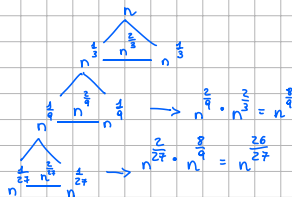


Esercizio 1

$$T(n) = \begin{cases} 1, & \text{se } n \leq 2 \\ \sqrt[3]{n} \cdot T(\sqrt[3]{n}) + n, & \text{altrimenti} \end{cases}$$

Livello	Nodi per livello	dimensione di input	Contributo per nodo	Contributo totale per livello
0	1	n	n	n
1	$n^{\frac{2}{3}}$	$n^{\frac{1}{3}}$	$n^{\frac{1}{3}}$	n
2	$n^{\frac{8}{9}}$	$n^{\frac{1}{9}}$	$n^{\frac{1}{9}}$	n
3	$n^{\frac{26}{27}}$	$n^{\frac{1}{27}}$	$n^{\frac{1}{27}}$	n
i	$\frac{3^i - 1}{n^{\frac{1}{3^i}}}$	$n^{\frac{1}{3^i}}$	$n^{\frac{1}{3^i}}$	n



Calcolo l'altezza:

$$\frac{1}{3^h} \leq 2 \Leftrightarrow \frac{1}{3^h} \log_2(n) \leq 1 \Leftrightarrow 3^h \geq \log_2(n) \Leftrightarrow h \geq \log_3(\log_2(n))$$

Il risultato sarà: $\Theta(n \log_3(\log_2(n)))$

