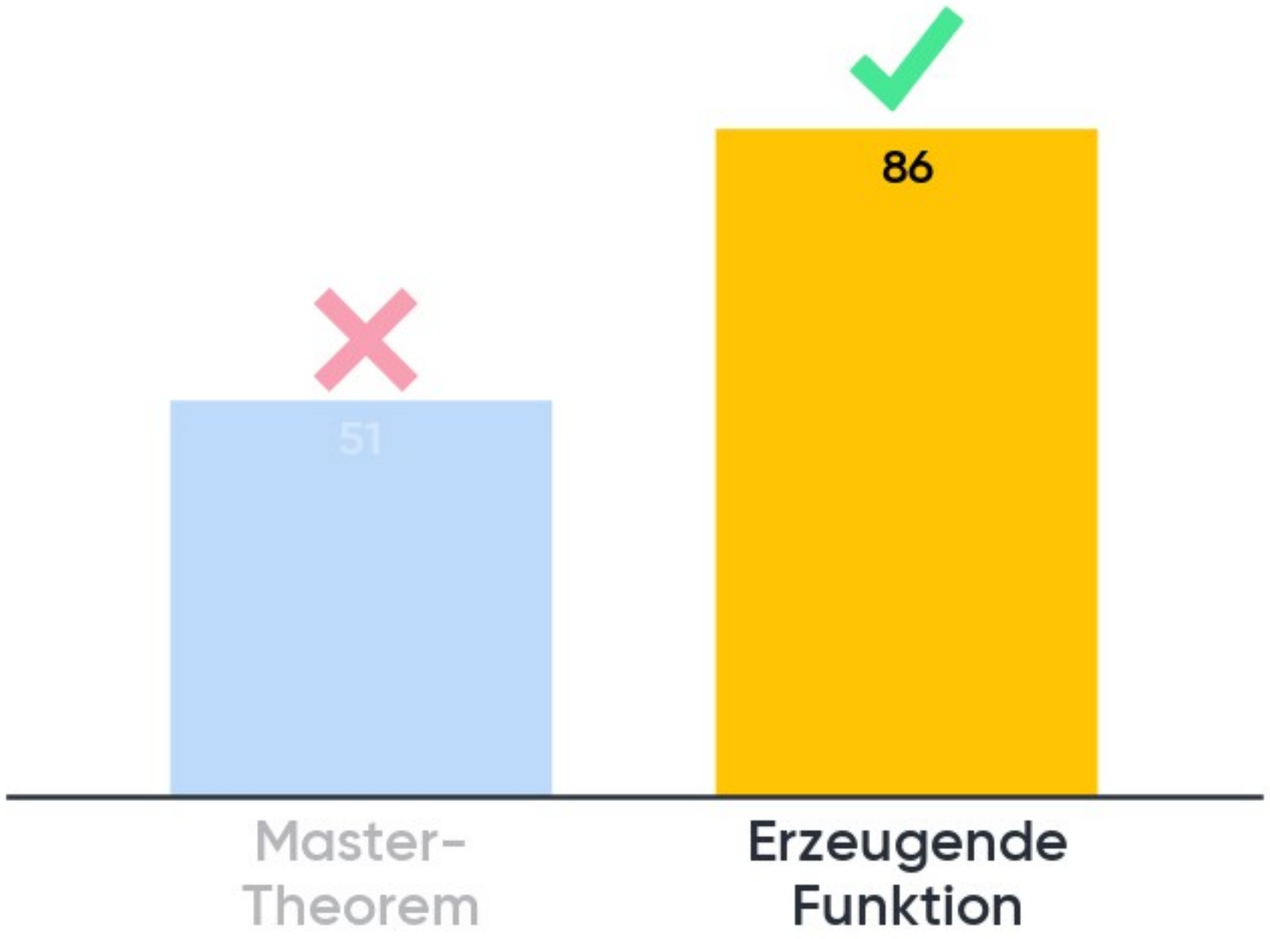
Mentimeter

12878 p	Eulernacci
11799 p	JoJo
11468 p	Jasper
11177 p	PaulH
11121 p	iusearchbtw *fastest*
10975 p	Jasper'sEndgegner
10825 p	Sky
10753 p	MaikW
10648 p	Agent
10603 p	Max

160

Womit lässt sich eine explizite Form der Fibonacci-Zahlen (F(n) = F(n-1)+F(n-2)) bestimmen?

Mentimeter



137

Leaderboard

Mentimeter

13764 p	Eulernacci
12741 p	JoJo
12386 p	Jasper
12132 p	PaulH
12044 p	iusearchbtw
11875 p	Jasper'sEndgegner
11717 p	MaikW *fastest*
11678 p	Sky
11466 p	Agent
11460 p	Max

160