

Problem 3147: Taking Maximum Energy From the Mystic Dungeon

Problem Information

Difficulty: Medium

Acceptance Rate: 60.92%

Paid Only: No

Tags: Array, Prefix Sum

Problem Description

In a mystic dungeon, `n` magicians are standing in a line. Each magician has an attribute that gives you energy. Some magicians can give you negative energy, which means taking energy from you.

You have been cursed in such a way that after absorbing energy from magician `i`, you will be instantly transported to magician `(i + k)`. This process will be repeated until you reach the magician where `(i + k)` does not exist.

In other words, you will choose a starting point and then teleport with `k` jumps until you reach the end of the magicians' sequence, **absorbing all the energy** during the journey.

You are given an array `energy` and an integer `k`. Return the **maximum** possible energy you can gain.

Note that when you are reach a magician, you must take energy from them, whether it is negative or positive energy.

Example 1:

Input: energy = [5,2,-10,-5,1], k = 3

Output: 3

Explanation: We can gain a total energy of 3 by starting from magician 1 absorbing $2 + 1 = 3$.

****Example 2:****

****Input:**** energy = [-2,-3,-1], k = 2

****Output:**** -1

****Explanation:**** We can gain a total energy of -1 by starting from magician 2.

****Constraints:****

`* `1 <= energy.length <= 105` * `-1000 <= energy[i] <= 1000` * `1 <= k <= energy.length - 1``

Code Snippets

C++:

```
class Solution {
public:
    int maximumEnergy(vector<int>& energy, int k) {
        }
};
```

Java:

```
class Solution {
    public int maximumEnergy(int[] energy, int k) {
        }
}
```

Python3:

```
class Solution:
    def maximumEnergy(self, energy: List[int], k: int) -> int:
```