$$T(n) = \sqrt{T(\frac{n}{2})} + c \qquad n > 1$$

$$|evel = \sqrt{n} \qquad n > c$$

Adding up over all levels c. log\_n  $T(n) = O(\log n)$ 

$$T(n) = \begin{cases} T(y_2) + Cn & n \neq 1 \\ 0 & n \neq 1 \end{cases}$$

$$\frac{n}{2} \xrightarrow{n} \frac{n}{2} \xrightarrow{n} \frac{n}{2} \xrightarrow{n} \frac{n}{2}$$

$$\frac{n}{2} \xrightarrow{n} \frac{n}{2} \xrightarrow{n}$$

Adding who logger 
$$2^{n}$$
  $2^{n}$   $2^$ 

$$T(a) = \begin{cases} 2T(\frac{y}{2}) + Cn & n > 1 \\ n = 1 \end{cases}$$

$$|evel o| \qquad \begin{cases} n = 1 \\ \frac{y}{2} & \frac{y}{2} \\ \frac{y}{2} & \frac{y}{2} \end{cases}$$

$$|evel a| \qquad \begin{cases} n = 1 \\ \frac{y}{2} & \frac{y}{2} \\ \frac{y}{2} & \frac{y}{2} \end{cases}$$

$$|evel a| \qquad \begin{cases} n = 1 \\ \frac{y}{2} & \frac{y}{2} \\ \frac{y}{2} & \frac{y}{2} \end{cases}$$

$$|evel o| \qquad \begin{cases} n = 1 \\ \frac{y}{2} & \frac{y}{2} \\ \frac{y}{2} & \frac{y}{2} \end{cases}$$

Adding up

Ch logzh

T(n)=O(n logn)

A = \ a, , az, ... leaves are permutations of 5) (2,3,1,....7 (7,5,1,10,..7