

5839. Remove Stones to Minimize the Total

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You are given a **0-indexed** integer array `piles`, where `piles[i]` represents the number of stones in the i^{th} pile, and an integer `k`. You should apply the following operation **exactly** `k` times:

- Choose any `piles[i]` and **remove** `floor(piles[i] / 2)` stones from it.

Notice that you can apply the operation on the **same** pile more than once.

Return the **minimum** possible total number of stones remaining after applying the `k` operations.

`floor(x)` is the **greatest** integer that is **smaller** than or **equal** to `x` (i.e., rounds `x` down).

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

Example 1:

Input: `piles = [5,4,9], k = 2`

Output: 12

Explanation: Steps of a possible scenario are:

- Apply the operation on pile 2. The resulting piles are `[5,4,5]`.
 - Apply the operation on pile 0. The resulting piles are `[3,4,5]`.
- The total number of stones in `[3,4,5]` is 12.

Example 2:

Input: `piles = [4,3,6,7], k = 3`

Output: 12

Explanation: Steps of a possible scenario are:

- Apply the operation on pile 3. The resulting piles are `[4,3,3,7]`.
 - Apply the operation on pile 4. The resulting piles are `[4,3,3,4]`.
 - Apply the operation on pile 0. The resulting piles are `[2,3,3,4]`.
- The total number of stones in `[2,3,3,4]` is 12.

Constraints:

- $1 \leq \text{piles.length} \leq 10^5$
- $1 \leq \text{piles}[i] \leq 10^4$
- $1 \leq k \leq 10^5$

JavaScript



```

1 const minStoneSum = (a, k) => {
2   let pq = new MaxPriorityQueue({priority: x => x});
3   for (const e of a) pq.enqueue(e);
4   while(k-->0) {
5     let cur = pq.dequeue().element;
6     let remove = parseInt(cur / 2);
7     pq.enqueue(cur - remove);
8   }
9   let aa = pq.toArray();
10  let res = 0;
11  for (const e of aa) {
12    res += e;
13  }
14  return res;

```

```
15 };
```

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