

Please do read the official heapq documentation which is used for the implementation of the heap in Python

$$\frac{X = A}{(1, 2, 3) A} = \frac{(1, 2, 3) A}{(1, 2, 3) A}$$

$$\Rightarrow a \forall s = [1, 1, 2, 3] \qquad \underline{s = 4}$$

$$= \underbrace{k = 4}$$

$$\downarrow \Rightarrow 41, 2, 3 \Rightarrow$$